

**CHAPTER 129. STANDARDS FOR SOURCES**

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**Source**

The provisions of this Chapter 129 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804, unless otherwise noted.

**Cross References**

This chapter cited in 25 Pa. Code § 77.575 (relating to air resources protection); 25 Pa. Code § 87.137 (relating to air resources protection); 25 Pa. Code § 88.114 (relating to air resources protection); 25 Pa. Code § 88.205 (relating to air resources protection); 25 Pa. Code § 88.317 (relating to air resources protection); 25 Pa. Code § 89.64 (relating to air resources protection); 25 Pa. Code § 90.149 (relating to air resources protection); 25 Pa. Code § 126.102 (relating to sampling and testing); 25 Pa. Code § 127.44 (relating to public notice); 25 Pa. Code § 130.703 (relating to exemptions and exceptions); 25 Pa. Code § 139.14 (relating to emissions of VOCs); and 25 Pa. Code § 139.101 (relating to general requirements).

**§ 129.1. [Reserved].****Source**

The provisions of this § 129.1 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, effective March 20, 1972, 2 Pa.B. 383; reserved April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534. Immediately preceding text appears at serial pages (35386) to (35387).

**§ 129.2. [Reserved].****Source**

The provisions of this § 129.2 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, reserved March 20, 1972, 2 Pa.B. 383; reserved April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534. Immediately preceding text appears at serial pages (35387) and (4647).

**§ 129.3. [Reserved].****Source**

The provisions of this § 129.3 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, effective March 20, 1972, 2 Pa.B. 383; reserved April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534. Immediately preceding text appears at serial page (4647).

**§ 129.4. [Reserved].****Source**

The provisions of this § 129.4 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, effective March 20, 1972, 2 Pa.B. 383; reserved April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534. Immediately preceding text appears at serial page (4648).

**§ 129.5. [Reserved].****Source**

The provisions of this § 129.5 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, effective March 20, 1972, 2 Pa.B. 383; reserved April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534. Immediately preceding text appears at serial page (4648).

**§ 129.6. [Reserved].****Source**

The provisions of this § 129.6 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, effective March 20, 1972, 2 Pa.B. 383; reserved April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534. Immediately preceding text appears at serial pages (4648) to (4649).

**MISCELLANEOUS SOURCES****§ 129.11. Nitric acid plants.**

No person may permit the emission into the outdoor atmosphere, at any time, from a nitric acid production plant or facility, of nitrogen oxides, expressed as NO<sub>2</sub>, in excess of the rate of 5.5 pounds per ton of acid produced, the production being expressed as 100% HNO<sub>3</sub>.

**Source**

The provisions of this § 129.11 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, effective March 20, 1972, 2 Pa.B. 383.

**§ 129.12. Sulfuric acid plants.**

No person may permit the emission into the outdoor atmosphere, at any time, from a sulfuric acid production plant or facility, of:

- (1) Sulfur oxides, expressed as SO<sub>2</sub>, in excess of the rate of 6.5 pounds per ton of acid produced.
- (2) Sulfuric acid mist in excess of the rate of .5 pound per ton of acid produced, the production being expressed as 100% H<sub>2</sub> SO<sub>4</sub>.

**Source**

The provisions of this § 129.12 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, effective March 20, 1972, 2 Pa.B. 383.

**Cross References**

This section cited in 25 Pa. Code § 123.23 (relating to byproduct coke oven gas).

**§ 129.13. Sulfur recovery plants.**

(a) No person may permit the emission into the outdoor atmosphere, at any time, from a plant used for recovering elemental sulfur from gases containing sulfur compounds, of sulfur oxides, expressed as SO<sub>2</sub>, in excess of the rate determined by the formula:

$$A = .32E^{-.5}$$

where:

A = Allowable emissions in pounds of sulfur oxides per pound of sulfur compounds, expressed as S, in the feed gases, and

E = Recovery plant rating in long tons of sulfur per day.

(b) Allowable emissions under this section are graphically indicated in Appendix A.

**Source**

The provisions of this § 129.13 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, effective March 20, 1972, 2 Pa.B. 383.

**Cross References**

This section cited in 25 Pa. Code § 123.23 (relating to byproduct coke oven gas).

**§ 129.14. Open burning operations.**

(a) *Air basins.* No person may permit the open burning of material in an air basin.

(b) *Outside of air basins.* No person may permit the open burning of material in an area outside of air basins in a manner that:

(1) The emissions are visible, at any time, at the point such emissions pass outside the property of the person on whose land the open burning is being conducted.

(2) Malodorous air contaminants from the open burning are detectable outside the property of the person on whose land the open burning is being conducted.

(3) The emissions interfere with the reasonable enjoyment of life or property.

(4) The emissions cause damage to vegetation or property.

(5) The emissions are or may be deleterious to human or animal health.

(c) *Exceptions.* The requirements of subsections (a) and (b) do not apply where the open burning operations result from:

(1) A fire set to prevent or abate a fire hazard, when approved by the Department and set by or under the supervision of a public officer.

(2) Any fire set for the purpose of instructing personnel in fire fighting, when approved by the Department.

(3) A fire set for the prevention and control of disease or pests, when approved by the Department.

- (4) A fire set in conjunction with the production of agricultural commodities in their unmanufactured state on the premises of the farm operation.
- (5) A fire set for the purpose of burning domestic refuse, when the fire is on the premises of a structure occupied solely as a dwelling by two families or less and when the refuse results from the normal occupancy of the structure.
- (6) A fire set solely for recreational or ceremonial purposes.
- (7) A fire set solely for cooking food.
- (d) *Clearing and grubbing wastes.* The following is applicable to clearing and grubbing wastes:
  - (1) As used in this subsection the following terms shall have the following meanings:
    - Air curtain destructor*—A mechanical device which forcefully projects a curtain of air across a pit in which open burning is being conducted so that combustion efficiency is increased and smoke and other particulate matter are contained.
    - Clearing and grubbing wastes*—Trees, shrubs and other native vegetation which are cleared from land during or prior to the process of construction. The term does not include demolition wastes and dirt laden roots.
  - (2) Subsection (a) notwithstanding, clearing and grubbing wastes may be burned in a basin subject to the following requirements:
    - (i) Air curtain destructors shall be used when burning clearing and grubbing wastes.
    - (ii) Each proposed use of air curtain destructors shall be reviewed and approved by the Department in writing with respect to equipment arrangement, design and existing environmental conditions prior to commencement of burning. Proposals approved under this subparagraph need not obtain plan approval or operating permits under Chapter 127 (relating to construction, modification, reactivation and operation of sources).
    - (iii) Approval for use of an air curtain destructor at one site may be granted for a specified period not to exceed 3 months, but may be extended for additional limited periods upon further approval by the Department.
    - (iv) The Department reserves the right to rescind approval granted if a determination by the Department indicates that an air pollution problem exists.
  - (3) Subsection (b) notwithstanding clearing and grubbing wastes may be burned outside of an air basin, subject to the following limitations:
    - (i) Upon receipt of a complaint or determination by the Department that an air pollution problem exists, the Department may order that the open burning cease or comply with subsection (b).
    - (ii) Authorization for open burning under this paragraph does not apply to clearing and grubbing wastes transported from an air basin for disposal outside of an air basin.



(4) During an air pollution episode, open burning is limited by Chapter 137 (relating to air pollution episodes) and shall cease as specified in that chapter.

#### Source

The provisions of this § 129.14 adopted September 10, 1971, effective September 11, 1971, 1 Pa.B. 1804; amended March 3, 1972, effective March 20, 1972, 2 Pa.B. 383; amended July 23, 1976, effective August 9, 1976, 6 Pa.B. 1732; amended August 12, 1977, effective August 29, 1977, 7 Pa.B. 2251. Immediately preceding text appears at serial page (27454).

#### Notes of Decisions

A contractor who bids on a public works project and is given notice of the type of burning and disposal permitted under DER regulations is not entitled to additional compensation on the theory that the contractor was unaware that the project area was located in an air basin. *Hempt Brothers, Inc. v. Department of Transportation*, 388 A.2d 761, 763, (Pa. Cmwlth. 1978).

### § 129.15. Coke pushing operations.

(a) No person may permit the pushing of coke from a coke oven unless the pushing operation is enclosed during the removal of coke from a coke oven and pushing emissions are contained, except for the fugitive pushing emissions, that are allowed by subsections (c) and (e). A device for the enclosure of pushing operations shall be subject to the requirements of Chapter 127 (relating to construction, modification, reactivation and operation of sources) and the grant of plan approval.

(b) An application submitted to the Department under Chapter 127 for approval to install an air cleaning device designed to achieve compliance with subsection (a) at an existing coke oven battery shall, in addition to the requirements of §§ 123.13(b) and 127.12(a) (relating to processes; and content of applications), show that the air cleaning device is designed to reduce the fugitive emissions from pushing operations at a battery to the minimum attainable through the use of the best available technology following control.

(c) Visible fugitive air contaminants in excess of 20% opacity from an air cleaning device installed for the control of pushing emissions under a plan approval from the Department shall be prohibited unless the Department finds that:

(1) The emissions are of minor significance with respect to causing air pollution.

(2) The emissions will not prevent or interfere with the attainment or maintenance of any ambient air quality standard.

(d) Application for a finding under subsection (c) shall be filed in accordance with § 123.1(b) (relating to prohibition of certain fugitive emissions).

(e) No person may transport hot coke in the open atmosphere during the pushing operation, unless the visible fugitive air contaminants from the coke do not exceed 10% opacity.

**Source**

The provisions of this § 129.15 adopted August 12, 1977, effective August 29, 1977, except subsections (a) and (e) effective December 31, 1977; corrected June 1, 1979, effective December 31, 1977, 9 Pa.B. 1756. Immediately preceding text appears at serial page (35392).

**Cross References**

This section cited 25 Pa. Code § 123.1 (relating to prohibition of certain fugitive emissions).

**§ 129.16. Door maintenance, adjustment and replacement practices.**

(a) In the event a coke oven battery fails to comply with the emission standards contained in § 123.44(a)(2) or (3) (relating to limitations of visible fugitive air contaminants from operation of any coke oven battery) at any time after the effective date of the standards at a coke oven battery, the person responsible for the operation of such coke oven battery shall take the following action:

(1) Implement the following work practices:

(i) *Self-sealing coke oven doors.* Work practices for self-sealing coke oven doors shall conform with the following:

(A) Within 1 hour after the charge of each oven, the oven doors shall be inspected for visible emissions, and doors found leaking shall be recorded.

(B) Doors leaking 1 hour after the charge shall be adjusted prior to the end of the second hour after the charge.

(C) Each oven door leaking 1 hour after the charge shall be re-inspected for visible emissions 2 hours after the charge. A record shall be made of a door leaking 2 hours after the charge.

(D) A door leaking 2 hours after each of two successive charges shall be replaced with a repaired, rebuilt or new door prior to the next charge to that oven.

(E) An adequate supply of repaired, rebuilt and new doors shall be maintained onsite to allow the frequency of replacement necessary to comply with this subsection.

(F) If a newly installed, repaired, rebuilt or new door leaks more than 2 hours after charge, the door and jamb shall be inspected when the door is next removed from the oven. If the door is found to be defective, it shall be replaced with a repaired, rebuilt or new door prior to the next charge to that oven. If the door is not found to be defective, the jamb shall be replaced prior to the next charge to that oven.

(ii) *Luted doors.* Work practices for luted doors shall conform with the following:

(A) Luted doors leaking 15 minutes after the charge shall be immediately reluted.

(B) Doors which fail to seal after the first reluting shall be recorded.

(C) Leaks appearing after the first reluting shall be immediately alluted.

(iii) *Chuck doors.* Work practices for chuck doors shall conform with the following:

(A) Within 1 hour after the charge of each oven, the chuck door shall be inspected and a door found leaking shall be recorded.

(B) Chuck doors leaking 1 hour after the charge shall be gasketed prior to the next charge to that oven.

(C) If a freshly gasketed door is leaking 1 hour after the charge, it or the oven door shall be replaced prior to the next charge to that oven.

(iv) *Cleaning.* Doors and jambs shall be completely cleaned prior to each charge.

(2) Keep and maintain records of the inspections required by paragraph (1), including the names of inspectors, the date and time of each door inspection and ovens observed leaking.

(3) Within 90 days following a determination by the Department or the battery operator that this section is applicable, the person responsible for the operation of a coke oven battery shall submit to the Department for approval a work practice and maintenance manual which shall include, but not be limited to, the job titles of persons having responsibility for the various tasks required by paragraph (1), specify procedures to be followed to assure implementation of the requirements of paragraph (1), and state the numbers of replacement doors and jambs to be kept on site for each battery.

(b) In addition to, or as a substitute for, the requirements of subsection (a)(1)—(3), the Department may issue an order establishing further obligations with respect to the control of door area emissions in the event compliance with § 123.44(a)(2) and (3) is not consistently achieved within the time allowed by an approved deferred compliance schedule. The obligations may include, but is not limited to, the specification of the maintenance and work practices as the Department finds will achieve consistent compliance with the standards and the installation of best available technology for door sealing or for the capture and cleaning of door area emissions.

#### Source

The provisions of this § 129.16 adopted August 12, 1977, effective December 12, 1977, 7 Pa.B. 2251.

### § 129.17. Kraft pulp mills.

(a) A person may not cause or permit the emission into the outdoor atmosphere of total reduced sulfur from kraft pulp mills in excess of the quantities in the following table:

	<b>PPM (VOLUME) DRY</b>	<b>CONDITION</b>
Recovery furnace—old design (without welded wall or membrane wall construction or emission-control designed air systems)	20	12 hour average—corrected to 8% oxygen by volume.
Recovery furnace—new design (with both welded wall or membrane wall construction or emission-control designed air systems)	5	12 hour average—corrected to 8% oxygen by volume.
Lime kiln (a rotary or fluosolid unit used to calcine calcium carbonate into calcium oxide)	20	Never to be exceeded— corrected to 10% oxygen by volume.
Digester systems (continuous or batch process for cooking wood chips in sodium hydroxide and sodium sulfide to produce cellulosic material)	5	Never to be exceeded.
Multiple effect evaporator system (vapor heads, heating elements, hot wells, condensers and associated equipment used to concentrate spent pulp mill cooking liquid)	5	Never to be exceeded.
Smelt dissolving tank (the vessel used to produce an aqueous solution from the molten mixture discharged from the floor of a recovery furnace)	20	Never to be exceeded.

(b) Total reduced sulfur emissions shall be monitored continuously at recovery furnaces, digester systems and multiple effect evaporator systems unless emissions are incinerated at 1,200°F for .5 seconds or incinerated to provide equivalent total reduced sulfur control.

(1) Monitors, installation, operation, maintenance and reporting shall be as prescribed in Chapter 139 (relating to sampling and testing).

(2) TRS monitoring systems installed under this section shall meet the minimum data availability requirements in Chapter 139 Subchapter C (relating to requirements for source monitoring for stationary sources).

(3) The Department may use the data from the monitoring systems or from an alternate monitoring system to determine compliance with subsection (a).

(4) Source owners and operators shall achieve compliance with these monitoring provisions by May 7, 1991.

(c) Compliance with subsection (a) shall be achieved in accordance with the following schedule:

ACTIVITY	MONTHS AFTER MAY 7, 1988	
	EXISTING SOURCES	RECOVERY FURNACE (NEW SOURCE)
Submit for Department approval a plan for achieving compliance	6	6
Submit for Department approval a plan of necessary equipment	12	24
Issue purchase orders	24	36
Achieve compliance	36	72

**Authority**

The provisions of this § 129.17 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.17 adopted May 6, 1988, effective May 7, 1988, 18 Pa.B. 2102; amended October 26, 1990, effective October 27, 1990, 20 Pa.B. 5416; amended August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406. Immediately preceding text appears at serial pages (151662) to (151663).

**§ 129.18. Municipal waste incinerators.**

(a) The conditions of this section apply to municipal waste incinerators.  
 (b) The Department may require continuous monitoring for chemical species or process parameters which may include the following:

- (1) Hydrogen chloride (HCl).
- (2) Sulfur dioxide (SO<sub>2</sub>).
- (3) Nitrogen oxides (NO<sub>x</sub>).
- (4) Carbon monoxide (CO).
- (5) Combustion Efficiency (C. E.)
- (6) Temperature.
- (7) Opacity.
- (8) Oxygen (O<sub>2</sub>).

(c) Continuous monitoring systems installed under this section shall meet the minimum data availability requirements in Chapter 139 Subchapter C (relating to requirements for source monitoring for stationary sources).

**Authority**

The provisions of this § 129.18 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.18 adopted October 26, 1990, effective October 27, 1990, 20 Pa.B. 5416.

**SOURCES OF VOCs****§ 129.51. General.**

(a) *Equivalency.* Compliance with §§ 129.52, 129.52a, 129.52b, 129.52c, 129.52d, 129.52e, 129.54—129.63, 129.63a, 129.64—129.67, 129.67a, 129.67b, 129.68, 129.69, 129.71—129.73 and 129.77 may be achieved by alternative methods if all of the following exist:

(1) The alternative method is approved by the Department in an applicable plan approval or operating permit, or both.

(2) The resulting emissions are equal to or less than the emissions that would have been discharged by complying with the applicable emission limitation.

(3) Compliance by a method other than the use of a low VOC coating, adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent, cleanup solvent, cleaning solution, fountain solution or ink which meets the applicable emission limitation in §§ 129.52, 129.52a, 129.52b, 129.52c, 129.52d, 129.52e, 129.63a, 129.67, 129.67a, 129.67b, 129.73 and 129.77 shall be determined on the basis of equal volumes of solids.

(4) Capture efficiency testing and emissions testing are conducted in accordance with methods approved by the EPA.

(5) Adequate records are maintained to ensure enforceability.

(6) The alternative compliance method is incorporated into a plan approval or operating permit, or both, reviewed by the EPA, including the use of an air cleaning device to comply with § 129.52, § 129.52a, § 129.52b, § 129.52c, § 129.52d, § 129.52e, § 129.63a, § 129.67, § 129.67a, § 129.67b, § 129.68(b)(2) and (c)(2), § 129.73 or § 129.77.

(b) *New source performance standards.* Sources covered by new source performance standards which are more stringent than those contained in this chapter shall comply with those standards in lieu of the standards in this chapter.

(c) *Demonstration of compliance.* Unless otherwise set forth in this chapter, test methods and procedures used to monitor compliance with the emission requirements of this section are those specified in Chapter 139 (relating to sampling and testing).

(d) *Records.* The owner or operator of a facility or source subject to one or more of the VOC emission limitations and control requirements in this chapter shall keep records to demonstrate compliance with the applicable limitation or control requirement.

(1) The records shall provide sufficient data and calculations to clearly demonstrate that the applicable emission limitation or control requirement is met. Data or information required to determine compliance with an applicable limitation shall be recorded and maintained in a time frame consistent with the averaging period of the standard.

(2) The records shall be maintained onsite for 2 years, unless a longer period is required by a plan approval or operating permit issued under Chapter 127 (relating to construction, modification, reactivation and operation of sources). The records shall be made available to the Department on request.

(e) *Demonstration of exempt status.* The owner or operator of a facility or source claiming that the facility or source is exempt from the VOC control provisions of this chapter shall maintain records that clearly demonstrate to the

Department that the facility or source is not subject to the VOC emission limitations or control requirements of this chapter.

#### Authority

The provisions of this § 129.51 amended under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

#### Source

The provisions of this § 129.51 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1534; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended August 12, 1983, effective August 13, 1983, 13 Pa.B. 2478; amended August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406; amended May 22, 1992, effective May 23, 1992, 22 Pa. B. 2720; amended April 9, 1999, effective April 10, 1999, 29 Pa.B. 1879; amended September 10, 2010, effective September 11, 2010, 40 Pa.B. 5132; amended November 19, 2010, effective November 20, 2010, 40 Pa.B. 6646; amended December 17, 2010, effective December 18, 2010, 40 Pa.B. 7224; amended December 24, 2010, effective December 25, 2010, 40 Pa.B. 7340; corrected January 8, 2011, effective December 25, 2010, 41 Pa.B. 229; amended June 27, 2014, effective June 28, 2014, 44 Pa.B. 3929; amended October 21, 2016, effective October 22, 2016, 46 Pa.B. 6743 and 46 Pa.B. 6758; amended August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814. Immediately preceding text appears at serial pages (384128) to (384129).

#### Cross References

This section cited in 25 Pa. Code § 127.44 (relating to public notice); 25 Pa. Code § 129.52 (relating to surface coating processes); 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.73 (relating to aerospace manufacturing and rework); 25 Pa. Code § 129.81 (relating to organic liquid cargo vessel loading and ballasting); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.52. Surface coating processes.

(a) This section applies as follows to the owner and operator of a:

(1) Surface coating process category listed in Table I, categories 1—11, regardless of the size of the facility, which emits or has emitted VOCs into the outdoor atmosphere in quantities greater than 3 pounds (1.4 kilograms) per hour, 15 pounds (7 kilograms) per day or 2.7 tons (2,455 kilograms) per year during any calendar year since January 1, 1987.

(2) Shipbuilding or ship repair facility that has a surface coating operation that uses or applies more than 264 gallons of one or a combination of coatings listed in Table I, category 12, beginning January 21, 2023.

(b) A person may not cause or permit the emission into the outdoor atmosphere of VOCs from a surface coating process category listed in Table I, unless one of the following limitations is met:

(1) The VOC content of each as applied coating is equal to or less than the standard specified in Table I.

(i) The VOC content of the as applied coating, expressed in units of weight of VOC per volume of coating solids, shall be calculated as follows:

$$\text{VOC} = (W_o)(D_c)/V_n$$

Where:

VOC = VOC content in lb VOC/gal of coating solids

W<sub>o</sub> = Weight percent of VOC (W<sub>v</sub> - W<sub>w</sub> - W<sub>ex</sub>)

$W_v$  = Weight percent of total volatiles (100%-weight percent solids)

$W_w$  = Weight percent of water

$W_{ex}$  = Weight percent of exempt solvent(s)

$D_c$  = Density of coating, lb/gal, at 25°C

$V_n$  = Volume percent of solids of the as applied coating

(ii) The VOC content of a dip coating, expressed in units of weight of VOC per volume of coating solids, shall be calculated on a 30-day rolling average basis using the following equation:

$$VOC_A = \frac{\sum_i (W_{oi} \times D_{ci} \times Q_i) + \sum_J (W_{oJ} \times D_{dJ} \times Q_J)}{\sum_i (V_{ni} \times Q_i)}$$

Where:

$VOC_A$  = VOC content in lb VOC/gal of coating solids for a dip coating, calculated on a 30-day rolling average basis

$W_{oi}$  = Percent VOC by weight of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction (that is 55% = 0.55)

$D_{ci}$  = Density of each as supplied coating (i) added to the dip coating process, in pounds per gallon

$Q_i$  = Quantity of each as supplied coating (i) added to the dip coating process, in gallons

$V_{ni}$  = Percent solids by volume of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction

$W_{oJ}$  = Percent VOC by weight of each thinner (J) added to the dip coating process, expressed as a decimal fraction

$D_{dJ}$  = Density of each thinner (J) added to the dip coating process, in pounds per gallon

$Q_J$  = Quantity of each thinner (J) added to the dip coating process, in gallons

(iii) The VOC content of the as applied coating, expressed in units of weight of VOC per weight of coating solids, shall be calculated as follows:

$$VOC_B = (W_o)/(W_n)$$

Where:

$VOC_B$  = VOC content in lb VOC/lb of coating solids

$W_o$  = Weight percent of VOC ( $W_v - W_w - W_{ex}$ )

$W_v$  = Weight percent of total volatiles (100%-weight percent solids)

$W_w$  = Weight percent of water

$W_{ex}$  = Weight percent of exempt solvents

$W_n$  = Weight percent of solids of the as applied coating

(iv) Sampling and testing shall be done in accordance with the procedures and test methods specified in Chapter 139 (relating to sampling and testing).

(2) The overall weight of VOCs emitted to the atmosphere is reduced through the use of vapor recovery or incineration or another method which is acceptable under § 129.51(a) (relating to general). The overall efficiency of a control system, as determined by the test methods and procedures specified in Chapter 139 shall be no less than the equivalent overall efficiency calculated by the following equation:



$$O = (1 - E/V) \times 100$$

Where:

V = The VOC content of the as applied coating, in lb VOC/gal of coating solids or lb VOC/lb of coating solids.

E = Table I limit in lb VOC/gal of coating solids or lb VOC/lb of coating solids.

O = Overall control efficiency.

(c) The owner or operator of a facility, regardless of the facility's annual emission rate, which contains surface coating processes shall maintain records sufficient to demonstrate compliance with this section. At a minimum, a facility shall maintain daily records of:

(1) The following parameters for each coating, thinner and other component as supplied:

- (i) The coating, thinner or component name and identification number.
- (ii) The volume used.
- (iii) The mix ratio.
- (iv) The density or specific gravity.
- (v) The weight percent of total volatiles, water, solids and exempt solvents.
- (vi) The volume percent of solids for Table I surface coating process categories 1—10.
- (vii) The volume percent of solids for a Table I surface coating process category 12 coating whose VOC content is expressed in units of weight of VOC per volume of coating solids.

(2) The VOC content of each coating, thinner and other component as supplied.

(3) The VOC content of each as applied coating.

(d) The solvents methyl chloroform (1,1,1-trichloroethane) and methylene chloride are exempt from control under this section and § 129.67 (relating to graphic arts systems). A surface coating process which seeks to comply with this section through the use of an exempt solvent may not be included in any alternative standards.

(e) If more than one emission limitation under miscellaneous metal parts and products applies to a specific coating, the least stringent emission limitation applies.

(f) A person may not cause or permit the emission into the outdoor atmosphere of VOCs from the application of wood furniture coatings unless the coatings are applied using electrostatic, airless, curtain coating, roller coating, hand roller, hand brush, flow coating, dip coating or high volume-low pressure application equipment. Air atomized sprays may be used to apply cosmetic specialty coatings if the volume of the cosmetic specialty coatings is less than 5% by volume of the total coating used at the facility or to apply final repair coatings.

(g) The records shall be maintained onsite for 2 years, unless a longer period is required by an order, plan approval or operating permit issued under Chapter 127 (relating to construction, modification, reactivation and operation of sources). The records shall be submitted to the Department in an acceptable format on a schedule reasonably prescribed by the Department.

(h) The VOC standards in Table I do not apply to a coating used exclusively for determining product quality and commercial acceptance, touch-up and repair and other small quantity coatings if the coating meets the following criteria:

(1) The quantity of coating used does not exceed 50 gallons per year for a single coating and a total of 200 gallons per year for all coatings combined for the facility.

(2) The owner or operator of the facility requests, in writing, and the Department approves, in writing, the exemption prior to use of the coating.

(i) Beginning January 1, 2011, the requirements and limits for metal furniture coatings and large appliance coatings in this section are superseded by the requirements and limits in § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes).

(j) Beginning January 1, 2012, the requirements and limits for paper coatings in this section are superseded by the requirements and limits in § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes).

(k) Section 129.52d(a)(5)(i) (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings) applies to surface coating processes regulated under Table I, Category 10, miscellaneous metal parts and products. Aerosol coatings must meet the requirements of 40 CFR Part 59, Subpart E (relating to National volatile organic compound emission standards for aerosol coatings).

**Table I**  
**Emission Limits of VOCs in Surface Coatings by Process Category**  
**Weight of VOC per Volume of Coating Solids**

<i>Surface Coating Process Category</i>	<i>lbs VOC per gal coating solids</i>	<i>kg VOC per liter coating solids</i>
1. Can coating		
(a) sheet basecoat	4.62	0.55
(b) can exterior	4.62	0.55
(c) interior body spray	10.05	1.20
(d) two piece can end exterior	10.05	1.20
(e) side-seam spray	21.92	2.63
(f) end sealing compound	7.32	0.88
2. Coil coating	4.02	0.48
3. Fabric coating	4.84	0.58

<i>Surface Coating Process Category</i>	<i>lbs VOC per gal coating solids</i>	<i>kg VOC per liter coating solids</i>
4. Vinyl coating	7.69	0.92
5. Paper coating	4.84	0.58
6. Automobile and light duty truck coating		
(a) prime coat	2.60	0.31
(b) top coat	4.62	0.55
(c) repair	14.14	1.69
7. Metal furniture coating	5.06	0.61
8. Magnet wire coating	2.16	0.26
9. Large appliance coating	4.62	0.55
Categories 1—9 were adopted on April 17, 1979		
10. Miscellaneous metal parts & products		
(a) top coats for locomotives and heavy-duty trucks	6.67	0.80
(b) hopper car and tank car interiors	6.67	0.80
(c) pail and drum interiors	10.34	1.24
(d) clear coatings	10.34	1.24
(e) air-dried coatings	6.67	0.80
(f) extreme performance coatings	6.67	0.80
(g) all other coatings	5.06	0.61
Category 10 was adopted on April 21, 1981		

**Weight of VOC per Weight of Coating Solids**

	<i>lbs VOC per lb coating solids</i>	<i>kg VOC per kg coating solids</i>
11. Wood furniture manufacturing operations		
(a) Topcoats and enamels	3.0	3.0

	<i>lbs VOC per lb coating solids</i>	<i>kg VOC per kg coating solids</i>
(b) Washcoat	14.3	14.3
(c) Final repair coat	3.3	3.3
(d) Basecoats	2.2	2.2
(e) Cosmetic specialty coatings	14.3	14.3
(f) Sealers	3.9	3.9
Category 11 was adopted on May 7, 1988		
12. Shipbuilding and ship repair coatings		

**Weight of VOC per Volume of Coating Less Water and Exempt  
Compounds<sup>a b</sup>**

	<i>lbs VOC per gallon coating less water and exempt compounds</i>	<i>grams VOC per liter coating less water and exempt compounds</i>
(i) General use, including coal tar epoxy coatings	2.83	340
(ii) Specialty coating		
(a) Air flask	2.83	340
(b) Antenna	4.42	530
(c) Antifoulant	3.33	400
(d) Heat resistant	3.50	420
(e) High-gloss	3.50	420
(f) High-temperature	4.17	500
(g) Inorganic zinc high build primer	2.83	340
(h) Military exterior	2.83	340
(i) Mist	5.08	610

	<i>lbs VOC per gallon coating less water and exempt compounds</i>	<i>grams VOC per liter coating less water and exempt compounds</i>
(j) Navigational aids	4.58	550
(k) Nonskid	2.83	340
(l) Nuclear	3.50	420
(m) Organic zinc	3.00	360
(n) Pretreatment wash primer	6.50	780
(o) Repair and maintenance of thermoplastic coating of commercial vessels	4.58	550
(p) Rubber camouflage	2.83	340
(q) Sealant for thermal spray aluminum	5.08	610
(r) Special marking	4.08	490
(s) Specialty interior	2.83	340
(t) Tack	5.08	610
(u) Undersea weapons systems	2.83	340
(v) Weld-through preconstruction primer	5.42	650

**Weight of VOC per Volume of Coating Solids<sup>c</sup>**

	<i>At temperature less than 4.5°C (40°F)<sup>d</sup></i>		<i>At temperature equal to or greater than 4.5°C (40°F)</i>	
	<i>lbs VOC per gallon coating solids</i>	<i>grams VOC per liter coating solids</i>	<i>lbs VOC per gallon coating solids</i>	<i>grams VOC per liter coating solids</i>
(i) General use, including coal tar epoxy coatings	6.07	728	4.76	571
(ii) Specialty coating				

	<i>At temperature less than 4.5°C (40°F)<sup>d</sup></i>		<i>At temperature equal to or greater than 4.5°C (40°F)</i>	
	<i>lbs VOC per gallon coating solids</i>	<i>grams VOC per liter coating solids</i>	<i>lbs VOC per gallon coating solids</i>	<i>grams VOC per liter coating solids</i>
(a) Air flask	6.07	728	4.76	571
(b) Antenna	12.01	1,439	12.01	1,439
(c) Antifoulant	8.10	971	6.38	765
(d) Heat resistant	8.92	1,069	7.02	841
(e) High-gloss	8.92	1,069	7.02	841
(f) High-temperature	13.33	1,597	10.32	1,237
(g) Inorganic zinc high build primer	6.07	728	4.76	571
(h) Military exterior	6.07	728	4.76	571
(i) Mist	18.64	2,235	18.64	2,235
(j) Navigational aids	13.33	1,597	13.33	1,597
(k) Nonskid	6.07	728	4.76	571
(l) Nuclear	8.92	1,069	7.02	841
(m) Organic zinc	6.69	802	5.26	630
(n) Pretreatment wash primer	92.58	11,095	92.58	11,095
(o) Repair and maintenance of thermoplastic coating of commercial vessels	13.33	1,597	13.32	1,597
(p) Rubber camouflage	6.07	728	4.76	571
(q) Sealant for thermal spray aluminum	18.65	2,235	18.65	2,235

	<i>At temperature less than 4.5°C (40°F)<sup>d</sup></i>		<i>At temperature equal to or greater than 4.5°C (40°F)</i>	
	<i>lbs VOC per gallon coating solids</i>	<i>grams VOC per liter coating solids</i>	<i>lbs VOC per gallon coating solids</i>	<i>grams VOC per liter coating solids</i>
(r) Special marking	9.83	1,178	9.83	1,178
(s) Specialty interior	6.07	728	4.76	571
(t) Tack	18.65	2,235	18.65	2,235
(u) Undersea weapons systems	6.07	728	4.76	571
(v) Weld-through preconstruction primer	24.07	2,885	24.07	2,885

<sup>a</sup> The limits are expressed in two sets of equivalent units: pounds (lbs) per gallon and grams per liter. Either set of limits may be used to demonstrate compliance.

<sup>b</sup> To convert from grams per liter to pounds (lbs) per gallon, multiply the limit by (3.785 liter/gallon) (1/453.6 pound/gram) or 1/120. For compliance purposes, metric units define the standards.

<sup>c</sup> VOC limits expressed in units of mass of VOC per volume of solids were derived from the VOC limits expressed in units of mass of VOC per volume of coating less water and exempt compounds by assuming the coating contains no water or exempt compounds and that the volumes of all components within the coating are additive.

<sup>d</sup> These limits apply during cold weather time periods, that is, temperatures below 4.5°C (40°F). Cold weather allowances are not given to coatings in categories that allow less than 40% solids (nonvolatiles) content by volume. These coatings are subject to the single limit regardless of weather conditions and temperatures.

Category 12 was adopted on January 21, 2023.

#### Authority

The provisions of this § 129.52 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and issued and amended under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

129-18.3

(412961) No. 581 Apr. 23

**Source**

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**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.67 (relating to graphic arts systems); 25 Pa. Code § 129.73 (relating to aerospace manufacturing and rework); 25 Pa. Code § 129.75 (relating to mobile equipment repair and refinishing); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.101 (relating to general provisions and applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.52a. Control of VOC emissions from large appliance and metal furniture surface coating processes.**

(a) *Applicability.* This section applies as follows:

(1) This section applies to the owner and operator of a large appliance or metal furniture surface coating process if the total actual VOC emissions from all large appliance or metal furniture surface coating operations, including related cleaning activities, at the facility are equal to or greater than 15 pounds (6.8 kilograms) per day or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls.

(2) The emission limits and other requirements of this section supersede the emission limits and other requirements of § 129.52 (relating to surface coating processes) for large appliance and metal furniture surface coating processes.

(b) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued to the owner or operator of a source subject to subsection (a)(1) prior to January 1, 2011, under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to control, reduce or minimize VOCs from a large appliance or metal furniture surface coating operation, except to the extent the RACT permit contains more stringent requirements.

(c) *Emission limits.* Beginning January 1, 2011, a person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from a large appliance or metal furniture surface coating process, unless one of the following limitations is met:



(1) The VOC content of each as applied coating is equal to or less than the limit specified in Table I or Table II (relating to emission limits of VOCs for large appliance surface coatings; and emission limits of VOCs for metal furniture surface coatings).

(i) The VOC content of the as applied coating, expressed in units of weight of VOC per volume of coating solids, shall be calculated as follows:

$$\text{VOC} = (W_o)(D_c)/V_n$$

Where:

VOC = VOC content in lb VOC/gal of coating solids

$W_o$  = Weight percent of VOC ( $W_v - W_w - W_{ex}$ )

$W_v$  = Weight percent of total volatiles (100%-weight percent solids)

$W_w$  = Weight percent of water

$W_{ex}$  = Weight percent of exempt solvent(s)

$D_c$  = Density of coating, lb/gal, at 25° C

$V_n$  = Volume percent of solids of the as applied coating

(ii) The VOC content of a dip coating, expressed in units of weight of VOC per volume of coating solids, shall be calculated on a 30-day rolling average basis using the following equation:

$$\text{VOC}_A = \frac{\text{SUM}_i (W_{oi} \times D_{ci} \times Q_i) + \text{SUM}_j (W_{oj} \times D_{dj} \times Q_j)}{\text{SUM}_i (V_{ni} \times Q_i)}$$

Where:

$\text{VOC}_A$  = VOC content in lb VOC/gal of coating solids for a dip coating, calculated on a 30-day rolling average basis

$W_{oi}$  = Percent VOC by weight of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction (that is 55% = 0.55)

$D_{ci}$  = Density of each as supplied coating (i) added to the dip coating process, in pounds per gallon

$Q_i$  = Quantity of each as supplied coating (i) added to the dip coating process, in gallons

$V_{ni}$  = Percent solids by volume of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction

$W_{oj}$  = Percent VOC by weight of each thinner (J) added to the dip coating process, expressed as a decimal fraction

$D_{dj}$  = Density of each thinner (J) added to the dip coating process, in pounds per gallon

$Q_j$  = Quantity of each thinner (J) added to the dip coating process, in gallons

(iii) Sampling and testing shall be done in accordance with the procedures and test methods specified in Chapter 139 (relating to sampling and testing).

(2) The overall weight of VOCs emitted to the atmosphere is reduced through the use of vapor recovery or incineration or another method that is acceptable under § 129.51(a) (relating to general). The overall efficiency of a control system, as determined by the test methods and procedures specified in Chapter 139, may be no less than 90% or may be no less than the equivalent efficiency as calculated by the following equation, whichever is less stringent:

$$O = (1 - E/V) \times 100$$

Where:

V = The VOC content of the as applied coating, in lb VOC/gal of coating solids.

E = The Table I or Table II limit in lb VOC /gal of coating solids.

O = The overall required control efficiency.

(d) *Compliance monitoring procedures.* The owner or operator of a facility subject to this section shall maintain records sufficient to demonstrate compliance with this section. At a minimum, the owner or operator shall maintain daily records of:

(1) The following parameters for each coating, thinner, component and cleaning solvent as supplied:

- (i) Name and identification number.
- (ii) Volume used.
- (iii) Mix ratio.
- (iv) Density or specific gravity.
- (v) Weight percent of total volatiles, water, solids and exempt solvents.
- (vi) Volume percent of solids for each Table I or Table II coating used in the surface coating process.

(2) The VOC content of each coating, thinner, component and cleaning solvent as supplied.

(3) The VOC content of each as applied coating or cleaning solvent.

(e) *Recordkeeping and reporting requirements.* The records required under subsection (d) shall be:

(1) Maintained for 2 years, unless a longer period is required under § 127.511(b)(2) (relating to monitoring and related recordkeeping and reporting requirements).

(2) Submitted to the Department upon receipt of a written request.

(f) *Coating application methods.* A person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from the application of large appliance or metal furniture surface coatings, unless the coatings are applied using one or more of the following coating application methods:

- (1) Electrostatic coating.
- (2) Roller coating.
- (3) Flow coating.
- (4) Dip coating, including electrodeposition.
- (5) High volume-low pressure (HVLP) spray.
- (6) Brush coating.
- (7) Other coating application method, if approved in writing by the Department prior to use.

(i) The coating application method must be capable of achieving a transfer efficiency equivalent to or better than that achieved by the methods listed in paragraphs (1)—(6).

(ii) The request for approval must be submitted in writing.

(g) *Exempt coatings and coating operations.* The VOC coating content limits in Table I and Table II do not apply to the following types of coatings and coating operations:

- (1) Stencil coatings.
- (2) Safety-indicating coatings.
- (3) Solid-film lubricants.
- (4) Electric-insulating coatings.
- (5) Thermal-conducting coatings.
- (6) Touch-up and repair coatings.
- (7) Coating applications using hand-held aerosol cans.
- (8) A coating used exclusively for determining product quality and commercial acceptance and other small quantity coatings, if the coating meets the following criteria:

(i) The quantity of coating used does not exceed 50 gallons per year for a single coating and a total of 200 gallons per year for all coatings combined for the facility.

(ii) The owner or operator of the facility requests, in writing, and the Department approves, in writing, the exemption prior to use of the coating.

(h) *Work practice requirements for coating-related activities.* The owner or operator of a large appliance or metal furniture surface coating process subject to this section shall comply with the following work practices for coating-related activities:

(1) Store all VOC-containing coatings, thinners and coating-related waste materials in closed containers.

(2) Ensure that mixing and storage containers used for VOC-containing coatings, thinners and coating-related waste materials are kept closed at all times except when depositing or removing these materials.

(3) Minimize spills of VOC-containing coatings, thinners and coating-related waste materials and clean up spills immediately.

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

(i) *Work practice requirements for cleaning materials.* The owner or operator of a large appliance or metal furniture surface coating process subject to this section shall comply with the following work practices for cleaning materials:

(1) Store all VOC-containing cleaning materials and used shop towels in closed containers.

(2) Ensure that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials.

(3) Minimize spills of VOC-containing cleaning materials and clean up spills immediately.

(4) Convey VOC-containing cleaning materials from one location to another in closed containers or pipes.

(5) Minimize VOC emissions from cleaning of storage, mixing and conveying equipment.

**Table I****Emission Limits of VOCs for Large Appliance Surface Coatings****Weight of VOC per Volume of Coating Solids, as Applied**

<i>Coating Type</i>	<i>Baked</i>		<i>Air Dried</i>	
	<i>kg/l</i>	<i>lb/gal</i>	<i>kg/l</i>	<i>lb/gal</i>
General, One Component	0.40	3.34	0.40	3.34
General, Multi-Component	0.40	3.34	0.55	4.62
Extreme High Gloss	0.55	4.62	0.55	4.62
Extreme Performance	0.55	4.62	0.55	4.62
Heat Resistant	0.55	4.62	0.55	4.62
Metallic	0.55	4.62	0.55	4.62
Pretreatment	0.55	4.62	0.55	4.62
Solar Absorbent	0.55	4.62	0.55	4.62

**Table II****Emission Limits of VOCs for Metal Furniture Surface Coatings****Weight of VOC per Volume of Coating Solids, as Applied**

<i>Coating Type</i>	<i>Baked</i>		<i>Air Dried</i>	
	<i>kg/l</i>	<i>lb/gal</i>	<i>kg/l</i>	<i>lb/gal</i>
General, One Component	0.40	3.34	0.40	3.34
General, Multi-Component	0.40	3.34	0.55	4.62
Extreme High Gloss	0.61	5.06	0.55	4.62
Extreme Performance	0.61	5.06	0.61	5.06
Heat Resistant	0.61	5.06	0.61	5.06
Metallic	0.61	5.06	0.61	5.06
Pretreatment	0.61	5.06	0.61	5.06
Solar Absorbent	0.61	5.06	0.61	5.06

**Authority**

The provisions of this § 129.52a issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.52a adopted September 10, 2010, effective September 11, 2010, 40 Pa.B. 5132.

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.52 (relating to surface coating processes); 25 Pa. Code § 129.67 (relating to graphic arts systems); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.52b. Control of VOC emissions from paper, film and foil surface coating processes.**

(a) *Applicability.* This section applies to the owner and operator of a paper, film or foil surface coating process, as follows, if the surface coating process meets one or a combination of the following:

(1) The emission limits in Table I and other requirements of this section apply to the owner and operator of a paper, film or foil surface coating process if an individual paper, film or foil surface coating line has a potential to emit at least 25 tpy of VOC from coatings, prior to controls. For these processes, the emission limits and other requirements of this section supersede the emission limits and other requirements of § 129.52 (relating to surface coating processes).

(2) The emission limit in Table II and other requirements of this section apply to the owner and operator of a paper surface coating process which emits or has emitted VOCs into the outdoor atmosphere in quantities greater than 3 pounds (1.4 kilograms) per hour, 15 pounds (7 kilograms) per day or 2.7 tons (2,455 kilograms) per year during any calendar year since January 1, 1987. For these processes, the emission limit and other requirements of this section supersede the emission limit and other requirements of § 129.52.

(3) The work practice requirements for cleaning materials found in subsection (h), and the related compliance monitoring and recordkeeping and reporting requirements of subsections (d) and (e), apply to the owner and operator of a paper, film or foil surface coating process if the total actual VOC emissions from all paper, film or foil surface coating operations, including related cleaning activities, at the facility are equal to or greater than 15 pounds (6.8 kilograms) per day or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls.

(b) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued to the owner or operator of a source subject to subsection (a) prior to January 1, 2012, under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to control, reduce or minimize VOCs from a paper, film or foil surface coating process, except to the extent the RACT permit contains more stringent requirements.

(c) *Emission limits.* Beginning January 1, 2012, a person subject to subsection (a)(1) or (2) may not cause or permit the emission into the outdoor atmo-

sphere of VOCs from a paper, film or foil surface coating process, unless one of the following limitations is met:

(1) The VOC content of each as applied coating is equal to or less than the limit specified in Table I or Table II, as applicable.

(i) The VOC content of the as applied coating, expressed in units of weight of VOC per weight of coating solids, shall be calculated as follows:

$$\text{VOC}_B = (W_o)/(W_n)$$

Where:

$\text{VOC}_B$  = VOC content in lb VOC/lb of coating solids

$W_o$  = Weight percent of VOC ( $W_v - W_w - W_{ex}$ )

$W_v$  = Weight percent of total volatiles (100%-weight percent solids)

$W_w$  = Weight percent of water

$W_{ex}$  = Weight percent of exempt solvents

$W_n$  = Weight percent of solids of the as applied coating

(ii) The VOC content of the as applied coating, expressed in units of weight of voc per volume of coating solids, shall be calculated as follows:

$$\text{VOC} = (W_o)(D_c)/V_n$$

Where:

VOC = VOC Content in lb voc/gal of coating solids

$W_o$  = Weight percent of VOC ( $W_v - W_w - W_{ex}$ )

$W_v$  = Weight percent of total volatiles (100%-weight percent solids)

$W_w$  = Weight percent of water

$W_{ex}$  = Weight percent of exempt solvent(s)

$D_c$  = Density of coating, lb/gal, at 25° C

$V_n$  = Volume percent of solids of the as applied coating

(iii) The VOC content of a dip coating, expressed in units of weight of VOC per weight of coating solids, shall be calculated on a 30-day rolling average basis using the following equation:

$$\text{VOC}_A = \frac{\sum_i (W_{oi} \times D_{ci} \times Q_i) + \sum_j (W_{oj} \times D_{dj} \times Q_j)}{\sum_i (W_{ni} \times D_{ci} \times Q_i)}$$

Where:

$\text{VOC}_A$  = VOC content in lb VOC/lb of coating solids for a dip coating, calculated on a 30-day rolling average basis

$W_{oi}$  = Percent VOC by weight of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction (that is 55% = 0.55)

$D_{ci}$  = Density of each as supplied coating (i) added to the dip coating process, in pounds per gallon

$Q_i$  = Quantity of each as supplied coating (i) added to the dip coating process, in gallons

$W_{ni}$  = Percent solids by weight of each as supplied coating (i) added to the dip coating process, expressed as a decimal fraction

$W_{oJ}$  = Percent VOC by weight of each thinner (J) added to the dip coating process, expressed as a decimal fraction

$D_{dJ}$  = Density of each thinner (J) added to the dip coating process, in pounds per gallon

$Q_J$  = Quantity of each thinner (J) added to the dip coating process, in gallons

(iv) Sampling and testing shall be done in accordance with the procedures and test methods specified in Chapter 139 (relating to sampling and testing).

(2) The overall weight of VOCs emitted to the atmosphere is reduced through the use of vapor recovery or incineration or another method that is acceptable under § 129.51(a) (relating to general). The overall efficiency of a control system, as determined by the test methods and procedures specified in Chapter 139, may be no less than 90% or may be no less than the equivalent overall efficiency as calculated by the following equation, whichever is less stringent:

$$O = (1 - E/V) \times 100$$

Where:

V = The VOC content of the as applied coating, in lb VOC/lb of coating solids or lb voc/gal of coating solids.

E = The Table I limit in lb VOC/lb of coating solids or Table II limit in lb voc/gal of coating solids.

O = The overall required control efficiency.

(d) *Compliance monitoring procedures.* The owner or operator of a facility subject to this section shall maintain records sufficient to demonstrate compliance as follows:

(1) The owner or operator of a facility subject to subsection (a) shall maintain daily records of the following parameters for each coating, thinner, component or cleaning solvent, as supplied:

- (i) Name and identification number of the coating, thinner, component or cleaning solvent.
- (ii) Volume used.
- (iii) Mix ratio.
- (iv) Density or specific gravity.
- (v) Weight percent of total volatiles, water, solids and exempt solvents.
- (vi) VOC content.

(2) In addition to the records required under paragraph (1), the owner or operator of a facility subject to subsection (a)(2) shall maintain daily records of the volume percent solids for each coating, thinner or component, as supplied.

(3) The owner or operator of a facility subject to subsection (a) shall maintain daily records of the VOC content of each as applied coating or cleaning solvent.

(e) *Recordkeeping and reporting requirements.* The records required under subsection (d) shall be:

- (1) Maintained for 2 years, unless a longer period is required under § 127.511(b)(2) (relating to monitoring and related recordkeeping and reporting requirements).
- (2) Submitted to the Department upon receipt of a written request.

(f) *Coating application methods.* A person subject to subsection (a)(1) may not cause or permit the emission into the outdoor atmosphere of VOCs from the application of paper, film or foil surface coatings, unless the coatings are applied using one or more of the following coating application methods:

- (1) Rotogravure coating.
- (2) Reverse roll coating.
- (3) Knife coating.
- (4) Dip coating.
- (5) Slot die coating.
- (6) Flexographic coating.
- (7) Extrusion coating.
- (8) Calendaring.
- (9) Other coating application method, if approved in writing by the Department prior to the use of the application method.
  - (i) The coating application method must be capable of achieving a transfer efficiency equivalent to or better than that achieved by a method listed in paragraphs (1)—(8).
  - (ii) The request for approval must be submitted in writing by the owner or operator of the paper, film or foil surface coating facility.

(g) *Exempt coatings.* The VOC coating content limits in Tables I and II do not apply to a coating used exclusively for determining product quality and commercial acceptance and other small quantity coatings, if the coating meets the following criteria:

- (1) The quantity of coating used does not exceed 50 gallons per year for a single coating and a total of 200 gallons per year for all coatings combined for the facility.
- (2) The owner or operator of the facility requests, in writing, and the Department approves, in writing, the exemption prior to use of the coating.

(h) *Work practice requirements for cleaning materials.* The owner or operator of a paper, film or foil surface coating process subject to subsection (a) shall comply with the following work practices for cleaning materials:

- (1) Store all VOC-containing cleaning materials and used shop towels in closed containers.
- (2) Ensure that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times, except when depositing or removing these materials.



- (3) Minimize spills of VOC-containing cleaning materials and clean up spills immediately.
- (4) Convey VOC-containing cleaning materials from one location to another in closed containers or pipes.
- (5) Minimize VOC emissions from cleaning of storage, mixing and conveying equipment.

**Table I**

**Emission Limits of VOCs for Paper, Film and Foil Surface Coatings if  
Potential VOC Emissions from a Single Line,  
Prior to Control, are 25 Tons per Year or More  
Weight of VOC per Weight of Coating Solids, as Applied**

*RACT Limits*

<i>Units</i>	<i>Pressure Sensitive Tape and Label Surface Coating</i>	<i>Paper, Film, and Foil Surface Coating (Not including Pressure Sensitive Tape and Label Surface Coating)</i>
kg VOC/kg solids (lb VOC/lb solids)	0.20	0.40
kg VOC/kg coating (lb VOC/lb coating)	0.067	0.08

**Table II**

**Emission Limit of VOCs for Paper Coating if Actual VOC Emissions have  
Exceeded 3 Pounds per Hour, 15 Pounds per Day or 2.7 Tons per Year  
in Any Year Since January 1, 1987  
Weight of VOC per Volume of Coating Solids, as Applied**

<i>Units</i>	<i>RACT Limit Paper Coating</i>
lb voc/gal coating solids	4.84
kg voc/l coating solids	0.58

**Authority**

The provisions of this § 129.52b issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.52b adopted November 19, 2010, effective November 20, 2010, 40 Pa.B. 6646.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.52 (relating to surface coating processes); 25 Pa. Code § 129.67 (relating to graphic arts systems); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.52c. Control of VOC emissions from flat wood paneling surface coating processes.**

(a) *Applicability.* Except as specified in paragraphs (1)—(3), this section applies to the owner and operator of a flat wood paneling surface coating process if the total actual VOC emissions from all flat wood paneling surface coating operations listed in Table I (relating to emission limits of VOCs for flat wood paneling surface coatings), including related cleaning activities, at the facility are equal to or greater than 15 pounds (6.8 kilograms) per day, before consideration of controls. This section does not apply to the following:

(1) A field-applied coating process. Field-applied coatings are regulated under Chapter 130, Subchapter C (relating to architectural and industrial maintenance coatings).

(2) A coating process regulated under §§ 129.101—129.107 (relating to wood furniture manufacturing operations).

(3) A coating process regulated under §§ 129.52(f) and 129.52, Table I, Category 11 (relating to surface coating processes; and wood furniture manufacturing operations).

(b) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued to the owner or operator of a source subject to subsection (a) prior to January 1, 2012, under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to control, reduce or minimize VOCs from a flat wood paneling surface coating process, except to the extent the RACT permit contains more stringent requirements.

(c) *Emission limits.* Beginning January 1, 2012, a person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from a flat wood paneling coating process unless one of the following limitations is met:

(1) The VOC content of each as applied coating is equal to or less than the limit specified in Table I.

(i) The VOC content of each as applied coating, expressed in units of weight of VOC per volume of coating solids, shall be calculated as follows:

$$\text{VOC} = (W_o)(D_c)/V_n$$

Where:

VOC = VOC content in lb VOC/gal of coating solids.

$W_o$  = Weight percent of VOC ( $W_v - W_w - W_{ex}$ ).

$W_v$  = Weight percent of total volatiles (100%-weight percent solids).

$W_w$  = Weight percent of water.

$W_{ex}$  = Weight percent of exempt solvent(s).

$D_c$  = Density of coating, lb/gal, at 25° C.

$V_n$  = Volume percent of solids of the as applied coating.

(ii) The VOC content limits in Table I may be met by calculating a weighted average of the VOC content of all coatings used on a single flat wood paneling surface coating process line each day. The daily weighted average shall be calculated using the following equation:

$$VOC_w = \frac{\sum_{i=1}^n C_i V_i}{V_t}$$

Where:

$VOC_w$  = The daily weighted average VOC content, as applied, of all coatings used on a single flat wood paneling surface coating process line, in lb VOC/gal of coating solids.

$n$  = The number of different coatings used each day on the single flat wood paneling surface coating process line.

$V_i$  = The volume solids for each coating, as applied, used each day on the single flat wood paneling surface coating process line, in gallons.

$C_i$  = The VOC content of each coating, as applied, used each day on the single flat wood paneling surface coating process line, in lb VOC/gal coating solids.

$V_t$  = The total volume of solids for all coatings combined, as applied, used each day on the single flat wood paneling surface coating process line, in gallons.

(iii) Sampling and testing shall be done in accordance with the procedures and test methods specified in Chapter 139 (relating to sampling and testing).

(2) The overall weight of VOCs emitted to the atmosphere is reduced through the use of oxidation or solvent recovery or another method that is acceptable under § 129.51(a) (relating to general). The overall efficiency of a control system, as determined by the test methods and procedures specified in Chapter 139, may be no less than 90% or may be no less than the equivalent efficiency as calculated by the following equation, whichever is less stringent:

$$O = (1 - E/V) \times 100$$

Where:

$V$  = The VOC content of the as applied coating, in lb VOC/gal of coating solids.

$E$  = The Table I limit in lb VOC/gal of coating solids.

$O$  = The overall required control efficiency.

(d) *Compliance monitoring procedures.* The owner or operator of a facility subject to this section shall maintain records sufficient to demonstrate compliance with this section. The owner or operator shall maintain daily records of:

(1) The following parameters for each coating, thinner, other component or cleaning solvent as supplied:

- (i) Name and identification number of the coating, thinner, other component or cleaning solvent.
- (ii) Volume used.
- (iii) Mix ratio.
- (iv) Density or specific gravity.
- (v) Weight percent of total volatiles, water, solids and exempt solvents.
- (vi) Volume percent of solids for each coating used in the flat wood paneling coating process.
- (vii) VOC content.

(2) The VOC content of each as applied coating or cleaning solvent.

(e) *Recordkeeping and reporting requirements.* The records required under subsection (d) shall be:

(1) Maintained for 2 years, unless a longer period is required under § 127.511(b)(2) (relating to monitoring and related recordkeeping and reporting requirements).

(2) Submitted to the Department upon receipt of a written request.

(f) *Coating application methods.* A person subject to this section may not cause or permit the emission into the outdoor atmosphere of VOCs from a flat wood paneling surface coating process unless the coatings are applied using one or more of the following coating application methods:

- (1) Offset rotogravure coating.
- (2) Curtain coating.
- (3) Direct roll coating.
- (4) Reverse roll coating.
- (5) Hand brush or hand roller coating.
- (6) High volume-low pressure (HVLP) spray coating.
- (7) Airless spray coating.
- (8) Air-assisted airless spray coating.
- (9) Electrostatic coating.
- (10) Other coating application method, if approved in writing by the Department prior to use.

(i) The coating application method must be capable of achieving a transfer efficiency equivalent to or better than that achieved by a method listed in paragraphs (1)–(9).

(ii) The request for approval must be submitted in writing.

(g) *Exempt coatings.* The VOC coating content standards in Table I do not apply to a coating used exclusively for determining product quality and commercial acceptance and other small quantity coatings, if the coating meets the following criteria:

(1) The quantity of coating used does not exceed 50 gallons per year for a single coating and a total of 200 gallons per year for all coatings combined for the facility.

(2) The owner or operator of the facility requests, in writing, and the Department approves, in writing, the exemption prior to use of the coating.

(h) *Work practice requirements for coating-related activities.* The owner or operator of a flat wood paneling surface coating process subject to this section shall comply with the following work practices for coating-related activities:

(1) Store all VOC-containing coatings, thinners and coating-related waste materials in closed containers.

(2) Minimize spills of VOC-containing coatings, thinners and coating-related waste materials and clean up spills immediately.

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

(4) Ensure that mixing and storage containers used for VOC-containing coatings, thinners and coating-related waste materials are kept closed at all times, except when depositing or removing these materials.

(i) *Work practice requirements for cleaning materials.* The owner or operator of a flat wood paneling surface coating process subject to this section shall comply with the following work practices for cleaning materials:

(1) Store all VOC-containing cleaning materials, waste cleaning materials and used shop towels in closed containers.

(2) Minimize spills of VOC-containing cleaning materials and waste cleaning materials and clean up spills immediately.

(3) Convey VOC-containing cleaning materials and waste cleaning materials from one location to another in closed containers or pipes.

(4) Ensure that mixing vessels and storage containers used for VOC-containing cleaning materials and waste cleaning materials are kept closed at all times, except when depositing or removing these materials.

(5) Minimize VOC emissions during cleaning of storage, mixing and conveying equipment.

**Table I**  
**Emission Limits of VOCs for**  
**Flat Wood Paneling Surface Coatings**  
**Weight of VOC per Volume of Coating Solids, as Applied**

<i>Surface Coatings, Inks or Adhesives Applied to the Following Flat Wood Paneling Categories</i>	<i>lbs VOC per gallon coating solids</i>	<i>grams VOC per liter coating solids</i>
Printed interior panels made of hardwood plywood or thin particleboard	2.9	350
Natural-finish hardwood plywood panels	2.9	350
Class II finishes on hardboard panels	2.9	350
Tileboard	2.9	350
Exterior siding	2.9	350

**Authority**

The provisions of this § 129.52c issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.52c adopted December 17, 2010, effective December 18, 2010, 40 Pa.B. 7224.

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.67 (relating to graphic arts systems); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.52d. Control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings.**

(a) *Applicability.*

(1) This section applies to the owner and operator of a miscellaneous metal part surface coating process or miscellaneous plastic part surface coating process, or both, if the total actual VOC emissions from all miscellaneous metal part coating units and miscellaneous plastic part coating units, including related cleaning activities, at the facility are equal to or greater than 2.7 tons per 12-month rolling period, before consideration of controls.

(2) This section applies, as specified, to the owner and operator of a miscellaneous metal part surface coating process or miscellaneous plastic part surface coating process, or both, if the total actual VOC emissions from all miscellaneous metal part coating units and miscellaneous plastic part coating units,

including related cleaning activities, at the facility are below 2.7 tons per 12-month rolling period, before consideration of controls.

(3) Compliance with the VOC emission limits and other requirements of this section assures compliance with the VOC emission limits and other requirements of § 129.52 (relating to surface coating processes) for the miscellaneous metal parts and products surface coating processes as specified in § 129.52, Table I, Category 10.

(4) If an owner or operator elects to comply with § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly surface coating operations and heavier vehicle coating operations) under § 129.52e(a)(2) or (3), then § 129.52e instead of this section applies to the separate coating line at the facility, or to the coating of a body or body part for a new heavier vehicle at the facility, or both, for which the election is made.

(5) This section does not apply to an owner or operator in the use or application of the following:

- (i) Aerosol coatings that meet the requirements of 40 CFR Part 59, Subpart E (relating to National volatile organic compound emission standards for aerosol coatings).
- (ii) Aerospace coatings.
- (iii) Architectural coatings.
- (iv) Automobile refinishing coatings.
- (v) Auto and light-duty truck assembly coatings.
- (vi) Can, coil or magnet wire coatings.
- (vii) Coating applied to a test panel or coupon, or both, in research and development, quality control or performance testing activities, if records are maintained as required under subsections (e) and (f).
- (viii) Fiberglass boat manufacturing materials.
- (ix) Flat wood paneling coatings.
- (x) Large appliance coatings.
- (xi) Metal furniture coatings.
- (xii) Miscellaneous industrial adhesives.
- (xiii) Paper, film and foil coatings.
- (xiv) Shipbuilding and repair coatings.
- (xv) Wood furniture coatings.

(b) *Definitions.* The following words and terms, when used in this section, have the following meanings unless the context clearly indicates otherwise:

*Adhesion primer*—A coating applied to a polyolefin part to promote the adhesion of a subsequent coating. This type of coating is clearly identified on its accompanying MSDS by this term or as an adhesion promoter.

*Air-dried coating*—A coating that is cured or dried at a temperature below 90°C (194°F).

*Antifoulant or antifouling coating*—A coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms, and registered with the EPA as a pesticide under section 2 of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C.A. § 136).

*Appurtenance*—An accessory to a stationary structure that is coated at the facility. The term includes:

- (i) Bathroom and kitchen fixtures.
- (ii) Cabinets.
- (iii) Concrete forms.
- (iv) Doors.
- (v) Elevators.
- (vi) Fences.
- (vii) Hand railings.
- (viii) Heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools.
- (ix) Lampposts.
- (x) Partitions.
- (xi) Pipes and piping systems.
- (xii) Rain gutters and downspouts.
- (xiii) Stairways.
- (xiv) Fixed ladders.
- (xv) Catwalks and fire escapes.
- (xvi) Window screens.

*Baked coating*—A coating cured at a temperature at or above 90°C (194°F).

*Black coating*—A coating that meets either of the following:

- (i) Both of the following criteria, which are based on Cielab color space, 0/45 geometry:
  - (A) Maximum lightness: 23 units.
  - (B) Saturation: less than 2.8, where saturation equals the square root of  $A^2 + B^2$ .
- (ii) For spherical geometry, specular included, maximum lightness is 33 units.

*Business machine*—

(i) A device that uses an electronic or mechanical method to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission.

(ii) The term includes the following:

(A) Devices listed in *Standard Industrial Classification Codes* 3572, 3573, 3574, 3579 and 3661.

(B) Photocopy machines, a subcategory of *Standard Industrial Classification Code* 3861.

*Camouflage coating*—A coating used principally by the military to conceal equipment from detection.

*Cleaning material* or *cleaning solvent*—A material used during cleaning activities or cleaning operations to remove residue or other unwanted materials from equipment.

*Clear coating*—

(i) A colorless coating that contains binders, but no pigment, and is formulated to form a transparent film.

(ii) The term includes a transparent coating that uses the undercoat as a reflectant base or undertone color.

*Clear wood finishes*—A clear or semitransparent topcoat applied to a wood substrate to provide a transparent or translucent film.



*Coating—*

- (i) A material applied onto or into a substrate for protective, decorative or functional purposes.
- (ii) The term includes paints, sealants, caulks, primers, inks and maskants.
- (iii) The term does not include protective oils, acids or bases, or combinations of these materials.

*Coating unit*—A series of one or more coating applicators and associated drying area or oven or both wherein a coating is applied and dried or cured, or both. The unit ends at the point where the coating is dried or cured, or prior to subsequent application of a different coating.

*Drum*—A cylindrical metal shipping container larger than 12 gallons capacity but not larger than 110 gallons capacity.

*EMI/RFI shielding coating*—A coating used on electrical or electronic equipment to provide shielding against electromagnetic interference, radio frequency interference or static discharge.

*Electric dissipating coating*—A coating that rapidly dissipates a high voltage electric charge.

*Electric-insulating varnish*—A non-convertible-type coating applied to electric motors, components of electric motors or power transformers to provide electrical, mechanical or environmental protection or resistance.

*Electrostatic prep coating*—A coating applied to a plastic part solely to provide conductivity for the subsequent application of a primer, a topcoat or other coating through the use of electrostatic application methods. This term is clearly identified as an electrostatic prep coat on its accompanying MSDS.

*Etching filler*—A coating that contains less than 23% solids by weight and at least 0.5% acid by weight, and is used instead of applying a pretreatment coating followed by a primer.

*Extreme high-gloss coating*—A coating that achieves the following:

- (i) For miscellaneous metal part surface coatings or miscellaneous plastic part surface coatings, other than pleasure craft surface coatings, a coating when tested by the American Society for Testing Material Test Method D-523-08 shows a reflectance of at least 75% on a 60° meter.
- (ii) For pleasure craft surface coatings, a coating that shows a reflectance of at least 90% on a 60° meter when tested by American Society for Testing Material Test Method D-523-08.

*Extreme-performance coating*—

- (i) A coating used on a metal or plastic surface where the coated surface is, in its intended use, subject to one or more of the following:
  - (A) Chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solutions.
  - (B) Repeated exposure to temperatures in excess of 250°F.
  - (C) Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers or scouring agents.

(ii) The term includes coatings applied to locomotives, railroad cars, farm machinery and heavy duty trucks.

*Finish primer/surfacer*—A coating applied with a wet film thickness of less than 10 mils prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, a moisture barrier or promotion of a uniform surface necessary for filling in surface imperfections.

*Flexible primer*—A coating required to comply with engineering specifications for impact resistance, mandrel bend or elongation as defined by the original equipment manufacturer.

*Fog coat*—A coating applied to a plastic part, at a thickness of no more than 0.5 mil of coating solids, for the purpose of color matching without masking a molded-in texture.

*Gloss reducer*—A coating applied to a plastic part, at a thickness of no more than 0.5 mil of coating solids, solely to reduce the shine of the part.

*Heat-resistant coating*—A coating that must withstand a temperature of at least 400°F during normal use.

*Heavier vehicle*—A self-propelled vehicle designed for transporting persons or property on a street or highway that has a gross vehicle weight rating over 8,500 pounds.

*High bake coating*—A coating designed to cure only at temperatures of more than 90°C (194°F).

*High build primer/surfacer*—A coating applied with a wet film thickness of 10 mils or more prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, a moisture barrier or promotion of a uniform surface necessary for filling in surface imperfections.

*High gloss coating*—A coating that achieves at least 85% reflectance on a 60° meter when tested by ASTM Method D-523-08.

*High-performance architectural coating*—A coating used to protect aluminum architectural subsections and which meets the requirements of the American Architectural Manufacturers Association's publication number AAMA 2604 (Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels) or 2605 (Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels), including updates and revisions.

*High-temperature coating*—A coating certified to withstand a temperature of 1,000°F for 24 hours.

*Mask coating*—A thin film coating applied through a template to coat a small portion of a substrate.

*Metal particles*—Pieces of a pure elemental metal or a combination of elemental metals.

*Metallic coating*—A coating that contains more than 5 grams of metal particles per liter of coating as applied.

*Military specification coating*—A coating that has a formulation approved by a United States Military Agency for use on military equipment.

*Miscellaneous metal parts and miscellaneous plastic parts*—Metal or plastic components of parts or products, as well as the parts or products themselves, constructed either entirely or partially from metal or plastic, or both, including the following:

- (i) Fabricated metal products.
- (ii) Molded plastic parts.
- (iii) Farm machinery.
- (iv) Commercial and industrial machinery and equipment.
- (v) Automotive or transportation equipment.
- (vi) Interior or exterior automotive parts.
- (vii) Construction equipment.
- (viii) Motor vehicle accessories.
- (ix) Bicycles and sporting goods.
- (x) Toys.
- (xi) Recreational vehicles.
- (xii) Watercraft.
- (xiii) Extruded aluminum structural components.
- (xiv) Railroad cars.
- (xv) Heavier vehicles.
- (xvi) Lawn and garden equipment.
- (xvii) Business machines.
- (xviii) Laboratory and medical equipment.
- (xix) Electronic equipment.
- (xx) Steel drums.
- (xxi) Metal pipes.

*Mold-release coating*—A coating applied to a mold to prevent the molded product from sticking to the mold as it is removed.

*Mold-seal coating*—The initial coating applied to a new or repaired mold to provide a smooth surface that when coated with a mold-release coating prevents products from sticking to the mold.

*Motor vehicle bedliner*—A multicomponent coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to a cargo bed after the application of topcoat to provide additional durability and chip resistance.

*Motor vehicle cavity wax*—A coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied into the cavities of the vehicle primarily to enhance corrosion protection.

*Motor vehicle deadener*—A coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to selected vehicle surfaces primarily to reduce the sound of road noise in the passenger compartment.

*Motor vehicle gasket/sealing material*—

(i) A fluid, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to coat a gasket or replace and perform the same function as a gasket.

(ii) The term includes room temperature vulcanization seal material.

*Motor vehicle lubricating wax/compound*—A protective lubricating material, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to vehicle hubs and hinges.

*Motor vehicle sealer*—A high viscosity material, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied in the paint shop after the body has received an electrodeposition primer coating and before the application of subsequent coatings (for example, a primer/surfacer). The primary purpose of the material is to fill body joints completely so that there is no intrusion of water, gases or corrosive materials into the passenger area of the body compartment. The material is also referred to as sealant, sealant primer or caulk.

*Motor vehicle trunk interior coating*—A coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to the trunk interior to provide chip protection.

*Motor vehicle underbody coating*—A coating, used at a facility that is not an automobile or light-duty truck assembly coating facility, applied to the undercarriage or firewall to prevent corrosion or provide chip protection, or both.

*Multicolored coating*—A coating that exhibits more than one color when applied and which is packaged in a single container and applied in a single coat.

*Multicomponent coating*—A coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to the substrate to form an acceptable dry film.

*One-component coating*—A coating that is ready for application as it comes out of its container to form an acceptable dry film. A thinner may be added to reduce the viscosity, but is not considered a component.

*Optical coating*—A coating applied to an optical lens.

*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.

*Pleasure craft*—A vessel that is manufactured or operated primarily for recreational purposes, or leased, rented or chartered to a person or business for recreational purposes.

*Pleasure craft coating*—A marine coating, except unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, roller or other means to a pleasure craft.

*Powder coating*—A coating applied as a dry, finely divided solid that, when melted and fused, adheres to the substrate as a paint film.

*Prefabricated architectural component coating*—A coating applied to a prefabricated metal part or product if the part or product is to be used as an architectural appurtenance or structure. The appurtenance is detached from the structure when coated in a shop setting.

*Pretreatment coating*—A coating that contains no more than 12% solids by weight and at least 0.5% acid by weight that is used to provide surface etching and that is applied directly to metal surfaces to provide corrosion resistance, adhesion and ease of stripping.

*Pretreatment wash primer*—A coating that contains no more than 12% solids by weight and at least 0.5% acid by weight that is used to provide surface etching and that is applied directly to fiberglass and metal surfaces to provide corrosion resistance and adhesion of subsequent coatings.

*Red coating*—A coating that meets the following:

- (i) All of the following criteria, which are based on Cielab color space, 0/45 geometry:
  - (A) Yellow limit: the hue of hostaperm scarlet.
  - (B) Blue limit: the hue of monastral red-violet.
  - (C) Lightness limit for metallics: 35% aluminum flake.
  - (D) Lightness limit for solids: 50% titanium dioxide white.
  - (E) Solid reds: hue angle of -11 to 38 degrees and maximum lightness of 23 to 45 units.
  - (F) Metallic reds: hue angle of -16 to 35 degrees and maximum lightness of 28 to 45 units.
- (ii) For spherical geometry, specular included, the upper limit is 49 units.

*Repair coating*—A coating used to recoat portions of a previously coated product that has sustained mechanical damage to the coating following normal coating operations.

*Resist coating*—A coating that is applied to a plastic part before metallic plating to prevent deposits of metal on portions of the plastic part.

*Shock-free coating*—A coating applied to electrical components to protect the user from electric shock. The coating has characteristics of being of low capacitance and high resistance, and being resistant to breaking down under high voltage.

*Silicone-release coating*—A coating which contains silicone resin and is intended to prevent food from sticking to metal surfaces, such as baking pans.

*Solar-absorbent coating*—A coating which has as its prime purpose the absorption of solar radiation.

*Stencil coating*—An ink or coating that is applied onto a template, stamp or stencil to add identifying letters, numbers or decorative designs, or a combination of these, to a metal or plastic part or product.

*Texture coat*—A coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating.

*Topcoat*—A final coating applied in a surface coating process that applies two or more coatings.

*Touch-up coating*—A coating used to cover minor coating imperfections appearing after the main coating operation.

*Translucent coating*—A coating that contains binders and pigment and is formulated to form a colored, but not opaque, film.

*Two-component coating*—A coating requiring the addition of a separate reactive resin, commonly known as a catalyst, before application to form an acceptable dry film.

*Vacuum-metalizing coating*—A coating meeting either of the following:

(i) An undercoat applied to a substrate on which the metal is deposited prior to a vacuum-metalizing process.

(ii) An overcoat applied directly to the metal film after a vacuum-metalizing process.

*Vacuum-metalizing process*—The process of evaporating metals inside a vacuum chamber and depositing them on a substrate to achieve a uniform metalized layer.

(c) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to the owner or operator of a source subject to subsection (a) prior to January 1, 2017, to control, reduce or minimize VOCs from a miscellaneous metal part or miscellaneous plastic part surface coating process, except to the extent the RACT permit contains more stringent requirements.

(d) *Emission limitations.* Beginning January 1, 2017, a person subject to subsection (a)(1) may not cause or permit the emission into the outdoor atmosphere of VOCs from a miscellaneous metal part coating unit or miscellaneous plastic part coating unit, or both, unless emissions of VOCs are controlled in accordance with paragraph (1), (2) or (3).

(1) *Compliant materials option.* The VOC content of each miscellaneous metal part coating or each miscellaneous plastic part coating, as applied, excluding water and exempt compounds, is equal to or less than the VOC content limit for the applicable coating category specified in the applicable table of VOC content limits in Tables I—V.

(2) *Combination of compliant materials, VOC emissions capture system and add-on air pollution control device option.* The combination of one or more VOC-containing coatings, as applied, that meet the emission rate limits for the applicable coating category specified in the applicable table of emission rate limits in Tables VI—IX, and one or more VOC emissions capture systems and one or more add-on air pollution control devices that meet the requirements of subsection (e)(2).

(3) *VOC emissions capture system and add-on air pollution control device option.* The overall weight of VOCs emitted to the atmosphere is reduced through the use of vapor recovery, oxidation, incineration or another method that is acceptable under § 129.51(a) (relating to general) and meets the requirements of subsection (e)(2). The overall control efficiency of a control system,

as determined by the test methods and procedures specified in Chapter 139 (relating to sampling and testing), may be no less than 90%.

(4) *Least restrictive VOC limit.* If more than one VOC content limit or VOC emission rate limit applies to a specific coating, then the least restrictive VOC content limit or VOC emission rate limit applies.

(5) *Coatings not listed in Table I, II, VI or VII.* For a miscellaneous metal part or miscellaneous plastic part coating that does not meet the coating categories listed in Table I, II, VI or VII, the VOC content limit or VOC emission rate limit shall be determined by classifying the coating as a general one component coating or general multicomponent coating. The corresponding general one component coating or general multicomponent coating limit applies.

(6) *Coatings not listed in Table IV or IX.* For a pleasure craft coating that does not meet the coating categories listed in Table IV or IX, the VOC content limit or VOC emission rate limit shall be determined by classifying the coating as an “all other pleasure craft surface coatings for metal or plastic.” The “all other pleasure craft surface coatings for metal or plastic” limit applies.

(e) *Compliance and monitoring requirements.*

(1) *All owners and operators.* Regardless of the facility’s VOC emissions, the owner or operator of a miscellaneous metal part surface coating process or miscellaneous plastic part surface coating process, or both, subject to subsection (a)(1) or (2), shall comply with this section as specified throughout this section. For an owner or operator subject only to subsection (a)(2), the compliance requirements are the recordkeeping requirements in subsection (f)(2).

(2) *VOC emissions capture system and add-on air pollution control device.* The owner or operator of a facility subject to subsection (a)(1) that elects to comply with the emission limitations of subsection (d) through installation of a VOC emissions capture system and add-on air pollution control device under subsection (d)(2) or (3) shall submit an application for a plan approval to the appropriate regional office. The plan approval must be approved, in writing, by the Department prior to installation and operation of the emissions capture system and add-on air pollution control device. The plan approval must include the following information:

(i) A description, including location, of each affected source or operation to be controlled with the emissions capture system and add-on air pollution control device.

(ii) A description of the proposed emissions capture system and add-on air pollution control device to be installed.

(iii) A description of the proposed compliance monitoring equipment to be installed.

(iv) A description of the parameters to be monitored to demonstrate continuing compliance.

(v) A description of the records to be kept that will document the continuing compliance.

(vi) A schedule containing proposed interim dates for completing each phase of the required work to install and test the emissions capture system and add-on air pollution control device described in subparagraph (ii) and the compliance monitoring equipment described in subparagraph (iii).



(vii) A proposed interim emission limitation that will be imposed on the affected source or operation until compliance is achieved with the applicable emission limitation.

(viii) A proposed final compliance date that is as soon as possible but not later than 1 year after the start of installation of the approved emissions capture system and add-on air pollution control device and the compliance monitoring equipment.

(f) *Recordkeeping and reporting requirements.*

(1) The owner or operator of a miscellaneous metal part coating unit or miscellaneous plastic part coating unit, or both, subject to subsection (a)(1) shall maintain monthly records sufficient to demonstrate compliance with this section. The records must include the following information:

(i) The following parameters for each coating, thinner, component and cleaning solvent as supplied:

(A) Name and identification number of the coating, thinner, other component or cleaning solvent.

(B) Volume used.

(C) Mix ratio.

(D) Density or specific gravity.

(E) Weight percent of total volatiles, water, solids and exempt solvents.

(F) Volume percent of total volatiles, water and exempt solvents for the applicable table of limits in Tables I—V.

(G) Volume percent of solids for the applicable table of limits in Tables VI—IX.

(ii) The VOC content of each coating, thinner, other component and cleaning solvent as supplied.

(iii) The VOC content of each as applied coating or cleaning solvent.

(iv) The calculations performed for each applicable requirement under subsections (d) and (e).

(v) The information required in a plan approval issued under subsection (e)(2).

(2) An owner or operator subject to subsection (a)(2), or otherwise claiming an exemption or exception in this section, shall maintain records sufficient to verify the applicability of subsection (a)(2), the exemption or exception. Records maintained for compliance demonstrations may include purchase, use, production and other records.

(3) The records shall be maintained onsite for 2 years, unless a longer period is required by an order, plan approval or operating permit issued under Chapter 127 (relating to construction, modification, reactivation and operation of sources).



(4) The records shall be submitted to the Department in an acceptable format upon receipt of a written request from the Department.

(g) *Coating application methods.* A person subject to subsection (a)(1) may not cause or permit the emission into the outdoor atmosphere of VOCs from a miscellaneous metal part coating unit or miscellaneous plastic part coating unit, or both, unless the coatings are applied using one or more of the following coating application methods:

- (1) Electrostatic coating.
- (2) Flow coating.
- (3) Dip coating, including electrodeposition.
- (4) Roll coating.
- (5) High volume-low pressure (HVLP) spray coating.
- (6) Airless spray coating.
- (7) Air-assisted airless spray coating.
- (8) Other coating application method if approved in writing by the Department prior to use.

(i) The coating application method must be capable of achieving a transfer efficiency equivalent to or better than that achieved by HVLP spray coating.

(ii) The owner or operator shall submit the request for approval to the Department in writing.

(h) *Exempt coatings and exempt coating unit operations.*

(1) The requirements of subsections (d) and (g) do not apply to the application of the following coatings to a metal part:

- (i) Stencil coating.
- (ii) Safety-indicating coating.
- (iii) Solid-film lubricant.
- (iv) Electric-insulating and thermal-conducting coating.
- (v) Magnetic data storage disk coating.
- (vi) Plastic extruded onto metal parts to form a coating.
- (vii) Powder coating.

(2) The requirements of subsection (d) do not apply to the application of the following coatings to a plastic part:

- (i) Touch-up and repair coating.
- (ii) Stencil coating applied on a clear or transparent substrate.
- (iii) Clear or translucent coating.
- (iv) Coating applied at a paint manufacturing facility while conducting performance tests on coating.
- (v) Reflective coating applied to highway cones.
- (vi) Mask coating, if the coating is less than 0.5 millimeter thick (dried) and the area coated is less than 25 square inches.
- (vii) EMI/RFI shielding coating.

(viii) Heparin-benzalkonium chloride (HBAC)-containing coating applied to a medical device, provided that the total usage of HBAC-containing coatings does not exceed 100 gallons in 1 calendar year at the facility.

(ix) Powder coating.

(x) An individual coating category used in an amount less than 50 gallons in 1 calendar year provided that the total usage of all of the coatings, combined, does not exceed 200 gallons per year at the facility. This exception applies only if substitute compliant coatings are not available.

(3) The requirements of subsection (d) do not apply to the application of the following coatings to automotive-transportation and business machine parts:

- (i) Texture coat.
- (ii) Vacuum-metalizing coating.
- (iii) Gloss reducer.
- (iv) Texture topcoat.
- (v) Adhesion primer.
- (vi) Electrostatic prep coat.
- (vii) Resist coating.
- (viii) Stencil coating.
- (ix) Powder coating.

(4) The requirements of subsection (g) do not apply to the following activities:

- (i) Application of a touch-up coating, repair coating or textured finish to a metal part.
- (ii) Application of a powder coating to the following:
  - (A) Plastic part.
  - (B) Automotive-transportation plastic part.
  - (C) Business machine plastic part.
- (iii) Airbrush application of coating to a metal part or plastic part using no more than 5 gallons of coating per year.
- (iv) Use of an add-on air pollution control device to comply with subsection (d).
- (v) Application of extreme high-gloss coating in a pleasure craft surface coating operation.

(i) *Work practice requirements for coating-related activities.* The owner or operator of a miscellaneous metal part coating unit or miscellaneous plastic part coating unit, or both, subject to subsection (a)(1) shall comply with the following work practices for coating-related activities:

- (1) Store all VOC-containing coatings, thinners or coating-related waste materials in closed containers.

- (2) Ensure that mixing and storage containers used for VOC-containing coatings, thinners or coating-related waste materials are kept closed at all times, except when depositing or removing these coatings, thinners or waste materials.
- (3) Minimize spills of VOC-containing coatings, thinners or coating-related waste materials and clean up spills immediately.
- (4) Convey VOC-containing coatings, thinners or coating-related waste materials from one location to another in closed containers or pipes.
- (j) *Work practice requirements for cleaning materials.* The owner or operator of a miscellaneous metal part coating unit or miscellaneous plastic part coating unit subject to subsection (a)(1) shall comply with the following work practices for cleaning materials:
  - (1) Store all VOC-containing cleaning materials and used shop towels in closed containers.
  - (2) Ensure that mixing vessels and storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials.
  - (3) Minimize spills of VOC-containing cleaning materials and clean up spills immediately.
  - (4) Convey VOC-containing cleaning materials from one location to another in closed containers or pipes.
  - (5) Minimize VOC emissions from cleaning of application, storage, mixing or conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.
- (k) *Measurements and calculations.* To determine the properties of a coating or component used in a miscellaneous metal parts surface coating process or miscellaneous plastic parts surface coating process, measurements and calculations shall be performed according to one or more of the following:
  - (1) EPA Reference Method 24, *Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings*, found at 40 CFR Part 60, Subpart D, Appendix A, including updates and revisions.
  - (2) Manufacturer's formulation data.
  - (3) Sampling and testing done in accordance with the procedures and test methods specified in Chapter 139.
  - (4) Other test method demonstrated to provide results that are acceptable for purposes of determining compliance with this section if prior approval is obtained in writing from the Department.

(5) Add-on air pollution control devices shall be equipped with the applicable monitoring equipment according to manufacturers' specifications. The monitoring equipment shall be installed, calibrated, operated and maintained according to manufacturers' specifications at all times the add-on air pollution control device is in use.

(6) EPA calculations information in the following:

(i) *A Guideline for Surface Coating Calculations*, EPA-340/1-86-016, including updates and revisions.

(ii) *Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings*, EPA-450/3-84-019, including updates and revisions.

**Table I. VOC Content Limits for Metal Parts and Products  
Surface Coatings**

**Weight of VOC per Volume of Coating,  
Less Water and Exempt Compounds, as Applied**

Coating Category	Air Dried		Baked	
	kg VOC/ l	lb VOC/ gal	kg VOC/ l	lb VOC/ gal
	coating	coating	coating	coating
General One-component	0.34	2.8	0.28	2.3
General Multicomponent	0.34	2.8	0.28	2.3
Camouflage	0.42	3.5	0.42	3.5
Electric-insulating Varnish	0.42	3.5	0.42	3.5
Etching Filler	0.42	3.5	0.42	3.5
Extreme High-gloss	0.42	3.5	0.36	3.0
Extreme Performance	0.42	3.5	0.36	3.0
Heat-resistant	0.42	3.5	0.36	3.0
High-performance Architectural	0.74	6.2	0.74	6.2
High-temperature	0.42	3.5	0.42	3.5
Metallic	0.42	3.5	0.42	3.5
Military Specification	0.34	2.8	0.28	2.3
Mold-seal	0.42	3.5	0.42	3.5
Pan-backing	0.42	3.5	0.42	3.5
Prefabricated Architectural Multicomponent	0.42	3.5	0.28	2.3
Prefabricated Architectural One-component	0.42	3.5	0.28	2.3
Pretreatment	0.42	3.5	0.42	3.5
Touch-up and Repair	0.42	3.5	0.36	3.0
Silicone-release	0.42	3.5	0.42	3.5
Solar-absorbent	0.42	3.5	0.36	3.0
Vacuum-metalizing	0.42	3.5	0.42	3.5
Drum Coating, New, Exterior	0.34	2.8	0.34	2.8
Drum Coating, New, Interior	0.42	3.5	0.42	3.5
Drum Coating, Reconditioned, Exterior	0.42	3.5	0.42	3.5
Drum Coating, Reconditioned, Interior	0.50	4.2	0.50	4.2

**Table II. VOC Content Limits for Plastic Parts and Products  
Surface Coatings**

**Weight of VOC per Volume of Coating,  
Less Water and Exempt Compounds, as Applied**

<i>Coating Category</i>	<i>kg VOC/ l coating</i>	<i>lb VOC/ gal coating</i>
General One-component	0.28	2.3
General Multicomponent	0.42	3.5
Electric Dissipating and Shock-free	0.80	6.7
Extreme Performance (2-pack coatings)	0.42	3.5
Metallic	0.42	3.5
Military Specification (1-pack)	0.34	2.8
Military Specification (2-pack)	0.42	3.5
Mold-seal	0.76	6.3
Multicolored	0.68	5.7
Optical	0.80	6.7
Vacuum-metalizing	0.80	6.7

**Table III. VOC Content Limits for Automotive/Transportation and  
Business Machine Plastic Parts  
Surface Coatings**

**Weight of VOC per Volume of Coating,  
Less Water and Exempt Compounds, as Applied**

**Automotive/Transportation Coatings\***

<i>Coating Category</i>	<i>kg VOC/ l coating</i>	<i>lb VOC/ gal coating</i>
I. High Bake Coatings—		
Interior and Exterior Parts		
Flexible Primer	0.54	4.5
Nonflexible Primer	0.42	3.5
Basecoat	0.52	4.3
Clear Coat	0.48	4.0
Non-basecoat/Clear Coat	0.52	4.3
II. Low Bake/Air Dried		
Coatings—		
Exterior Parts		
Primer	0.58	4.8
Basecoat	0.60	5.0
Clear Coat	0.54	4.5
Non-basecoat/Clear Coat	0.60	5.0
III. Low Bake/Air Dried		
Coatings—		
Interior Parts	0.60	5.0
IV. Touch-up and Repair	0.62	5.2

**Automotive/Transportation Coatings\***

\* For red, yellow and black automotive coatings, except touch-up and repair coatings, the limit is determined by multiplying the appropriate limit in this table by 1.15.

**Business Machine Coatings**

<i>Coating Category</i>	<i>kg VOC/ l coating</i>	<i>lb VOC/ gal coating</i>
Primer	0.35	2.9
Topcoat	0.35	2.9
Texture Coat	0.35	2.9
Fog Coat	0.26	2.2
Touch-up and Repair	0.35	2.9

**Table IV. VOC Content Limits for Pleasure Craft Surface Coatings**

**Weight of VOC per Volume of Coating,  
Less Water and Exempt Compounds, as Applied**

<i>Coating Category</i>	<i>kg VOC/ l coating</i>	<i>lb VOC/ gal coating</i>
Extreme High-gloss Topcoat	0.60	5.0
High Gloss Topcoat	0.42	3.5
Pretreatment Wash Primer	0.78	6.5
Finish Primer/Surfacer	0.42	3.5
High Build Primer Surfacer	0.34	2.8
Aluminum Substrate Antifoulant Coating	0.56	4.7
Antifoulant Sealer/Tiecoat	0.42	3.5
Other Substrate Antifoulant Coating	0.40	3.3
All Other Pleasure Craft Surface Coatings for Metal or Plastic	0.42	3.5

**Table V. VOC Content Limits for Motor Vehicle Materials  
Surface Coatings**

**Weight of VOC per Volume of Coating,  
Less Water and Exempt Compounds, as Applied**

<i>Coating Category</i>	<i>kg VOC/ l coating</i>	<i>lb VOC/ gal coating</i>
Motor Vehicle Cavity Wax	0.65	5.4
Motor Vehicle Sealer	0.65	5.4
Motor Vehicle Deadener	0.65	5.4
Motor Vehicle Gasket/Gasket Sealing Material	0.20	1.7
Motor Vehicle Underbody Coating	0.65	5.4

<i>Coating Category</i>	<i>kg VOC/ l coating</i>	<i>lb VOC/ gal coating</i>
Motor Vehicle Trunk Interior Coating	0.65	5.4
Motor Vehicle Bedliner	0.20	1.7
Motor Vehicle Lubricating Wax/ Compound	0.70	5.8

**Table VI. VOC Emission Rate Limits for Metal Parts and Products  
Surface Coatings**

**Weight of VOC per Volume of Coating Solids, as Applied**

<i>Coating Category</i>	<i>Air Dried</i>		<i>Baked</i>	
	<i>kg VOC/ l solids</i>	<i>lb VOC/ gal solids</i>	<i>kg VOC/ l solids</i>	<i>lb VOC/ gal solids</i>
General One-component	0.54	4.52	0.40	3.35
General Multicomponent	0.54	4.52	0.40	3.35
Camouflage	0.80	6.67	0.80	6.67
Electric-insulating Varnish	0.80	6.67	0.80	6.67
Etching Filler	0.80	6.67	0.80	6.67
Extreme High-gloss	0.80	6.67	0.61	5.06
Extreme Performance	0.80	6.67	0.61	5.06
Heat-resistant	0.80	6.67	0.61	5.06
High-performance Architectural	4.56	38.0	4.56	38.0
High-temperature	0.80	6.67	0.80	6.67
Metallic	0.80	6.67	0.80	6.67
Military Specification	0.54	4.52	0.40	3.35
Mold-seal	0.80	6.67	0.80	6.67
Pan-backing	0.80	6.67	0.80	6.67
Prefabricated Architectural Multicomponent	0.80	6.67	0.40	3.35
Prefabricated Architectural One-component	0.80	6.67	0.40	3.35
Pretreatment	0.80	6.67	0.80	6.67
Silicone-release	0.80	6.67	0.80	6.67
Solar-absorbent	0.80	6.67	0.61	5.06
Vacuum-metalizing	0.80	6.67	0.80	6.67
Drum Coating, New, Exterior	0.54	4.52	0.54	4.52
Drum Coating, New, Interior	0.80	6.67	0.80	6.67
Drum Coating, Reconditioned, Exterior	0.80	6.67	0.80	6.67
Drum Coating, Reconditioned, Interior	1.17	9.78	1.17	9.78

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**Table VII. VOC Emission Rate Limits for Plastic Parts and Products  
Surface Coatings**

**Weight of VOC per Volume of Coating Solids, as Applied**

<i>Coating Category</i>	<i>kg VOC/ l solids</i>	<i>lb VOC/ gal solids</i>
General One-component	0.40	3.35
General Multicomponent	0.80	6.67
Electric Dissipating and Shock-free	8.96	74.7
Extreme Performance (2-pack coatings)	0.80	6.67
Metallic	0.80	6.67
Military Specification (1-pack)	0.54	4.52
Military Specification (2-pack)	0.80	6.67
Mold-seal	5.24	43.7
Multicolored	3.04	25.3
Optical	8.96	74.7
Vacuum-metalizing	8.96	74.7

**Table VIII. VOC Emission Rate Limits for Automotive/Transportation and  
Business Machine Plastic Parts Surface Coatings**

**Weight of VOC per Volume of Coating Solids, as Applied**

**Automotive/Transportation Coatings\***

<i>Coating Category</i>	<i>kg VOC/ l solids</i>	<i>lb VOC/ gal solids</i>
I. High Bake Coatings—		
Interior and Exterior Parts		
Flexible Primer	1.39	11.58
Nonflexible Primer	0.80	6.67
Basecoat	1.24	10.34
Clear Coat	1.05	8.76
Non-basecoat/Clear Coat	1.24	10.34
II. Low Bake/Air Dried Coatings—		
Exterior Parts		
Primer	1.66	13.80
Basecoat	1.87	15.59
Clear Coat	1.39	11.58
Non-basecoat/Clear Coat	1.87	15.59
III. Low Bake/Air Dried Coatings—		
Interior Parts	1.87	15.59
IV. Touch-up and Repair	2.13	17.72

\* For red, yellow and black automotive coatings, except touch-up and repair coatings, the limit is determined by multiplying the appropriate limit in this table by 1.15.



**Business Machine Coatings**

<i>Coating Category</i>	<i>kg VOC/ l solids</i>	<i>lb VOC/ gal solids</i>
Primer	0.57	4.80
Topcoat	0.57	4.80
Texture Coat	0.57	4.80
Fog Coat	0.38	3.14
Touch-up and Repair	0.57	4.80

**Table IX. VOC Emission Rate Limits for Pleasure Craft Surface Coatings**  
**Weight of VOC per Volume of Coating Solids, as Applied**

<i>Coating Category</i>	<i>kg VOC/ l solids</i>	<i>lb VOC/ gal solids</i>
Extreme High-gloss Topcoat	1.10	9.2
High Gloss Topcoat	0.80	6.7
Pretreatment Wash Primer	6.67	55.6
Finish Primer/Surfacer	0.80	6.7
High Build Primer Surfacer	0.55	4.6
Aluminum Substrate Antifoulant Coating	1.53	12.8
Other Substrate Antifoulant Coating	0.53	4.4
All Other Pleasure Craft Surface Coatings for Metal or Plastic	0.80	6.7

**Authority**

The provisions of this § 129.52d issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

**Source**

The provisions of this § 129.52d adopted October 21, 2016, effective October 22, 2016, 46 Pa.B. 6758.

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.52 (relating to surface coating processes); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.67 (relating to graphic arts systems); 25 Pa. Code § 129.75 (relating to mobile equipment repair and refinishing); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.52e. Control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations.**

(a) *Applicability.*

(1) This section applies to the owner and operator of an automobile and light-duty truck assembly coating operation that applies an automobile assembly coating or a light-duty truck assembly coating, or both, to one or more of the following:

- (i) A new automobile body or a new light-duty truck body.
- (ii) A body part for a new automobile or for a new light-duty truck.

(iii) Another part that is coated along with the new automobile body or body part or new light-duty truck body or body part.

(2) This section applies to the owner and operator of an automobile and light-duty truck assembly coating operation that operates a separate coating line at the facility on which a coating is applied to another part intended for use in a new automobile or new light-duty truck or an aftermarket repair or replacement part for an automobile or light-duty truck if the owner or operator elects to comply with this section instead of § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings). The election occurs when the owner or operator notifies the Department by submitting a written statement to the appropriate Department regional office Air Quality Program Manager that specifies the intent to comply with this section instead of § 129.52d.

(3) This section applies to the owner and operator of a facility that coats a body or body part for a new heavier vehicle if the owner or operator elects to comply with this section instead of § 129.52d. The election occurs when the owner or operator notifies the Department by submitting a written statement to the appropriate Department regional office Air Quality Program Manager that specifies the intent to comply with this section instead of § 129.52d.

(4) This section applies to the owner and operator of a facility that performs a coating operation subject to this section on a contractual basis.

(5) This section does not apply to the use or application of an automobile and light-duty truck assembly coating by an owner or operator at a plastic or composites molding facility.

(b) *Definitions.* The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:

*Adhesive*—A chemical substance that is applied for the purpose of bonding two surfaces together by other than mechanical means.

*Assembly coating*—The term includes the primary and additional surface coatings applied during the vehicle assembly process.

(i) Primary coatings include the following:

- (A) Electrodeposition primer.
- (B) Primer-surfacer (including anti-chip coatings).
- (C) Topcoat (including basecoat and clearcoat).
- (D) Final repair.

(ii) Additional coatings include the following:

- (A) Glass bonding primer.
- (B) Adhesives.
- (C) Cavity wax.
- (D) Sealer.
- (E) Deadener.
- (F) Gasket/gasket sealing material.
- (G) Underbody coating.
- (H) Trunk interior coating.
- (I) Bedliner.
- (J) Weatherstrip adhesive.
- (K) Lubricating waxes and compounds.

- (iii) The term does not include aerosol coatings.

*Automobile—*

- (i) A motor vehicle designed to carry up to eight passengers.

- (ii) The term does not include vans, sport utility vehicles and motor vehicles designed primarily to transport light loads of property.

*Automobile and light-duty truck adhesive—*An adhesive, including glass bonding adhesive, used at an automobile and light-duty truck assembly coating operation, applied for the purpose of bonding two vehicle surfaces together without regard to the substrates involved.

*Automobile and light-duty truck assembly coating operation—*An operation that applies an assembly coating to a new automobile body or a new light-duty truck body, or both, or a body part for a new automobile or for a new light-duty truck, or both, or another part that is coated along with the new automobile body or body part or new light-duty truck body or body part. The operation consists of one or more of the following processes:

- (i) Surface preparing.
- (ii) Priming, including application of either of the following:
  - (A) Electrodeposition primer.
  - (B) Primer-surfacer.
- (iii) Topcoating.
- (iv) Final repairing.
- (v) Cleaning activities related to the vehicle coating operations.

*Automobile and light-duty truck bedliner—*A multicomponent coating, used at an automobile and light-duty truck assembly coating operation, applied to a cargo bed after the application of topcoat and outside of the topcoat operation to provide additional durability and chip resistance.

*Automobile and light-duty truck cavity wax—*A coating, used at an automobile and light-duty truck assembly coating operation, applied into the cavities of the vehicle primarily for the purpose of enhancing corrosion protection.

*Automobile and light-duty truck deadener—*A coating, used at an automobile and light-duty truck assembly coating operation, applied to selected vehicle surfaces primarily for the purpose of reducing the sound of road noise in the passenger compartment.

*Automobile and light-duty truck gasket/gasket sealing material—*

- (i) A fluid, used at an automobile and light-duty truck assembly coating operation, applied to coat a gasket or replace and perform the same function as a gasket.

- (ii) The term includes room temperature vulcanization seal material.

*Automobile and light-duty truck glass bonding primer—*

- (i) A primer, used at an automobile and light-duty truck assembly coating operation, applied to windshield or other glass, or to body openings, to prepare the glass or body opening for the application of glass bonding adhesives or the installation of adhesive bonded glass.

- (ii) The term includes glass bonding and cleaning primers that perform both functions (cleaning and priming of the windshield or other glass, or body openings) prior to the application of adhesive or the installation of adhesive bonded glass.

*Automobile and light-duty truck lubricating wax/compound*—A protective lubricating material, used at an automobile and light-duty truck assembly coating operation, applied to vehicle hubs and hinges.

*Automobile and light-duty truck sealer*—

- (i) A high viscosity material, used at an automobile and light-duty truck assembly coating operation, generally, but not always, applied in the paint shop after the body has received an EDP coating and before the application of subsequent coatings (for example, primer-surfacer). The primary purpose of the material is to fill body joints completely so that there is no intrusion of water, gases or corrosive materials into the passenger area of the body compartment.

- (ii) The term is also known as sealant, sealant primer or caulk.

*Automobile and light-duty truck trunk interior coating*—A coating, used at an automobile and light-duty truck assembly coating operation outside of the primer-surfacer and topcoat operations, applied to the trunk interior to provide chip protection.

*Automobile and light-duty truck underbody coating*—A coating, used at an automobile and light-duty truck assembly coating operation, applied to the undercarriage or firewall to prevent corrosion or provide chip protection, or both.

*Automobile and light-duty truck weatherstrip adhesive*—An adhesive, used at an automobile and light-duty truck assembly coating operation, applied to weather-stripping materials for the purpose of bonding the weatherstrip material to the surface of the vehicle.

*Automobile Topcoat Protocol*—A guidance document by the United States Environmental Protection Agency for determining the daily volatile organic compound emission rate of automobile and light-duty truck primer-surfacer and topcoat operations (EPA-453/R-08-002, September 2008, or revisions).

*Body part*—

- (i) An exterior part of a motor vehicle including the hood, fender, door, roof, quarter panel, deck lid, tail gate and cargo bed.
- (ii) The term does not include a bumper, fascia or cladding.

*EDP—Electrodeposition primer*—

- (i) A process of applying a protective, corrosion-resistant waterborne primer on exterior and interior surfaces that provides thorough coverage of recessed areas. It is a dip coating method that uses an electrical field to apply or deposit the conductive coating onto the part. The object being painted acts as an electrode that is oppositely charged from the particles of paint in the dip tank.

- (ii) The term is also known as E-Coat, Uni-Prime and ELPO primer.

*Final repair*—The operations performed and coating or coatings applied to completely assembled motor vehicles or to parts that are not yet on a completely assembled vehicle to correct damage or imperfections in the coating. The curing of the coatings applied in these operations is accomplished at a lower temperature than that used for curing primer-surfacer and topcoat. This lower temperature cure avoids the need to send parts that are not yet on a completely assembled vehicle through the same type of curing process used for primer-surfacer and topcoat and is necessary to protect heat sensitive components on completely assembled vehicles.

*Heavier vehicle*—A self-propelled vehicle designed for transporting persons or property on a street or highway that has a gross vehicle weight rating over 8,500 pounds.

*In-line repair*—

(i) The operation performed and coating or coatings applied to correct damage or imperfections in the topcoat on parts that are not yet on a completely assembled vehicle. The curing of the coatings applied in these operations is accomplished at essentially the same temperature as that used for curing the previously applied topcoat. This operation is considered part of the topcoat operation.

(ii) The term is also known as high bake repair or high bake reprocess.

*Light-duty truck*—A van, sport utility vehicle or motor vehicle designed primarily to transport light loads of property with a gross vehicle weight rating of 8,500 pounds or less.

*Primer-surfacer*—

(i) An intermediate protective coating applied over the EDP and under the topcoat. The coating provides adhesion, protection and appearance properties to the total finish.

(ii) The coating operation may include one or more other coatings, including antichip, lower-body antichip, chip-resistant edge primer, spot primer, blackout, deadener, interior color, basecoat replacement coating or other coating, that is applied in the same spray booth.

(iii) The term is also known as guide coat or surfacer.

*Solids turnover ratio ( $R_T$ )*—The ratio of total volume of coating solids that is added to the EDP system in a calendar month divided by the total volume design capacity of the EDP system.

*Topcoat*—

(i) The final coating system applied to provide the final color or a protective finish, or both. The coating may be a monocoat color or basecoat/clearcoat system.

(ii) The coating operation may include one or more other coatings including blackout, interior color or other coating that is applied in the same spray booth.

(iii) The term includes in-line repair and two-tone.

(c) *Existing RACT permit*. The requirements of this section supersede the requirements of a RACT permit issued under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to the owner or operator of a source subject

to this section prior to January 1, 2017, except to the extent the RACT permit contains more stringent requirements.

(d) *VOC content limits.*

(1) Beginning January 1, 2017, the VOC content limits specified in Tables I and II apply to an owner and operator of a facility that has total actual VOC emissions equal to or greater than 15 pounds (6.8 kilograms) per day, before consideration of controls, from all operations at the facility that apply an assembly coating subject to this section, including related cleaning activities.

(2) Beginning January 1, 2017, the VOC content limits specified in Tables I and II do not apply to the following:

(i) An owner and operator of a facility that has total actual VOC emissions below 15 pounds (6.8 kilograms) per day, before consideration of controls, from all operations at the facility that apply an assembly coating subject to this section, including related cleaning activities.

(ii) An assembly coating supplied in a container with a net volume of 16 ounces or less or a net weight of 1 pound or less.

(e) *Work practice requirements.* Beginning January 1, 2017, an owner and operator subject to subsection (d)(1) shall comply with the following work practices for:

(1) Coating-related activities. An owner and operator shall:

(i) Store all VOC-containing coatings, thinners and coating-related waste materials in closed containers.

(ii) Ensure that mixing and storage containers used for VOC-containing coatings, thinners and coating-related waste materials are kept closed at all times except when depositing or removing these materials.

(iii) Minimize spills of VOC-containing coatings, thinners and coating-related waste materials and clean up spills immediately.

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

(v) Minimize VOC emissions from cleaning of storage, mixing and conveying equipment.

(2) Cleaning materials. An owner and operator shall develop and implement a written work practice plan to minimize VOC emissions from cleaning and purging of equipment associated with all coating operations for which emission limits are required. The written plan must specify practices and procedures to ensure that VOC emissions from the following operations are minimized:

(i) Vehicle body wiping.

(ii) Coating line purging.

(iii) Flushing of coating systems.

(iv) Cleaning of spray booth grates.

(v) Cleaning of spray booth walls.

(vi) Cleaning of spray booth equipment.

(vii) Cleaning external spray booth areas.

(viii) Other housekeeping measures, including:

(A) Storing all VOC-containing cleaning materials and used shop towels in closed containers.

- (B) Ensuring that mixing and storage containers used for VOC-containing cleaning materials are kept closed at all times except when depositing or removing these materials.
- (C) Minimizing spills of VOC-containing cleaning materials and cleaning up spills immediately.
- (D) Conveying VOC-containing cleaning materials from one location to another in closed containers or pipes.
- (E) Minimizing VOC emissions from cleaning of storage, mixing and conveying equipment.
- (f) *Compliance monitoring and recordkeeping.* An owner or operator subject to this section shall maintain records sufficient to demonstrate compliance with this section.
  - (1) The owner or operator shall maintain daily records of the following parameters for each coating, thinner, component or cleaning material as supplied:
    - (i) The name and identification number.
    - (ii) The volume used.
    - (iii) The mix ratio.
    - (iv) The density or specific gravity.
    - (v) The weight percent of total volatiles, water, solids and exempt solvents.
    - (vi) The volume percent of solids for each EDP coating.
    - (vii) The VOC content.
  - (2) The owner or operator shall maintain a daily record of the VOC content of each as applied coating or cleaning material.
  - (3) The owner or operator shall:
    - (i) Maintain the records onsite for 2 years, unless a longer period is required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) or a plan approval, operating permit or order issued by the Department.
    - (ii) Submit the records to the Department in an acceptable format upon receipt of a written request from the Department.
  - (4) The owner or operator subject to subsection (e) shall maintain the written work practice plan specified in subsection (e)(2) onsite and make it available to the Department upon request.
- (g) *Measurement, calculation, sampling and testing methodologies.* The following measurement, calculation, sampling and testing methodologies shall be used to determine the amount of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations, as appropriate:
  - (1) Measurements of the volatile fraction of coatings shall be performed according to the following, as applicable:
    - (i) EPA Reference Method 24.
    - (ii) Appendix A of 40 CFR Part 63, Subpart PPPP (relating to National emission standards for hazardous air pollutants for surface coating of plastic parts and products), regarding determination of weight volatile matter content and weight solids content of reactive adhesives.
    - (iii) Manufacturer's formulation data.



(2) Calculations of the VOC emissions and rates shall be performed according to the following, as applicable:

(i) Automobile Topcoat Protocol—*Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Primer-Surfacer and Topcoat Operations*, EPA-453/R-08-002, including updates and revisions. This protocol applies to the owner and operator of a facility that coats a body or body part for a new heavier vehicle that elects under subsection (a)(3) to comply with this section instead of § 129.52d.

(ii) *A Guideline for Surface Coating Calculations*, EPA-340/1-86-016, including updates and revisions.

(iii) *Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings*, EPA-450/3-84-019, including updates and revisions.

(3) Sampling and testing shall be performed according to the procedures and test methods specified in Chapter 139 (relating to sampling and testing).

(4) Another method or procedure that has been approved in writing by the Department and the EPA.

**Table I. VOC Content Limits for Primary Assembly Coatings**

Assembly Coating	VOC Emission Limit		
	When $R_T^{-1} < 0.040$	When $0.040 \leq R_T^{-1} < 0.160$	When $R_T^{-1} \geq 0.160$
EDP operations (including application area, spray and rinse stations and curing oven)	No VOC emission limit	$0.084 \times 350^{0.160-R_T}$ kg VOC/liter coating solids applied or $0.084 \times 350^{0.160-R_T} \times 8.34$ lb VOC/gal coating solids applied	0.084 kg VOC/liter coating solids applied or 0.7 lb VOC/gal coating solids applied
Primer-surfacer operations (including application area, flash-off area, and oven)	1.44 kg VOC/liter of deposited solids or 12.0 lbs VOC/gal deposited solids  on a daily weighted average basis as determined by following the procedures in the revised Automobile Topcoat Protocol.		
Topcoat operations (including application area, flash-off area, and oven)	1.44 kg VOC/liter of deposited solids or 12.0 lbs VOC/gal deposited solids  on a daily weighted average basis as determined by following the procedures in the revised Automobile Topcoat Protocol.		
Final repair operations	0.58 kg VOC/liter less water and less exempt solvents or 4.8 lbs VOC/gallon of coating less water and less exempt solvents  on a daily weighted average basis or as an occurrence weighted average.		



<i>Assembly Coating</i>	<i>VOC Emission Limit</i>
Combined primer-surfacer and topcoat operations	1.44 kg VOC/liter of deposited solids or 12.0 lbs VOC/gal deposited solids  on a daily weighted average basis as determined by following the procedures in the revised Automobile Topcoat Protocol.
<sup>1</sup> R <sub>T</sub> is the solids turnover ratio. "Solids turnover ratio" is defined in subsection (b).	

**Table II. VOC Content Limits for Additional Assembly Coatings (grams of VOC per liter of coating excluding water and exempt compounds) as Applied**

<i>Material<sup>2</sup></i>	<i>g VOC/liter coating less water and exempt compounds</i>	<i>lb VOC/gal coating less water and exempt compounds</i>
Automobile and Light-duty Truck Glass Bonding Primer	900	7.51
Automobile and Light-duty Truck Adhesive	250	2.09
Automobile and Light-duty Truck Cavity Wax	650	5.4
Automobile and Light-duty Truck Sealer	650	5.4
Automobile and Light-duty Truck Deadener	650	5.4
Automobile and Light-duty Truck Gasket/Gasket Sealing Material	200	1.7
Automobile and Light-duty Truck Underbody Coating	650	5.4
Automobile and Light-duty Truck Trunk Interior Coating	650	5.4
Automobile and Light-duty Truck Bedliner	200	1.7
Automobile and Light-duty Truck Lubricating Wax/Compound	700	5.8
Automobile and Light-duty Truck Weatherstrip Adhesive	750	6.26
<sup>2</sup> The owner and operator of a facility that coats a body or body part, or both, for a new heavier vehicle that elects under subsection (a)(3) to comply with this section instead of § 129.52d shall comply with these limits for equivalent coating materials.		

**Authority**

The provisions of this § 129.52e issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

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(411653) No. 579 Feb. 23

**Source**

The provisions of this § 129.52e adopted October 21, 2016, effective October 22, 2016, 46 Pa.B. 6743.

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.53. [Reserved].****Source**

The provisions of this § 129.53 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended August 12, 1983, effective August 13, 1983, 13 Pa.B. 2478; reserved August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406. Immediately preceding text appears at serial pages (151668) to (151670).

**§ 129.54. Seasonal operation of auxiliary incineration equipment.**

Where incineration equipment employing natural gas as the auxiliary fuel has been installed to effect compliance with the discharge limitation of § 129.52, §§ 129.55—129.64 or §§ 129.67—129.69, the Department may authorize the discontinuation of the operation of the equipment for the purpose of fuel conservation during the months of December, January and February if the operation of the equipment is not required for purposes of occupational health or safety or for the control of toxic substances or other regulated substances or for the prevention of odor nuisances. Authorization to discontinue operation of the incineration equipment may be made only after receipt of a written request from the owner or operator of an applicable facility. Authorization will be made in writing and may be similarly revoked by the Department if the revocation is found necessary for the attainment or maintenance of an air pollutant standard.

**Authority**

The provisions of this § 129.54 amended under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.54 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406. Immediately preceding text appears at serial page (151670).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.55. Petroleum refineries—specific sources.**

(a) *Wastewater separators.* No person may permit the use of a compartment of a single or multiple compartment volatile organic compound wastewater separator which compartment receives effluent water containing 200 gallons a day or more of any volatile organic compound from equipment processing, refining, treating, storing or handling volatile organic compounds unless the compartment is equipped with one of the following vapor loss control devices—properly installed, in good working order, and in operation—as follows:

(1) A container having openings sealed and totally enclosing the liquid contents. Gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(2) A container equipped with a floating roof—consisting of a pontoon-type roof, double-deck-type roof or internal floating cover—which will rest on the surface of the contents and be equipped with a closure seal or seals to close the space between the roof edge and container wall. Gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

(b) *Pumps and compressors.* Pumps and compressors handling volatile organic compounds with a vapor pressure of greater than 1.5 psi (10.3 kilopascals) at actual conditions shall have mechanical seals. For the purpose of determining vapor pressure, a temperature no greater than 100° F shall be used.

(c) *Vacuum-producing systems.* Vacuum producing systems shall conform with the following:

(1) The owner or operator of any vacuum-producing systems at a petroleum refinery may not permit the emission of volatile organic compounds from the condensers, hot wells or accumulators of the system.

(2) The emission limit under paragraph (1) shall be achieved by one of the following:

(i) Piping the vapors to a firebox or incinerator.

(ii) Compressing the vapors and adding them to the refinery fuel gas.

(iii) A method approved by the Department which recovers no less than 90% by weight of uncontrolled volatile organic compounds that would otherwise be emitted to the atmosphere.

(d) *Process unit turnarounds.* Purging of volatile organic compounds during depressurization of reactors, fractionating columns, pipes or vessels during unit shutdown, repair, inspection or startup shall be performed in such a manner as to direct the volatile organic vapors to a fuel gas system, flare or vapor recovery system until the internal pressure in such equipment reaches 19.7 psia (136 kilopascals).

**Source**

The provisions of this § 129.55 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118. Immediately preceding text appears at serial page (53973).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.56. Storage tanks greater than 40,000 gallons capacity containing VOCs.**

(a) No person may permit the placing, storing or holding in a stationary tank, reservoir or other container with a capacity greater than 40,000 gallons of volatile organic compounds with a vapor pressure greater than 1.5 psia (10.5 kilopascals) under actual storage conditions unless the tank, reservoir or other container is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor or gas loss to the atmosphere or is designed and equipped with one of the following vapor loss control devices:

(1) *An external or an internal floating roof.* This control equipment may not be permitted if the volatile organic compounds have a vapor pressure of 11 psia (76 kilopascals) or greater under actual storage conditions.

(2) *Vapor recovery system.* A vapor recovery system, consisting of a vapor gathering system capable of collecting the volatile organic compound vapors and gases discharged and a vapor disposal system capable of processing such volatile organic vapors and gases so as to prevent their emission to the atmosphere. Tank gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place. The vapor recovery system shall be maintained in good working order and recover at least 80% of the vapors emitted by such tank.

(b) An external floating roof shall be fitted with a primary seal and a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal). The external floating roof shall meet the following equipment requirements:

(1) Seal closure devices shall meet the following requirements:

(i) There are no visible holes, tears or other openings in the seals or seal fabric.

(ii) The seals are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall.

(iii) For tanks with vapor-mounted primary seals, the accumulated area of gaps exceeding 1/8 inch in width between the secondary seal and the tank wall shall not exceed 1 square inch per foot of tank diameter. Compliance with this subsection shall be determined by physically measuring the length and width of gaps around the entire circumference of the secondary seal in each place where a 1/8 inch uniform diameter probe passes freely (without

forcing or binding against the seal) between the seal and tank wall and by summing the area of the individual gaps.

(2) Openings in the external floating roof, except for automatic bleeder vents, rim space vents and leg sleeves, are as follows:

(i) Equipped with covers, seals or lids in the closed position except when the openings are in actual use.

(ii) Equipped with projections into the tank which remain below the liquid surface at all times.

(3) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports.

(4) Rim vents are set to open when the roof is being floated off the leg supports or at the recommended setting of the manufacturer.

(5) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90% of the area of the opening.

(c) An internal floating roof shall be fitted with a primary seal and shall comply with the following equipment requirements:

(1) A closure seal or seals, to close the space between the roof edge and tank wall is used.

(2) There are no holes, tears or other openings in the seal or a seal fabric or materials.

(3) Openings except stub drains are equipped with covers, lids or seals such that:

(i) The cover, lid or seal is in the closed position at all times except when in actual use.

(ii) Automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports.

(iii) Rim vents, if provided are set to open when the roof is being floated off the roof leg supports or at the recommended setting of the manufacturer.

(d) This section does not apply to petroleum liquid storage vessels which:

(1) Are used to store waxy, heavy pour crude oil.

(2) Have capacities less than 420,000 gallons and are used to store produced crude oil and condensate prior to lease custody transfer.

(e) For the purposes of this section, the petroleum liquid storage vessels listed in this subsection comply with the equipment requirements of this section. These tanks shall comply with the maintenance, inspection and reporting requirements of this section. These petroleum liquid storage vessels are those:

(1) Which contain a petroleum liquid with a true vapor pressure less than 4 psia (27.6 kilopascals) and which are of welded construction and which presently possess a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid filled type seal or other closure device of demonstrated equivalence approved by the Department.

- (2) Which are of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).
- (f) The owner or operator of a petroleum liquid storage vessel with a floating roof subject to this regulation shall:
- (1) Perform routine inspections annually in order to insure compliance with subsection (b) or (c). The inspection shall include a visual inspection of the secondary seal gap when inspecting external floating roof tanks.
- (2) For external floating roof tanks, measure the secondary seal gap annually in accordance with subsection (b)(1)(iii) when the floating roof is equipped with a vapor-mounted primary seal.
- (3) Maintain records of the types of volatile petroleum liquids stored, the maximum true vapor pressure of the liquid as stored, and the results of the inspections performed in subsection (f)(1) and (2). Copies of the records shall be retained by the owner or operator for a period of 2 years after the date on which the record was made and shall be made available to the Department upon written or verbal request at a reasonable time.
- (g) For volatile organic compounds whose storage temperature is governed by ambient weather conditions, the vapor pressure under actual storage conditions shall be determined using a temperature which is representative of the average storage temperature for the hottest month of the year in which the storage takes place.
- (h) If a failure is detected during inspections required in this section, the owner or operator, or both, shall repair the items or empty and remove the storage vessel from service within 45 days. If this failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Department. A request for an extension shall document that alternate storage capacity is unavailable and specify a schedule of actions the owner or operator will take that will assure that the equipment will be repaired or the vessel will be emptied as soon as possible but within the additional 30-day time requested.

#### Authority

The provisions of this § 129.56 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

#### Source

The provisions of this § 129.56 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended September 26, 1980, effective September 27, 1980, 10 Pa.B. 3788; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended August 12, 1983, effective August 13, 1983, 13 Pa.B. 2478; amended September 4, 1998, effective September 5, 1998, 28 Pa.B. 4525. Immediately preceding text appears at serial pages (199522) to (199524).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.57 (relating to storage tanks less than or equal to 40,000 gallons capacity containing VOCs); 25 Pa. Code § 129.60 (relating to bulk gasoline plants); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.57. Storage tanks less than or equal to 40,000 gallons capacity containing VOCs.**

The provisions of this section apply to above ground stationary storage tanks with a capacity equal to or greater than 2,000 gallons which contain volatile organic compounds with vapor pressure greater than 1.5 psia (10.5 kilopascals) under actual storage conditions. Storage tanks covered under this section shall have pressure relief valves which are maintained in good operating condition and which are set to release at no less than .7 psig (4.8 kilopascals) of pressure or .3 psig (2.1 kilopascals) of vacuum or the highest possible pressure and vacuum in accordance with state or local fire codes or the National Fire Prevention Association guidelines or other national consensus standards acceptable to the Department. Section 129.56(g) (relating to storage tanks greater than 40,000 gallons capacity containing VOCs) applies to this section. Petroleum liquid storage vessels which are used to store produced crude oil and condensate prior to lease custody transfer shall be exempt from the requirements of this section.

**Authority**

The provisions of this § 129.57 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.57 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended September 26, 1980, effective September 27, 1980, 10 Pa.B. 3788; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118. Immediately preceding text appears at serial pages (53975) to (53976).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.58. Petroleum refineries—fugitive sources.**

- (a) The owner or operator of a petroleum refinery shall do the following:
  - (1) Develop and conduct a monitoring program consistent with the provisions of subsection (d).
  - (2) Record leaking refinery components which have a VOC concentration exceeding 10,000 ppm when tested in accordance with the provisions of

§ 139.14 (relating to emissions of VOCs) and place an identifying tag on each refinery component consistent with the provisions in subsection (d)(3).

(3) Repair and retest the leaking refinery components as soon as possible. Every reasonable effort shall be made to repair each leak within 15 days unless a refinery unit shutdown is required to make the necessary repair.

(4) Identify leaking refinery components which cannot be repaired until the unit is shutdown for turnaround.

(b) Except for safety pressure relief valves and fittings on valves 1 inch or smaller, no owner or operator of a petroleum refinery shall install or operate a valve at the end of a pipe or line containing VOCs unless the pipe or line is sealed with a second valve, a blind flange, a plug or a cap. The sealing device may be removed only when a sample is being taken or during maintenance operations.

(c) Pipeline valves and pressure relief valves in gaseous VOC service shall be marked in some manner that will be readily obvious to both refinery personnel performing monitoring and the Department.

(d) Monitoring shall be done as follows:

(1) The owner or operator of a petroleum refinery shall conduct a monitoring program consistent with the following requirements:

(i) Check yearly, by methods referenced in § 139.14, pump seals and pipeline valves in liquid service.

(ii) Check quarterly, by methods referenced in § 139.14, compressor seals, pipeline valves in gaseous service, and pressure relief valves in gaseous service.

(iii) Check monthly, by visual methods, pump seals.

(iv) Check within 24 hours, by methods referenced in § 139.14, a pump seal from which VOC liquids are observed to be dripping.

(v) Check, by methods referenced in § 139.14, a relief valve within 24 hours after it has vented to the atmosphere.

(vi) Check within 72 hours after repair, by methods referenced in § 139.14, a refinery component that was found leaking.

(2) Pressure relief devices which are connected to an operating flare header, vapor recovery devices, inaccessible valves, storage tank valves and valves that are not externally regulated are exempt from the monitoring requirements in paragraph (1).

(3) The owner or operator of a petroleum refinery, upon the detection of a leaking refinery component, shall affix a weatherproof and readily visible tag, bearing an identification number and the date upon which the leak is located to the leaking refinery component. This tag shall remain in place until the leaking refinery component is repaired.

(e) Record keeping shall comply with the following:

(1) The owner or operator of a petroleum refinery shall maintain a leaking refinery components' monitoring log which shall contain, at a minimum, the following data:



- (i) The name of the process unit where the refinery component is located.
  - (ii) The type of refinery component—for example, valve, seal.
  - (iii) The tag number of refinery component.
  - (iv) The dates on which the leaking refinery component was discovered and repaired.
  - (v) The date and instrument reading of the recheck procedure after a leaking refinery component was repaired.
  - (vi) A record of the calibration of the monitoring instrument.
  - (vii) Those leaks that cannot be repaired until turnaround.
  - (viii) The total number of refinery components checked and the total number of refinery components found leaking.
- (2) Copies of the monitoring log shall be retained by the owner for 2 years after the date on which the record was made or the report was prepared.
- (3) Copies of the monitoring log shall immediately be made available to the Department, upon verbal or written request, at any reasonable time.
- (f) Reporting shall comply with the following:
- (1) The owner or operator of a petroleum refinery, upon completion of each yearly and quarterly monitoring procedure, shall do the following:
    - (i) Submit a report to the Department by the last business day of January, April, July and October that lists leaking refinery components that were located during the previous calendar quarter but not repaired within 15 days, leaking refinery components awaiting unit turnaround, the total number of refinery components inspected and the total number of refinery components found leaking.
    - (ii) Submit a signed statement with the report attesting to the fact that, with the exception of those leaking refinery components listed in subparagraph (i), monitoring and repairs were performed as stipulated in the monitoring program.
  - (g) The owner or operator of a petroleum refinery may submit an alternative plan for the control of leaks from petroleum refinery equipment to the Department. If the Department finds that the alternative plan will achieve an emission reduction which is equivalent to or greater than the reduction which can be achieved under the provisions of this section and that the alternative plan is as enforceable as this section, then the Department will allow the implementation of this alternative plan.
  - (h) The owner or operator of a petroleum refinery may submit to the Department a list of refinery components the inspection of which would involve a significant element of danger. The Department may exempt the refinery components on this list from the requirements of this section if the owner or operator can demonstrate to the satisfaction of the Department that a significant element of

danger exists which cannot be reasonably eliminated and that these exemptions will not result in a significant reduction in the effectiveness in the control of VOC emissions.

#### Authority

The provisions of this § 129.58 issued under the Air Pollution Control Act (35 P.S. §§ 4001—4015).

#### Source

The provisions of this § 129.58 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended August 12, 1983, effective August 13, 1983, 13 Pa.B. 2478. Immediately preceding text appears at serial pages (62507) to (62510).

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.59. Bulk gasoline terminals.

(a) A person may not cause or permit the loading of gasoline into a vehicular tank from a bulk gasoline terminal unless the gasoline loading racks are equipped with a vapor collection and disposal system capable of processing volatile organic vapors and gases so that no more than 0.0668 pounds (30.3 grams) of gasoline (measured as propane) are emitted to the atmosphere for every 100 gallons (380 liters) of gasoline loaded.

(b) A person may not cause or permit the loading of gasoline into a vehicular tank from a bulk gasoline terminal unless the gasoline loading racks are equipped with a loading arm with a vapor collection adaptor and pneumatic, hydraulic or other mechanical means to force a vapor-tight seal between the adaptor and the hatch of the tank. A means shall be provided to prevent gasoline drainage from the loading device when it is not connected to the hatch, and to accomplish complete drainage before the removal. When loading is effected through means other than hatches, loading and vapor lines shall be equipped with fittings which make vapor-tight connections and which will be closed upon disconnection.

(c) An owner or operator of a bulk gasoline plant shall maintain records of daily throughput. These records shall be retained for at least 2 years and shall be made available to the Department on request.

#### Authority

The provisions of this § 129.59 amended under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.59 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended August 12, 1983, effective August 13, 1983, 13 Pa.B. 2478; amended August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406. Immediately preceding text appears at serial pages (151678) to (151679).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.60 (relating to bulk gasoline plants); 25 Pa. Code § 129.61 (relating to small gasoline storage tank control (stage I control)); 25 Pa. Code § 129.62 (relating to general standards for bulk gasoline terminals, bulk gasoline plants and small gasoline storage tanks); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.60. Bulk gasoline plants.**

(a) A person may not cause or permit the loading of gasoline into a vehicular receiving tank from a bulk gasoline plant unless the loading is:

- (1) Bottom filled with the inlet flush with the receiving vehicular tank bottom.
- (2) Top-submerged filled with the fill pipe extended to within 6 inches of the bottom of the receiving vehicular tank during top-submerged filling operations.

(b) A person may not cause or permit the loading of gasoline into the stationary tanks of a bulk gasoline plant from a tank truck delivering gasoline to the bulk gasoline plant unless a vapor balancing technique is employed. The displaced vapors from the storage tank shall be transferred to the dispensing delivery tank during loading operations, and these vapors shall be processed for disposal in accordance with § 129.59 (relating to bulk gasoline terminals). This subsection is not applicable to storage tanks which conform to § 129.56(a)(1) or (2) (relating to storage tanks greater than 40,000 gallons capacity containing VOCs).

(c) A person may not cause or permit the loading of gasoline from a bulk gasoline plant with a daily throughput since January 1, 1987 of greater than 4,000 gallons (15,200 liters) into a tank truck with a capacity greater than 250 gallons (950 liters) unless a vapor balance system is employed. The displaced vapors from the tank truck shall be transferred to the stationary tanks of the bulk gasoline plant during loading operations. A storage tank at a bulk gasoline plant which is controlled under § 129.56(a)(1) or (2) shall have a vapor recovery unit and process vapors from gasoline loading in accordance with § 129.59.

(d) An owner or operator of a bulk gasoline plant shall maintain records of daily throughput. These records shall be retained for at least 2 years and shall be made available to the Department on request.

**Authority**

The provisions of this § 129.60 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.60 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended September 26, 1980, effective September 27, 1980, 10 Pa.B. 3788; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406. Immediately preceding text appears at serial pages (151679) to (151680).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.61 (relating to small gasoline storage tank control (Stage I control)); 25 Pa. Code § 129.62 (relating to general standards for bulk gasoline terminals, bulk gasoline plants and small gasoline storage tanks); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.61. Small gasoline storage tank control (Stage I control).**

(a) *Applicability.* This section applies Statewide to the owner and operator of a gasoline storage tank with a capacity of greater than 2,000 gallons.

(b) *Transfer requirements.* A person may not transfer gasoline from a gasoline tank truck into a gasoline storage tank at a gasoline dispensing facility unless the displaced vapors from the storage tank are transferred to the dispensing tank of the gasoline tank truck through a vapor tight return line and unless the gasoline dispensing facility storage tank is equipped with a submerged fill pipe which extends from the filling orifice to within 6 inches of the bottom of the storage tank.

(c) *Gasoline tank truck dispensing tank requirements.* The dispensing tank of a gasoline tank truck must remain vapor tight at all times, except that the dispensing tank may be opened after the vapors are disposed of under § 129.59 or § 129.60(c).

(d) *Additional requirements.* An owner and operator of a gasoline storage tank subject to this section may also be subject to § 129.61a (relating to vapor leak monitoring procedures and other requirements for small gasoline storage tank emission control).

**Authority**

The provisions of this § 129.61 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005); and amended under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

**Source**

The provisions of this § 129.61 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended September 26, 1980, effective September 27, 1980, 10 Pa.B. 3788; amended August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406; amended September 15, 1995, effective September 16, 1995, 25 Pa.B. 3849; amended March 25, 2022, effective March 26, 2022, 52 Pa.B. 1875. Immediately preceding text appears at serial pages (380418) to (380419).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.61a (relating to vapor leak monitoring procedures and other requirements for small gasoline storage tank emission control); 25 Pa. Code § 129.62 (relating to general standards for bulk gasoline terminals, bulk gasoline plants and small gasoline storage tanks); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.82a (relating to requirements to decommission a Stage II vapor recovery system); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.61a. Vapor leak monitoring procedures and other requirements for small gasoline storage tank emission control.**

(a) *Applicability.* Beginning March 26, 2022, this section applies to the owner and operator of a gasoline storage tank subject to § 129.61 (relating to small gasoline storage tank control (Stage I control)) if the gasoline storage tank is located in Allegheny, Armstrong, Beaver, Bucks, Butler, Chester, Delaware, Fayette, Montgomery, Philadelphia, Washington or Westmoreland County and, if one of the following is met:

(1) Except as specified in paragraph (2), the gasoline dispensing facility has had a monthly throughput greater than 10,000 gallons (37,850 liters) of gasoline assessed on December 31 annually, beginning with the 2021 calendar year.

(2) The owner or operator of the gasoline dispensing facility is an independent small business marketer of gasoline as defined under section 324(c) of the Clean Air Act (42 U.S.C.A. § 7625(c)) and the gasoline dispensing facility has had a monthly throughput equal to or greater than 50,000 gallons (189,250 liters), assessed on December 31 annually beginning with the 2021 calendar year.

(3) The monthly throughput of the gasoline dispensing facility exceeds the applicable monthly throughput threshold of paragraph (1) or paragraph (2) at any time after March 26, 2022, but later falls below the applicable monthly throughput threshold of paragraph (1) or paragraph (2). The owner and operator of the gasoline dispensing facility remain subject to the applicable requirements of this section for the gasoline dispensing facility, even after the monthly throughput falls below the applicable monthly throughput threshold of paragraph (1) or paragraph (2).

(b) *CARB vapor recovery test procedures.* The following are the CARB vapor recovery test procedures specified in this section:

- (1) CARB TP-201.1E—"Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves," adopted October 8, 2003, including updates and revisions.
  - (2) CARB TP-201.3—"Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities," adopted April 12, 1996, and amended March 17, 1999, and July 26, 2012, including updates and revisions.
  - (3) CARB TP-201.3C—"Determination of Vapor Piping Connections to Underground Gasoline Storage Tanks (Tie-Tank Test)," adopted March 17, 1999, including updates and revisions.
  - (4) CARB TP-201.1B—"Static Torque of Rotatable Phase I Adaptors," adopted July 3, 2002, and amended October 8, 2003, including updates and revisions.
- (c) *Vapor leak rate monitoring procedures.* The owner or operator of a gasoline dispensing facility subject to this section shall monitor the gasoline dispensing facility Stage I vapor recovery system piping for vapor leaks in one of the following ways:
- (1) Perform specified test procedures under subsection (d).
  - (2) Perform continuous monitoring under subsections (e), (h), (i) and (j).
- (d) *Vapor leak rate monitoring using specified test procedures.* The owner or operator of a gasoline dispensing facility monitoring the gasoline dispensing facility Stage I vapor recovery system piping for vapor leaks under subsection (c)(1) shall do all of the following:
- (1) Conduct each of the CARB TP-201.1E, CARB TP-201.3 and CARB TP-201.3C test procedures at least once in every 12-month period. Also, if the Stage I vapor recovery system is equipped with a rotatable adaptor, conduct a CARB TP-201.1B test procedure once in every 12-month period.
    - (i) These four test procedures may be conducted simultaneously, consecutively or separately at different times during the 12-month period.
    - (ii) Repair to a component on, or correction to, the Stage I vapor recovery system may not be made on the day of the CARB TP-201.3 or CARB TP-201.3C test procedure prior to completion of the test procedure.
    - (iii) Repair to a component on, or correction to, the Stage I vapor recovery system must be made within 10 days following a failed CARB TP-201.1E, CARB TP-201.3, CARB TP-201.1B or CARB TP-201.3C test procedure.
    - (iv) If a repair to a component on, or correction to, the Stage I vapor recovery system is made to pass the CARB TP-201.3 test procedure, then the CARB TP-201.3 test procedure must be conducted once in every 6-month period. The first test procedure conducted under this subparagraph must be conducted in the month that the repair to a component on, or correction to, the Stage I system is made under subparagraph (iii). The once-in-every-12-month period CARB TP-201.3 test procedure may resume when two con-

secutive once-in-every-6-month period CARB TP-201.3 test procedures do not reveal a failure requiring repair or correction.

(v) Perform CARB TP-201.1E, CARB TP-201.3, CARB TP-201.3C AND CARB TP-201.1B on or before March 26, 2023, and on an annual basis thereafter.

(2) Record all of the following information, as applicable, for each test procedure performed under paragraph (1):

- (i) The name of the test procedure.
- (ii) The name of the person performing the test procedure.
- (iii) The date the test procedure was performed.
- (iv) The result of the test procedure.
- (v) The date, time, type and duration of the vapor leak rate failure.
- (vi) The name of the person correcting the vapor leak rate failure.
- (vii) The date the vapor leak rate failure was corrected.
- (viii) The action taken to correct the vapor leak rate failure.

(e) *Continuous vapor leak rate monitoring.* The owner or operator of a gasoline dispensing facility that is continuously monitoring the gasoline dispensing facility Stage I vapor recovery system piping for vapor leaks under subsection (c)(2) shall design, install, operate and maintain both of the following:

(1) A Stage I enhanced vapor recovery system for which a CARB Executive Order is issued, is valid at the time of installation and remains valid during the operation of the Stage I enhanced vapor recovery system.

(2) A continuous pressure monitoring system as identified in Exhibit 1 Section II, Exhibit 2 Section II and Exhibit 3 Section II of CARB Executive Order VR-202-R, "Relating to Certification of Vapor Recovery Systems Assist Phase II Enhanced Vapor Recovery (EVR) System including In-Station Diagnostics (ISD)," dated December 8, 2014 including updates and revisions. The continuous pressure monitoring system must meet all of the following:

- (i) Include a console, a vapor pressure sensor, an automatic gasoline storage tank system pressure gauge and vapor leak rate detection software.
- (ii) Operate at least 95% of the time on a calendar-month basis.
- (iii) Calculate and record the percentage of continuous pressure monitoring system operational time.
- (iv) Measure once every 7 days the vapor leak rate from the gasoline storage tank system at any working ullage pressure, both positive and negative.
- (v) Measure the gasoline storage tank system pressure once every 7 days.
- (vi) Record once every 7 days, with not more than 7 days between recordings, the calculated percentage of time that the gasoline storage tank system pressure is at least 0.5 inches of water column below the positive cracking pressure of the pressure/vacuum vent valve.

(f) *Stage I vapor recovery system installation requirements.* The owner or operator of a gasoline dispensing facility subject to this section that installs a Stage I vapor recovery system shall do all of the following:



- (1) Perform, and ensure that the Stage I vapor recovery system passes, all of the following CARB vapor leak rate monitoring test procedures within 10 days of installation of the Stage I vapor recovery system:
  - (i) CARB TP-201.1B if the Stage I vapor recovery system is equipped with a rotatable adaptor.
  - (ii) CARB TP-201.1E.
  - (iii) CARB TP-201.3.
  - (iv) CARB TP-201.3C.
- (2) Record all of the following information, as applicable, for each test procedure performed under paragraph (1):
  - (i) The completion date of installation of the Stage I vapor recovery system.
  - (ii) The name of the test procedure.
  - (iii) The name of the person performing the test procedure.
  - (iv) The date the test procedure was performed.
  - (v) The result of the test procedure.
  - (vi) The date, type and duration of a vapor leak rate failure.
  - (vii) The name of the person correcting the vapor leak rate failure.
  - (viii) The date the vapor leak rate failure was corrected.
  - (ix) The action taken to correct the vapor leak rate failure.
- (3) Maintain onsite at the gasoline dispensing facility or electronically stored allowing for onsite examination a copy of the CARB Executive Order specified in subsection (e)(1).
- (4) Install and maintain a pressure/vacuum vent valve on each atmospheric vent of the underground storage tank.
- (g) *Monitoring the condition of the Stage I vapor recovery system components and other gasoline dispensing components.* The owner or operator of a gasoline dispensing facility with a Stage I vapor recovery system shall monitor the condition of the Stage I vapor recovery system components and other gasoline dispensing components in accordance with all of the following, as applicable:
  - (1) Perform an inspection after each gasoline tank truck delivery to check all of the following:
    - (i) That each fill pipe adaptor and Stage I adaptor is tightly sealed.
    - (ii) That each Stage I dry break is tightly sealed.
    - (iii) That each automatic tank gauge cap is tightly sealed.
  - (2) Perform an inspection one time per month to check all of the following:
    - (i) That each automatic tank gauging electrical grommet and vent extractor cap is in good working order.
    - (ii) That the riser and pressure/vacuum vent valve and cap are installed and not damaged above ground level.
    - (iii) That there are no tears or holes in gasoline hoses.
    - (iv) That gasoline nozzles are functioning according to their design.
    - (v) That gasoline hoses are not touching the ground when the nozzle is resting on its holding bracket.
    - (vi) That each gasoline nozzle fits in its holding bracket.



- (vii) If a Stage II vapor balance vapor recovery system is installed, that a face plate can make a positive seal.
- (viii) If a Stage II vapor balance vapor recovery system is installed, that the bellows are free of tears and holes.
- (3) Make the needed correction to the Stage I system under paragraph (1) or make the needed repair to a failed component under paragraphs (1) and (2) as soon as possible before the next scheduled monthly inspection.
- (4) Record all of the following information, as applicable, for each monitoring inspection conducted under paragraphs (1) and (2) and for each correction to the Stage I system or repair to a failed component made under paragraph (3):
  - (i) The name of the person performing the inspection.
  - (ii) The component inspected under paragraphs (1) and (2).
  - (iii) The date the inspection was performed.
  - (iv) The result of each inspection of the components under paragraphs (1) and (2).
  - (v) The name of the person making the correction to the Stage I system or the repair to a failed component.
  - (vi) The date the correction was made to the Stage I system or the repair was made to the failed component.
  - (vii) The action taken to correct the Stage I system or to repair the failed component.
- (h) *Vapor leak rate of the gasoline storage tank system.* The owner or operator of a gasoline dispensing facility that is monitoring the vapor leak rate of the gasoline storage tank system with a continuous pressure monitoring system under subsection (c)(2) shall do all of the following:
  - (1) Maintain the gasoline storage tank system at a vapor leak rate less than two times the allowed vapor leak rate.
    - (i) The allowed vapor leak rate must be determined under CARB TP-201.3.
    - (ii) Equation 9-2 with N=1-6 from CARB TP-201.3 must be used to determine the allowed vapor leak rate.
  - (2) Generate a report in electronic format once per day for the previous calendar day. The report must record the following:
    - (i) Continuous pressure monitoring system operational time as a percentage.
    - (ii) Percentage of time the tank system pressure is above atmospheric pressure.
    - (iii) Percentage of time the tank system pressure is at least 0.5 inches water column below the positive cracking pressure of the pressure/vacuum vent valve.
  - (3) Generate a report in electronic format by the 15th of the month for the previous calendar month which records the following:
    - (i) Continuous pressure monitoring system operational time as a percentage.

- (ii) Percentage of time the tank system pressure is above atmospheric pressure.
- (iii) Percentage of time the tank system pressure is at least 0.5 inches water column below the positive cracking pressure of the pressure/vacuum vent valve.
- (iv) Warnings generated when the gasoline storage tank system vapor leak rate equals or exceeds two times the allowed vapor leak rate determined under subparagraph (1), including the date and time of each warning.
- (4) Store the electronic records of the reports generated in paragraphs (2) and (3) in a manner to maintain the records despite loss of power to the continuous pressure monitoring system.
- (5) Follow the applicable procedures of subsections (i) and (j) if the gasoline storage tank system vapor leak rate equals or exceeds two times the allowed vapor leak rate determined under paragraph (1).
- (6) Perform, and ensure that the continuous pressure monitoring system passes, the continuous pressure monitoring system operability test as specified in Exhibit 9 or Exhibit 10, as applicable, of CARB Executive Order VR-202-R, one time every 3 years after the date the continuous pressure monitoring system is installed.
- (7) Record all of the following information for the continuous pressure monitoring system operability test specified in paragraph (6):
  - (i) The name of the person performing the test.
  - (ii) The date the test was performed.
  - (iii) The result of the test.
- (8) If the continuous pressure monitoring system fails the operability test required under paragraph (6), the owner or operator shall repair and retest the continuous pressure monitoring system under paragraph (6) within 10 days.
- (9) If the continuous pressure monitoring system fails the operability test required under paragraph (6), record all of the following information:
  - (i) The name of the person recording the operability test failure.
  - (ii) The date and time the continuous pressure monitoring system failed the operability test.
  - (iii) The type and duration of the operability test failure.
  - (iv) The name of the person correcting the operability test failure.
  - (v) The date the repair was made to correct the operability test failure.
  - (vi) The action taken to correct the operability test failure.
- (10) Maintain the records required under paragraphs (7) and (9), as applicable, onsite at the gasoline dispensing facility or electronically stored allowing for onsite examination for 6 years.
  - (i) *First exceedance of the allowed vapor leak rate.* If the gasoline storage tank system vapor leak rate equals or exceeds two times the allowed vapor leak rate determined under subsection (h)(1), then all of the following must occur:
    - (1) The continuous pressure monitoring system must activate a warning alarm and record the event.
    - (2) The owner or operator shall do all of the following:

(i) Determine the cause of the failure and take corrective action within 7 calendar days of the alarm. If this correction does not require a repair or correction to the gasoline storage tank system, the person correcting the cause of the failure need not meet the certification requirements under subsection (q).

(ii) Reset the continuous pressure monitoring system when the correction under subparagraph (i) is made.

(iii) Record all of the following information, as applicable, for the exceedance:

(A) The name of the person recording the vapor leak rate failure.

(B) The date and time the continuous pressure monitoring system indicated a vapor leak rate failure.

(C) The type and duration of the vapor leak rate failure.

(D) The name of the person correcting the vapor leak rate failure.

(E) The date the vapor leak rate failure was corrected.

(F) The action taken to correct the vapor leak rate failure.

(iv) Record the date, time, duration and reason for a warning alarm that did not indicate a vapor leak rate failure.

(j) *Second exceedance of the allowed vapor leak rate.* Following the action taken to correct the cause of the failure under subsection (i)(2)(i), the continuous pressure monitoring system must recommence monitoring the gasoline storage tank system. If the gasoline storage tank system vapor leak rate equals or exceeds two times the allowed vapor leak rate within 7 calendar days following the correction made under subsection (i)(2)(i), then all of the following must occur:

(1) The continuous pressure monitoring system must activate a warning alarm and record the event.

(2) The owner or operator of the gasoline dispensing facility shall do all of the following:

(i) Reset the continuous pressure monitoring system as soon as the vapor leak rate failure is corrected.

(ii) Determine the cause of the failure and take corrective action within 7 calendar days of the alarm.

(A) The person correcting a failure to the gasoline storage tank system must meet the certification requirements under subsection (q).

(B) The person correcting a failure to the continuous pressure monitoring system must meet the certification requirements under subsection (q) or must be authorized to make repairs by the continuous pressure monitor manufacturer.

(iii) Record all of the following information, as applicable, for the exceedance:

(A) The name of the person recording the vapor leak rate failure.

(B) The date and time the continuous pressure monitoring system indicated a vapor leak rate failure.

(C) The type and duration of the vapor leak rate failure.

(D) The name of the person correcting the vapor leak rate failure.

(E) The date the vapor leak rate failure was corrected.

(F) The action taken to correct the vapor leak rate failure.

(k) *Low permeation hoses and enhanced conventional nozzles.* An owner or operator of a gasoline dispensing facility that is subject to this section and does not have a Stage II vapor recovery system shall do all of the following:

(1) Install and maintain low permeation hoses on each gasoline dispenser at the gasoline dispensing facility as follows:

(i) For a gasoline dispensing facility in operation on or before March 26, 2022, install low permeation hoses by March 26, 2024, on each gasoline dispenser that is located at the gasoline dispensing facility as of March 26, 2022.

(ii) For a gasoline dispenser installed after March 26, 2022, install low permeation hoses described in subparagraph (iv) upon installation of the gasoline dispenser.

(iii) For a gasoline dispensing facility that begins operation after March 26, 2022, install low permeation hoses described in subparagraph (iv) upon installation of each gasoline dispenser.

(iv) For subparagraphs (i) through (iii), the owner or operator may only install low permeation hoses that are included by the CARB Executive Officer on the Exhibit 1 "Component List" in CARB Executive Order NVR-1-D, "Relating to Certification of Non-Vapor Recovery Hoses and Enhanced Conventional Nozzles, For Use at Gasoline Dispensing Facilities with No Phase II Vapor Recovery Systems," executed March 1, 2019, including updates and revisions.

(2) Install and maintain enhanced conventional nozzles on each gasoline dispenser as follows:

(i) The owner or operator shall replace each conventional nozzle with an enhanced conventional nozzle within 2 years after the Department publishes notice in the *Pennsylvania Bulletin* of the CARB Executive Officer having issued an Executive Order of Certification to a second manufacturer for an enhanced conventional nozzle.

(ii) For a gasoline dispenser installed at the gasoline dispensing facility after the Department publishes the *Pennsylvania Bulletin* notice referenced in subparagraph (i), the owner or operator of the gasoline dispensing facility shall install enhanced conventional nozzles.

(iii) For a gasoline dispensing facility that begins operating after the Department publishes the notice in the *Pennsylvania Bulletin* referenced in subparagraph (i), the owner or operator of the gasoline dispensing facility shall install enhanced conventional nozzles on each gasoline dispenser.

(iv) For subparagraphs (i) through (iii), the owner or operator may only install enhanced conventional nozzles that are included by the CARB Executive Officer on the Exhibit 1 "Component List" in CARB Executive Order NVR-1-D, "Relating to Certification of Non-Vapor Recovery Hoses and Enhanced Conventional Nozzles, For Use at Gasoline Dispensing Facilities with No Phase II Vapor Recovery Systems," executed March 1, 2019, including updates and revisions.

(l) *Additional requirements for gasoline dispensing facilities.* The owner or operator of a gasoline dispensing facility subject to this section shall do all of the following:

(1) Provide necessary maintenance and make modifications to the vapor control system of the gasoline dispensing facility necessary to comply with the applicable requirements of this section.

(2) Provide adequate training and written instructions to the operator of the gasoline dispensing facility to ensure proper operation of the vapor control system.

(3) Maintain onsite at the gasoline dispensing facility or electronically stored allowing for onsite examination a copy of the training schedule and written instructions required under paragraph (2).

(4) Immediately remove from service and tag a defective nozzle or other component of the gasoline dispensing system until the defective component is replaced or repaired.

(i) A component removed from service may not be returned to service until the defect is corrected.

(ii) If the Department finds during an inspection that a defective nozzle or other component of the gasoline dispensing system is not properly tagged, the component may not be returned to service until the defect is corrected and the Department approves its return to service.

(5) Conspicuously post the operating instructions for the gasoline dispensing system in the gasoline dispensing area. The operating instructions must include, at a minimum, all of the following information:

(i) A clear description of how to correctly dispense gasoline with the nozzles used at the site.

(ii) A warning that continued attempts to dispense gasoline after the gasoline dispensing system indicates that the motor vehicle fuel tank is full may result in spillage and contamination of the air or water or recirculation of the gasoline into the vapor recovery system.

(iii) A telephone number, email address or social media account established by the Department for the public to use to report problems experienced with the gasoline dispensing system.

(m) *Recordkeeping and reporting requirements.* The owner or operator of a gasoline dispensing facility subject to this section that creates a record under subsection (d)(2), (f)(2), (g)(4), (h)(4), (h)(10), (i)(2)(iii) or (j)(2)(iii) shall do both of the following:

(1) Maintain the required records onsite at the gasoline dispensing facility or electronically stored allowing for onsite examination for 2 years, unless specified otherwise in this section or unless a longer period is required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) or a plan approval, operating permit, consent decree or order issued by the Department.

(2) Submit the records to the Department in an acceptable format upon receipt of a request from the Department.

(n) *Record certifying the Stage I enhanced vapor recovery system.* An owner or operator proceeding under subsection (c)(2) shall maintain onsite at the gasoline dispensing facility or electronically stored allowing for onsite examination a copy of the valid CARB Executive Order required under subsection (e)(1) for the duration of the operation of the Stage I enhanced vapor recovery system. The copy must be made available to the Department upon receipt of a request.

(o) *Record certifying the low permeation hoses and enhanced conventional nozzles.* The owner or operator shall maintain onsite at the gasoline dispensing facility or electronically stored allowing for onsite examination a copy of the CARB Executive Order required under subsection (k)(1) and (2) for the duration of the use of the low permeation hoses and enhanced conventional nozzles, respectively. The copy must be made available to the Department upon receipt of a request.

(p) *Record of training schedule and written instructions.* The owner or operator shall maintain onsite at the gasoline dispensing facility or electronically stored allowing for onsite examination a copy of the training schedule and written instructions required under subsection (l)(2) for the duration of the operation of the vapor control system. The copy must be made available to the Department upon receipt of a request.

(q) *Certification requirements for a person who performs underground storage tank system installation or modification work.*

(1) The owner and operator of a gasoline dispensing facility subject to this section shall ensure that a person who performs underground storage tank system installation or modification work under this section is appropriately certified for the work they perform, as follows:

(i) The person must be a certified UMI or UMX storage tank installer under Chapter 245, Subchapter A (relating to general provisions).

(ii) The person must comply with the applicable requirements of Chapter 245, Subchapter B (relating to certification program for installers and inspectors of storage tanks and storage tank facilities).

(2) A person only performing a test specified under subsection (b) is not required to be certified under this subsection.

#### Authority

The provisions of this § 129.61a added under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.61a added March 25, 2022, effective March 26, 2022, 52 Pa.B. 1875.

#### Cross References

This section cited in 25 Pa. Code § 129.61 (relating to small gasoline storage tank control (Stage I control)); 25 Pa. Code § 129.82 (relating to control of VOCs from gasoline dispensing facilities (Stage II)); 25 Pa. Code § 129.82a (relating to requirements to decommission a Stage II vapor recovery system); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.62. General standards for bulk gasoline terminals, bulk gasoline plants and small gasoline storage tanks.**

(a) Gasoline may not be spilled or discarded in sewers or stored in open containers or handled in a manner that would result in uncontrolled evaporation to the atmosphere.

(b) An owner or operator of a bulk gasoline plant, bulk gasoline terminal, tank truck or trailer or stationary storage tank to which § 129.59, § 129.60(b) or (c) or § 129.61 (relating to bulk gasoline terminals; bulk gasoline plants; and small gasoline storage tank control (Stage I control)) apply may not permit the transfer of gasoline between the tank truck or trailer and a stationary storage tank unless the following conditions are met:

(1) The vapor balance system is in good working order and is designed and operated in a manner that prevents:

(i) Gauge pressure from exceeding 18 inches of H<sub>2</sub>O (4500 pascals) and vacuum from exceeding 6 inches of water (1500 pascals) in the gasoline tank truck.

(ii) A reading equal to or greater than 100% of the lower explosive limit—LEL, measured as propane—at 1 inch from points on the perimeter of a potential leak source when measured by the method referenced in § 139.14 (relating to emissions of VOCs) during loading or unloading operations at small gasoline storage tanks, bulk plants and bulk terminals.

(iii) Avoidable liquid leaks during loading or unloading operations at small gasoline storage tanks, bulk plants and bulk terminals.

(2) A truck, vapor balance system or vapor disposal system, if applicable, that exceeds the limits in paragraph (1) is repaired and retested within 15 days.

(3) There are no visually- or audibly-detectable leaks in the tank truck's or trailer's pressure/vacuum relief valves and hatch covers, the truck tanks or storage tanks, or associated vapor and liquid lines during loading or unloading.

(4) The pressure and vacuum relief valves on storage vessels and tank trucks or trailers are set to release at no less than .7 psig (4.8 kilopascals) of pressure or .3 psig (2.1 kilopascals) of vacuum or the highest allowable pressure and vacuum as specified in State or local fire codes, the National Fire Prevention Association guidelines or other National consensus standards acceptable to the Department. Upon demonstration by the owner or operator of an underground small gasoline storage tank that the vapor balance system specified in paragraph (1) will achieve a 90% vapor recovery efficiency without a pressure and vacuum relief valve and that an interlock system, sufficient to ensure connection of the vapor recovery line prior to delivery of the gasoline, will be used—no pressure and vacuum relief valve is required. The vacuum setting on the pressure and vacuum relief valve on an underground storage tank may be set at the lowest vacuum setting which is sufficient to keep the vent closed at zero pressure and vacuum.

(c) A person may not allow a gasoline tank truck subject to § 129.59, § 129.60 or § 129.61 to be filled or emptied in a geographic area specified in § 129.61(a) unless the gasoline tank truck:



(1) Has been tested by the owner or operator within the immediately preceding 12 months in accordance with § 139.14.

(2) Sustains a pressure change of no more than 750 pascals (3 inches of H<sub>2</sub>O) in 5 minutes when pressurized to a gauge pressure of 18 inches of H<sub>2</sub>O (4,500 pascals) or evacuated to a gauge pressure of 6 inches of H<sub>2</sub>O (1,500 pascals) during the testing required in paragraph (1).

(3) Is repaired by the owner or operator and retested within 15 days of testing if it does not meet the criteria in paragraph (2).

(4) Displays a clear marking near the Department of Transportation Certification plate required by 49 CFR 178.340-10b (relating to certification), which shows the most recent date upon which the gasoline tank truck passed the test required in this subsection.

(d) Reporting and recordkeeping shall be as follows:

(1) The owner or operator of a source of VOCs subject to subsection (c) shall maintain records of certification testing and repairs. The records shall identify the gasoline tank truck, vapor collection system or vapor control system; the date of the test or repair; and, if applicable, the type of repair and the date of retest. The records shall be maintained in a legible, readily-available condition for 1 year after the date the testing or repair was completed.

(2) The records of certification tests required by paragraph (1) shall contain:

- (i) The gasoline tank truck tank serial number.
- (ii) The initial test pressure and the time of the reading.
- (iii) The final test pressure and the time of the reading.
- (iv) The initial test vacuum and the time of the reading.
- (v) The final test vacuum and the time of the reading.
- (vi) At the top of each report page, the company name and the date and location of the tests on that page.
- (vii) The name and title of the person conducting the test.

(3) Copies of records and reports under this subsection shall be made available to the Department upon verbal or written request at any reasonable time. A copy of the test results for each gasoline tank shall be kept with the truck.



(e) Gasoline tank trucks with a rated capacity of less than 4,800 gallons are exempt from subsections (c) and (d).

#### Authority

The provisions of this § 129.62 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

#### Source

The provisions of this § 129.62 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended September 26, 1980, effective September 27, 1980, 10 Pa.B. 3788; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; corrected July 17, 1981, effective June 21, 1981, 11 Pa.B. 2570; amended August 12, 1983, effective August 13, 1983, 13 Pa.B. 2478; amended May 22, 1992, effective May 23, 1992, 22 Pa. B. 2720. Immediately preceding text appears at serial pages (159208) to (159210).

#### Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.63. Degreasing operations.

(a) *Cold cleaning machines.* Except for those subject to the Federal National emissions standards for hazardous air pollutants (NESHAP) for halogenated solvent cleaners under 40 CFR Part 63 (relating to National emission standards for hazardous air pollutants for source categories), this subsection applies to cold cleaning machines that use 2 gallons or more of solvents containing greater than 5% VOC content by weight for the cleaning of metal parts.

(1) Immersion cold cleaning machines shall have a freeboard ratio of 0.50 or greater.

(2) Immersion cold cleaning machines and remote reservoir cold cleaning machines shall:

(i) Have a permanent, conspicuous label summarizing the operating requirements in paragraph (3). In addition, the label shall include the following discretionary good operating practices:

(A) Cleaned parts should be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping or rotating, the parts should be positioned so that solvent drains directly back to the cold cleaning machine.

(B) When a pump-agitated solvent bath is used, the agitator should be operated to produce a rolling motion of the solvent with no observable splashing of the solvent against the tank walls or the parts being cleaned.

(C) Work area fans should be located and positioned so that they do not blow across the opening of the degreaser unit.

(ii) Be equipped with a cover that shall be closed at all times except during cleaning of parts or the addition or removal of solvent. For remote reservoir cold cleaning machines which drain directly into the solvent storage reservoir, a perforated drain with a diameter of not more than 6 inches shall constitute an acceptable cover.

(3) Cold cleaning machines shall be operated in accordance with the following procedures:

(i) Waste solvent shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(ii) Flushing of parts using a flexible hose or other flushing device shall be performed only within the cold cleaning machine. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

(iii) Sponges, fabric, wood, leather, paper products and other absorbent materials may not be cleaned in the cold cleaning machine.

(iv) Air agitated solvent baths may not be used.

(v) Spills during solvent transfer and use of the cold cleaning machine shall be cleaned up immediately.

(4) After December 22, 2002, a person may not use, sell or offer for sale for use in a cold cleaning machine any solvent with a vapor pressure of 1.0 millimeter of mercury (mm Hg) or greater and containing greater than 5% VOC by weight, measured at 20°C (68°F) containing VOCs.

(5) On and after December 22, 2002, a person who sells or offers for sale any solvent containing VOCs for use in a cold cleaning machine shall provide, to the purchaser, the following written information:

(i) The name and address of the solvent supplier.

(ii) The type of solvent including the product or vendor identification number.

(iii) The vapor pressure of the solvent measured in mm hg at 20°C (68°F).

(6) A person who operates a cold cleaning machine shall maintain for at least 2 years and shall provide to the Department, on request, the information specified in paragraph (5). An invoice, bill of sale, certificate that corresponds to a number of sales, Material Safety Data Sheet (MSDS), or other appropriate documentation acceptable to the Department may be used to comply with this section.

(7) Paragraph (4) does not apply:

(i) To cold cleaning machines used in extreme cleaning service.

(ii) If the owner or operator of the cold cleaning machine demonstrates, and the Department approves in writing, that compliance with paragraph (4) will result in unsafe operating conditions.

(iii) To immersion cold cleaning machines with a freeboard ratio equal to or greater than 0.75.

(b) *Batch vapor cleaning machines.* Except for those subject to the Federal NESHAP for halogenated solvent cleaners under 40 CFR Part 63, this subsection applies to batch vapor cleaning machines that use solvent containing greater than 5% VOC by weight for the cleaning of metal parts.

(1) Batch vapor cleaning machines shall be equipped with:

(i) Either a fully enclosed design or a working and downtime mode cover that completely covers the cleaning machine openings when in place, is free of cracks, holes and other defects, and can be readily opened or closed without disturbing the vapor zone. If the solvent cleaning machine opening is greater than 10 square feet, the cover shall be powered. If a lip exhaust is used, the closed cover shall be below the level of the lip exhaust.

(ii) Sides which result in a freeboard ratio greater than or equal to 0.75.

(iii) A safety switch (thermostat and condenser flow switch) which shuts off the sump heat if the coolant is not circulating.

(iv) A vapor up control switch which shuts off the spray pump if vapor is not present. A vapor up control switch is not required if the vapor cleaning machine is not equipped with a spray pump.

(v) An automated parts handling system which moves the parts or parts baskets at a speed of 11 feet (3.4 meters) per minute or less when the parts or parts are entering or exiting the vapor zone. If the parts basket being cleaned occupy more than 50% of the solvent/air interface area, the speed of the parts or parts basket may not exceed 3 feet per minute.

(vi) A device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

(vii) A vapor level control device that shuts off the sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(viii) A permanent, conspicuous label summarizing the operating requirements in paragraph (4).

(2) In addition to the requirements of paragraph (1), the operator of a batch vapor cleaning machine with a solvent/air interface area of 13 square feet or less shall implement one of the following options:

(i) A working mode cover, freeboard ratio of 1.0, and superheated vapor.

(ii) A freeboard refrigeration device and superheated vapor.

(iii) A working mode cover and a freeboard refrigeration device.

(iv) Reduced room draft, freeboard ratio of 1.0 and superheated vapor.

(v) A freeboard refrigeration device and reduced room draft.

(vi) A freeboard refrigeration device and a freeboard ratio of 1.0.

(vii) A freeboard refrigeration device and dwell.

(viii) Reduced room draft, dwell and a freeboard ratio of 1.0.

- (ix) A freeboard refrigeration device and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time.
- (x) A freeboard ratio of 1.0, superheated vapor and a carbon adsorber.
- (3) In addition to the requirements of paragraph (1), the operator of a batch vapor cleaning machine with a solvent/air interface area of greater than 13 square feet shall use one of the following devices or strategies:
  - (i) A freeboard refrigeration device, a freeboard ratio of 1.0 and superheated vapor.
  - (ii) Dwell, a freeboard refrigeration device and reduced room draft.
  - (iii) A working mode cover, a freeboard refrigeration device and superheated vapor.
  - (iv) Reduced room draft, freeboard ratio of 1.0 and superheated vapor.
  - (v) A freeboard refrigeration device, reduced room draft and superheated vapor.
  - (vi) A freeboard refrigeration device, reduced room draft and a freeboard ratio of 1.0.
  - (vii) A freeboard refrigeration device, superheated vapor and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time.
- (4) Batch vapor cleaning machines shall be operated in accordance with the following procedures:
  - (i) Waste solvent, still bottoms and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.
  - (ii) Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. A superheated vapor system shall be an acceptable alternate technology.
  - (iii) Parts or parts baskets may not be removed from the batch vapor cleaning machine until dripping has ceased.
  - (iv) Flushing or spraying of parts using a flexible hose or other flushing device shall be performed within the vapor zone of the batch vapor cleaning machine or within a section of the machine that is not exposed to the ambient air. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.
  - (v) Sponges, fabric, wood, leather, paper products and other absorbent materials may not be cleaned in the batch vapor cleaning machine.
  - (vi) Spills during solvent transfer and use of the batch vapor cleaning machine shall be cleaned up immediately.
  - (vii) Work area fans shall be located and positioned so that they do not blow across the opening of the batch vapor cleaning machine.

(viii) During startup of the batch vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

(ix) During shutdown of the batch vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(x) When solvent is added to or drained from the batch vapor cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(xi) The working and downtime covers shall be closed at all times except during parts entry and exit from the machine, during maintenance of the machine when the solvent has been removed and during addition of solvent to the machine.

(c) *In-line vapor cleaning machines.* Except for those subject to the Federal NESHAP for halogenated solvent cleaners under 40 CFR Part 63, this section applies to in-line vapor cleaning machines that use solvent containing greater than 5% VOC by weight for the cleaning of metal parts.

(1) In-line vapor cleaning machines shall be equipped with:

(i) Either a fully enclosed design or a working and downtime mode cover that completely covers the cleaning machine openings when in place, is free of cracks, holes and other defects, and can be readily opened or closed without disturbing the vapor zone.

(ii) A switch (thermostat and condenser flow switch) which shuts off the sump heat if the coolant is not circulating.

(iii) Sides which result in a freeboard ratio greater than or equal to 0.75.

(iv) A vapor up control switch.

(v) An automated parts handling system which moves the parts or parts baskets at a speed of 11 feet (3.4 meters) per minute or less when the parts are entering or exiting the vapor zone. If the parts or parts basket being cleaned occupy more than 50% of the solvent/air interface area, the speed of the parts or parts basket may not exceed 3 feet per minute.

(vi) A device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

(vii) A vapor level control device that shuts off the sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(viii) A permanent, conspicuous label summarizing the operating requirements in paragraph (3).

(2) In addition to the requirements of paragraph (1), the operator of an in-line vapor cleaning machine shall use one of the following devices or strategies:

(i) A freeboard ratio of 1.0 and superheated vapor.

(ii) A freeboard refrigeration device and a freeboard ratio of 1.0.

- (iii) Dwell and a freeboard refrigeration device.
- (iv) Dwell and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time.
- (3) In-line vapor cleaning machines shall be operated in accordance with the following procedures:
  - (i) Waste solvent, still bottoms and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.
  - (ii) Parts shall be oriented so that the solvent drains freely from the parts. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining.
  - (iii) Parts or parts baskets may not be removed from the in-line vapor cleaning machine until dripping has ceased.
  - (iv) Flushing or spraying of parts using a flexible hose or other flushing device shall be performed within the vapor zone of the in-line vapor cleaning machine or within a section of the machine that is not exposed to the ambient air. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.
  - (v) Sponges, fabric, wood, leather, paper products and other absorbent materials may not be cleaned in the in-line vapor cleaning machine.
  - (vi) Spills during solvent transfer and use of the in-line vapor cleaning machine shall be cleaned up immediately.
  - (vii) Work area fans shall be located and positioned so that they do not blow across the in-line vapor cleaning machine.
  - (viii) During startup of the in-line vapor cleaning machine, the primary condenser shall be turned on before the sump heater.
  - (ix) During shutdown of the in-line vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.
  - (x) Spraying operations shall be done in the vapor zone or within a section of the machine that is not exposed to the ambient air.
  - (xi) When solvent is added to or drained from the in-line vapor cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.
- (d) *Airless cleaning machines and airtight cleaning machines.* Except for those subject to the Federal NESHAP for halogenated solvent cleaners under 40 CFR Part 63, this section applies to airless cleaning machines and airtight cleaning machines that use solvent containing greater than 5% VOC by weight for the cleaning of metal parts.

(1) The operator of each machine shall maintain a log of solvent additions and deletions for each machine including the weight of solvent contained in activated carbon or other sorbent material used to control emissions from the cleaning machine.

(2) The operator of each machine shall demonstrate that the emissions from each machine, on a 3-month rolling average, are equal to or less than the allowable limit determined by the use of the following equation:

$$EL = 330 (\text{vol})^{0.6}$$

where:

EL = the 3-month rolling average monthly emission limit (kilograms/month).

vol = the cleaning capacity of machine (cubic meters)

(3) The operator of each machine equipped with a solvent adsorber shall measure and record the concentration of solvent in the exhaust of the carbon adsorber weekly with a colorimetric detector tube designed to measure a concentration of 100 ppm by volume of solvent to air at an accuracy of  $\pm 25$  ppm by volume. This test shall be conducted while the solvent cleaning machine is in the working mode and is venting to the adsorber.

(4) The operator of each machine equipped with a solvent adsorber shall maintain and operate the machine and adsorber system so that emissions from the adsorber exhaust do not exceed 100 ppm by volume measured while the solvent cleaning machine is in the working mode and is venting to the adsorber.

(5) The machine shall be equipped with a permanent, conspicuous label summarizing the operating requirements in paragraph (6).

(6) Airless cleaning machines and airtight cleaning machines shall be operated in accordance with the following procedures:

(i) Waste solvent, still bottoms and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(ii) Parts shall be oriented so that the solvent drains freely from the parts. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining.

(iii) Parts or parts baskets may not be removed from the in-line vapor cleaning machine until dripping has ceased.

(iv) Sponges, fabric, wood, leather, paper products and other absorbent materials may not be cleaned in the airless cleaning machines and airtight cleaning machines.

(v) Spills during solvent transfer and use of the airless cleaning machines and airtight cleaning machines shall be cleaned up immediately.

(vi) Work area fans shall be located and positioned so that they do not blow across the airless cleaning machine and airtight cleaning machine.

(vii) Spraying operations shall be done in the vapor zone or within a section of the machine that is not exposed to the ambient air.

(viii) When solvent is added to or drained from the airless cleaning machine and airtight cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(e) *Alternative provisions for solvent cleaning machines.* This section applies to all solvent cleaning machines used to process metal parts that use solvents containing greater than 5% VOC by weight. As an alternative to complying with subsections (b)—(d), the operator of a solvent cleaning machine may demonstrate compliance with paragraph (1) or (2). The operator shall maintain records sufficient to demonstrate compliance. The records shall include, at a minimum, the quantity of solvent added to and removed from the solvent cleaning machine, the dates of the addition and removal and shall be maintained for at least 2 years.

(1) If the solvent cleaning machine has a solvent/air interface, the owner or operator shall:

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the applicable emission limit presented in Table 1:

**Table 1**

*Emission Limits for  
Solvent Cleaning Machines with a  
Solvent/Air Interface*

<i>Solvent cleaning machine</i>	<i>3-month rolling average monthly emission limit (kg/m<sup>2</sup>/month) lb/ft<sup>2</sup>/month</i>	
Batch vapor solvent cleaning machines	150	30.7
Existing in-line solvent cleaning machines	153	31.3
In-line solvent cleaning machines installed after the effective date of the regulation	99	20.2

(2) If the solvent cleaning machine is a batch vapor cleaning machine and does not have a solvent/air interface, the owner or operator shall:

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the appropriate limits as described in paragraphs (3) and (4).

(3) For solvent cleaning machines without a solvent/air interface with a cleaning capacity that is less than or equal to 2.95 cubic meters, the emission limit shall be determined using Table 2 or the equation in paragraph (4). If the



table is used, and the cleaning capacity of the cleaning machine falls between two cleaning capacity sizes, the lower of the two emission limits applies.

(4) For cleaning machines without a solvent/air interface with a cleaning capacity that is greater than 2.95 cubic meters, the emission limit shall be determined using the following equation.

$$EL = 330 (\text{vol})^{0.6}$$

where:

EL = the 3-month rolling average monthly emission limit (kilograms/month)

vol = the cleaning capacity of machine (cubic meters)

(5) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with this subsection shall demonstrate compliance with the applicable 3-month rolling average monthly emission limit on a monthly basis. If the applicable 3-month rolling average emission limit is not met, an exceedance has occurred. Exceedances shall be reported to the Department within 30 days of the determination of the exceedance.

Table 2. Emission Limits for Solvent Cleaning Machines Without a Solvent/Air Interface

<i>Cleaning capacity (cubic meters)</i>	<i>3-month rolling average monthly emission limit (kilograms/month)</i>	<i>Cleaning capacity (cubic meters)</i>	<i>3-month rolling average monthly emission limit (kilograms/month)</i>	<i>Cleaning capacity (cubic meters)</i>	<i>3-month rolling average monthly emission limit (kilograms/month)</i>
0.00	0	1.00	330	2.00	500
0.05	55	1.05	340	2.05	508
0.10	83	1.10	349	2.10	515
0.15	106	1.15	359	2.15	522
0.20	126	1.20	368	2.20	530
0.25	144	1.25	377	2.25	537
0.30	160	1.30	386	2.30	544
0.35	176	1.35	395	2.35	551
0.40	190	1.40	404	2.40	558
0.45	204	1.45	412	2.45	565
0.50	218	1.50	421	2.50	572
0.55	231	1.55	429	2.55	579
0.60	243	1.60	438	2.60	585
0.65	255	1.65	446	2.65	592

<i>Cleaning capacity (cubic meters)</i>	<i>3-month rolling average monthly emission limit (kilograms/month)</i>	<i>Cleaning capacity (cubic meters)</i>	<i>3-month rolling average monthly emission limit (kilograms/month)</i>	<i>Cleaning capacity (cubic meters)</i>	<i>3-month rolling average monthly emission limit (kilograms/month)</i>
0.70	266	1.70	454	2.70	599
0.75	278	1.75	462	2.75	605
0.80	289	1.80	470	2.80	612
0.85	299	1.85	477	2.85	619
0.90	310	1.90	485	2.90	625
0.95	320	1.95	493	2.95	632

**Authority**

The provisions of this § 129.63 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.63 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended September 26, 1980, effective September 27, 1980, 10 Pa.B. 3788; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended December 21, 2001, effective December 22, 2001, 31 Pa.B. 6921. Immediately preceding text appears at serial pages (199533) to (199536).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.63a. Control of VOC emissions from industrial cleaning solvents.**

(a) *Applicability.* This section applies to the owner and the operator of a facility at which an industrial cleaning solvent is used or applied in a cleaning activity at a cleaning unit operation, a work production-related work area or a part, product, tool, machinery, equipment, vessel, floor or wall.

(b) *Definitions.* The following words and terms, when used in this section, have the following meanings unless the context clearly indicates otherwise:

*Cleaning activity*—The use or application of an industrial cleaning solvent to remove a contaminant, such as an adhesive, ink, paint, dirt, soil, oil or grease, by wiping, flushing, brushing, soaking, dipping, spraying or a similar effort.

*Cleaning unit operation*—

(i) An operation at a facility that is a source of VOC emissions from a cleaning activity.

(ii) The term includes the following cleaning activities:

(A) Spray gun cleaning, including the spray gun, attached paint lines and other spray gun equipment used to apply a coating.

(B) Spray booth cleaning, including the interior surfaces of the booth and the equipment contained within the booth.

(C) Manufactured components cleaning as a step in a manufacturing process, including automobile bodies, furniture, sheet metal, glass windows, engine components, subassemblies, sheet metal panels, molded parts, electrical contacts, steel and copper components, tin-plated or silver-plated terminals, plastic parts, upholstered parts, circuit breaker cases, switch covers, threads and bolts.

(D) Parts cleaning, including applicator tips, brushes, machine parts, pumps, circuit boards, truck parts, engine blocks, gauges, cutoff steel, machined parts, tool dies, motors and assemblies, screws, oil guns, welded parts, bearings and filters.

(E) Equipment cleaning of a piece of production equipment in place to prevent cross-contamination or for maintenance purposes, including punch presses, electrical contacts on equipment, pump parts, packaging equipment, rollers, ink pans, carts, press frames and table tops.

(F) Line cleaning, including a pipe, hose or other line that conveys material like paint or resin, that is cleaned separately from a spray gun, tank or other process equipment.

(G) Floor cleaning in a production area of the facility.

(H) Tank cleaning, including a tank, mixing pot or process vessel and the attached lines.

(iii) The term does not include VOC emissions from the use or application of consumer products subject to Chapter 130, Subchapter B (relating to consumer products), including an institutional product or industrial and institutional product as defined in § 130.202 (relating to definitions) for cleaning offices, bathrooms or other areas that are not part of a cleaning unit operation or work production-related work area.

*Industrial cleaning solvent*—A product formulated with one or more regulated VOCs that is used in a cleaning activity for a cleaning unit operation.

*Regulated VOC*—An organic compound which participates in atmospheric photochemical reactions, that is, an organic compound other than those which the Administrator of the EPA designates in 40 CFR 51.100 (relating to definitions) as having negligible photochemical reactivity.

(c) *Exceptions and exemptions.*

(1) This section does not apply to all of the following:

(i) An owner or operator of a cleaning unit operation subject to § 129.63 (relating to degreasing operations) or 40 CFR Part 63, Subpart T (relating to National emission standards for halogenated solvent cleaning).

(ii) An owner or operator of a cleaning unit operation associated with a following category:

(A) Aerospace manufacturing and rework operations.

(B) Architectural coatings.

(C) Automobile and light-duty truck assembly coatings.

(D) Fabric coating.

(E) Fiberglass boat manufacturing materials.

(F) Flat wood paneling coatings.

(G) Flexible packaging printing materials.

(H) Graphic arts printing and coating operations.

(I) Large appliance coatings.

(J) Letterpress printing materials.

- (K) Lithographic printing materials.
- (L) Magnet wire coating operations.
- (M) Marine vessel coating.
- (N) Metal container, closure and coil coating.
- (O) Metal furniture coatings.
- (P) Miscellaneous metal parts coatings.
- (Q) Miscellaneous industrial adhesives.
- (R) Motor vehicle and mobile equipment coating operations.
- (S) Paper, film and foil coating.
- (T) Plastic parts coatings.
- (U) Polyester resin operations.
- (V) Semiconductor wafer fabrication operations.
- (W) Shipbuilding and repair coatings.
- (X) Wood furniture coatings.
- (Y) Wood products coating.
- (Z) Electrical and electronic components.
- (AA) Precision optics.
- (BB) Numismatic dies.
- (CC) Stripping of cured inks, coatings and adhesives.
- (DD) Cleaning of resin, coating, ink or adhesive mixing, molding and application equipment.
- (EE) Resin, coating, ink and adhesive manufacturing.
- (FF) Performance or quality assurance testing of coatings, inks or adhesives.
- (GG) Flexible and rigid disc manufacturing.
- (HH) Research and development laboratories.
- (II) Medical device manufacturing.
- (JJ) Pharmaceutical manufacturing.
- (KK) Janitorial cleaning.
- (LL) Digital printing.

(2) The VOC emission limitations in subsection (e) do not apply to the use or application of an industrial cleaning solvent by the owner or operator of a cleaning unit operation at a facility subject to subsection (a) under either of the following circumstances:

(i) The use or application of the industrial cleaning solvent is subject to a standard or specification required by the United States Department of Defense, Federal Aviation Administration or other Federal government entity. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(2).

(ii) The use or application of the industrial cleaning solvent is associated with the cleaning of screen printing equipment and the industrial cleaning solvent used or applied has an as applied VOC content that does not exceed 4.2 pounds of VOC per gallon (lb VOC/gal) (500 grams of VOC per

liter (g VOC/l)) of industrial cleaning solvent. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(3).

(3) The VOC emission limitations in subsection (e) and the work practice requirements in subsection (f) do not apply to the owner or operator of a facility subject to subsection (a) if the total combined actual VOC emissions from all subject cleaning unit operations at the facility are less than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls. An owner or operator claiming this exemption shall maintain records in accordance with subsection (h)(4).

(d) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued to the owner or operator of a cleaning unit operation subject to this section prior to August 11, 2018, under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to control, reduce or minimize VOCs from cleaning unit operation cleaning activities at the facility, except to the extent the RACT permit contains more stringent requirements.

(e) *Emissions limitations.* Beginning August 11, 2018, the owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, may not cause or permit the emission into the outdoor atmosphere of VOCs from an industrial cleaning solvent used or applied in a cleaning unit operation subject to this section at the facility, unless one of the following limitations is met:

(1) *Compliant solvents.* The industrial cleaning solvent meets one of the following VOC limits:

(i) A VOC content less than or equal to 0.42 lb VOC/gal (50 g VOC/l) as applied.

(ii) A VOC composite vapor pressure less than or equal to 8 mm mercury at 68°F (20°C) as applied.

(2) *VOC emissions capture system and add-on air pollution control device.* The weight of VOCs emitted to the atmosphere from cleaning unit operation cleaning activities is reduced through the use of vapor recovery or incineration or another method that is acceptable under § 129.51(a) (relating to general). The overall emission reduction of a control system, as determined by the test methods and procedures specified in Chapter 139 (relating to sampling and testing), may be no less than 85% or may be no less than the equivalent efficiency as calculated by the following equation, whichever is less stringent:

$$O = (1 - E/V) \times 100$$

Where:

O = The overall required control efficiency.

E = 0.42 lb VOC/gal or 50 g VOC/l.

V = The VOC content of the industrial cleaning solvent in lb VOC/gal or g VOC/l.

(f) *Work practice requirements for industrial cleaning solvents, used shop towels and waste materials.* The owner or operator of a facility subject to subsection (e) shall comply with all of the following work practices for industrial cleaning solvents and shop towels used in the cleaning unit operation cleaning activity:

- (1) Store all VOC-containing industrial cleaning solvents, used shop towels and related waste materials in closed containers.
- (2) Ensure that mixing and storage containers used for VOC-containing industrial cleaning solvents and related waste materials are kept closed at all times except when depositing or removing these materials.
- (3) Minimize spills of VOC-containing industrial cleaning solvents and related waste materials and clean up spills immediately.
- (4) Convey VOC-containing industrial cleaning solvents and related waste materials from one location to another in closed containers or pipes.
- (5) Minimize VOC emissions from cleaning of storage, mixing and conveying equipment.
- (6) Minimize air circulation around cleaning unit operations.

(g) *Compliance demonstration.* The owner or operator of a cleaning unit operation subject to this section shall demonstrate compliance as follows:

(1) The owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, shall do either of the following:

(i) Ensure that industrial cleaning solvents used or applied in the subject cleaning unit operations at the facility meet the applicable emissions limitation in subsection (e)(1) and maintain records in accordance with subsection (h)(1)(i).

(ii) Use a VOC emissions capture system and an add-on air pollution control device that meets the VOC emission reduction requirement under subsection (e)(2), equip the add-on air pollution control device with the applicable monitoring equipment and maintain records in accordance with subsection (h)(1)(ii). All of the following apply:

(A) The monitoring equipment shall be installed, calibrated, operated and maintained according to manufacturer's specifications at all times when the add-on air pollution control device is operating.

(B) The add-on air pollution control device must be operating when the cleaning activity is occurring.

(2) The owner or operator of a cleaning unit operation subject to this section claiming exemption under:

(i) Subsection (c)(2)(i) shall maintain records in accordance with subsection (h)(2).

(ii) Subsection (c)(2)(ii) shall maintain records in accordance with subsection (h)(3).



(iii) Subsection (c)(3) shall maintain records in accordance with subsection (h)(4).

(3) The owner or operator of a cleaning unit operation subject to this section shall determine the VOC content of the industrial cleaning solvent as applied by conducting sampling and testing of the industrial cleaning solvent in accordance with the procedures and test methods specified in subsections (i) and (j) and Chapter 139.

(4) The owner or operator of a cleaning unit operation subject to paragraph (3) may use other test methods or documentation to demonstrate compliance with this section if approved in advance in writing by the Department and the EPA.

(h) *Recordkeeping and reporting requirements.* The owner or operator of a cleaning unit operation subject to this section shall comply with all of the following applicable recordkeeping and reporting requirements:

(1) The owner or operator of a facility at which the total combined actual VOC emissions from all subject cleaning unit operations at the facility are equal to or greater than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls, shall maintain all of the applicable records:

(i) For an owner or operator that complies with this section by using a complying industrial cleaning solvent under subsection (e)(1), records of all of the following parameters for each cleaning unit operation industrial cleaning solvent:

(A) The name and identification number.

(B) The weight percent of total volatiles, water and exempt solvents, as supplied.

(C) The VOC content or composite vapor pressure, as supplied. The composite vapor pressure as supplied shall be determined in accordance with subsections (i) and (j).

(D) The VOC content or composite vapor pressure, as applied. The composite vapor pressure as applied shall be determined in accordance with subsections (i) and (j).

(E) The volume used or applied on a monthly basis.

(ii) For an owner or operator that complies with this section through the use of a VOC emissions capture system and an add-on air pollution control device under subsection (e)(2), records sufficient to demonstrate all of the following:

(A) Sampling and testing conducted in accordance with Chapter 139 as required under subsection (e)(2).

(B) Calibration, operation and maintenance of the monitoring equipment installed under subsection (g)(1)(ii) in accordance with manufacturer's specifications.

(2) The owner or operator of a cleaning unit operation claiming exemption under subsection (c)(2)(i) shall maintain records of all of the following information for the exempt industrial cleaning solvent:

- (i) A copy of the applicable standard or specification.
- (ii) The VOC content or composite vapor pressure, as applied. The composite vapor pressure as applied shall be determined in accordance with subsections (i) and (j).
- (iii) The volume used or applied monthly.

(3) The owner or operator of a screen printing equipment cleaning unit operation claiming exemption under subsection (c)(2)(ii) shall maintain records of all of the following information for the screen printing equipment industrial cleaning solvent:

- (i) The name and identification number.
- (ii) The VOC content or composite vapor pressure, as applied. The composite vapor pressure as applied shall be determined in accordance with subsections (i) and (j).
- (iii) The volume used or applied monthly.

(4) The owner or operator of a facility claiming exemption under subsection (c)(3) shall maintain monthly records of the industrial cleaning solvents used or applied at the subject cleaning unit operations sufficient to demonstrate that the total combined actual VOC emissions from all subject cleaning unit operations at the facility are less than 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of controls.

(5) Records shall be maintained onsite for 2 years, unless a longer period is required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) or a plan approval, operating permit, consent decree or order issued by the Department.

(6) Records shall be submitted to the Department in an acceptable format upon receipt of a written request from the Department.

(i) *Composite vapor pressure.* The composite vapor pressure of organic compounds in cleaning unit operation industrial cleaning solvents shall be determined by one or more of the following procedures:

(1) Quantifying the amount of each compound in the blend using gas chromatographic analysis, using one or more of the following methods:

- (i) An appropriate and current ASTM test method with prior written approval from the Department and the EPA.
- (ii) Another test method demonstrated to provide results that are acceptable for purposes of determining compliance with this section if prior approval is obtained in writing from the Department and the EPA.

- (2) Calculating the composite vapor pressure using the following equation:

$$Pp_c = \frac{\sum_{i=1}^n (W_i) (VP_i) / Mw_i}{\frac{W_w}{Mw_w} + \sum_{e=1}^k W_e / Mw_e + \sum_{i=1}^n W_i / Mw_i}$$

Where:

$Pp_c$  = VOC composite partial pressure at 20°C, in mm mercury.

$W_i$  = Weight of the “i”th VOC compound, in grams, as determined by ASTM E260.

$W_w$  = Weight of water, in grams, as determined by ASTM D3792.

$W_e$  = Weight of the “e”th exempt compound, in grams, as determined by ASTM E260.

$Mw_i$  = Molecular weight of the “i”th VOC compound, in grams per g-mole, as given in chemical reference literature.

$Mw_w$  = Molecular weight of water, 18 grams per g-mole.

$Mw_e$  = Molecular weight of the “e”th exempt compound, in grams per g-mole, as given in chemical reference literature.

$VP_i$  = Vapor pressure of the “i”th VOC compound at 20°C, in mm mercury, as determined by subsection (j).

- (3) Providing documentation from the manufacturer of the industrial cleaning solvent that indicates the composite vapor pressure. The documentation may include an MSDS, CPDS or other data certified by the manufacturer.

(j) *Vapor pressure of single component compound.* The vapor pressure of each single component compound in a cleaning unit operation industrial cleaning solvent shall be determined from one or more of the following:

- (1) An appropriate and current ASTM test method with prior written approval from the Department and the EPA.
- (2) The most recent edition of one or more of the following sources:
  - (i) *Vapour Pressures of Pure Substances*, Boublik, Elsevier Scientific Publishing Company.
  - (ii) *Perry's Chemical Engineers' Handbook*, Green and Perry, McGraw-Hill Book Company.
  - (iii) *CRC Handbook of Chemistry and Physics*, CRC Press.
  - (iv) *Lange's Handbook of Chemistry*, McGraw-Hill Book Company.

(3) Documentation provided by the manufacturer of the single component compound that indicates the vapor pressure of the single component compound. The documentation may include an MSDS, CPDS or other data certified by the manufacturer.

(k) *ASTM method references.* References to ASTM methods in this section pertain to test methods developed by ASTM International, 100 Barr Harbor Drive, Post Office Box C700, West Conshohocken, Pennsylvania 19428-2959, [www.astm.org](http://www.astm.org).

#### Authority

The provisions of this § 129.63a issued under sections 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.63a adopted August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814.

#### Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.63b. Control of VOC emissions from large petroleum dry cleaning facilities.

(a) *Applicability.* This section applies Statewide to the owner and operator of a petroleum solvent washer, dryer, solvent filter, settling tank, vacuum still and other containers and conveyors of petroleum solvent that are used in petroleum dry cleaning facilities that consume 123,000 liters (32,493 gallons) or more of petroleum solvent annually.

(b) *Definitions.* The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:

*Cartridge filter*—A perforated canister containing filtration paper or activated carbon, or both, that is used in a pressurized system to remove solid particles and fugitive dyes from soil-laden solvent.

*Consume*—The amount of petroleum solvent purchased less the amount of petroleum solvent sent for disposal or returned for recycling during a calendar year.

*Containers and conveyors of solvent*—Piping, ductwork, pumps, storage tanks and other ancillary equipment that are associated with the installation and operation of petroleum dry cleaning washers, dryers, filters, stills and settling tanks.

*Dry cleaning*—A process for the cleaning of textiles and fabric products in which articles are washed in a nonaqueous solution (solvent) and then dried by exposure to a heated air stream.

*Perceptible leak*—A petroleum solvent vapor or liquid leak that is conspicuous from visual observation. The term includes the following:

- (i) A pool or droplet of petroleum solvent liquid.
- (ii) A bucket or barrel of petroleum solvent or petroleum solvent-laden waste standing open to the atmosphere.

*Petroleum solvent*—A group of organic materials produced by petroleum distillation comprising a hydrocarbon range of 8 to 12 carbon atoms per organic molecule that exists as a liquid under standard conditions.

*Petroleum solvent recovery dryer*—A class of dry-cleaning dryers that employs a condenser to liquify and recover petroleum solvent vapors evaporated in a closed-loop, recirculating stream of heated air.

(c) *Emission limitations.*

(1) The owner and operator of a petroleum dry cleaning dryer shall do one of the following:

(i) Limit VOC emissions to the atmosphere to an average of 3.5 kilograms (kg) of VOC per 100 kg dry weight of articles dry cleaned.

(ii) Install and operate a petroleum solvent recovery dryer in a manner that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of 50 milliliters per minute is attained.

(2) The owner or operator of a petroleum solvent filtration system shall do one of the following:

(i) Reduce the VOC content in filtration wastes to 1.0 kg or less per 100 kg dry weight of articles dry cleaned, before disposal and exposure to the atmosphere.

(ii) Install and operate a cartridge filtration system and drain the filter cartridges in their sealed housings for 8 hours or more before their removal.

(3) The owner or operator of a petroleum dry cleaning dryer or petroleum solvent filtration system shall repair a petroleum solvent vapor or liquid leak within 3 working days after identifying the source of the leak.

(i) If the necessary repair part is not on hand to perform the repair, the owner or operator shall order the part within 3 working days following identification of the source of the leak.

(ii) The owner or operator shall repair the identified leak no later than 3 working days following the arrival of the necessary repair part ordered under subparagraph (i).

(d) *Compliance monitoring and testing requirements.* The owner or operator of a petroleum dry cleaning operation subject to this section shall demonstrate compliance as follows.

(1) To determine compliance with subsection (c)(1)(i), the owner or operator shall do the following:

(i) Calculate the weight of VOC vented from the dryer emission control device using EPA Reference Test Methods 1, 2 and 25A, with the following specifications:

(A) Field calibration of the flame ionization analyzer with propane standards.

(B) Laboratory determination of the ratio of the flame ionization analyzer response to a given parts per million by volume concentration of propane to the response to the same parts per million concentration of the VOC to be measured.

(C) Determination of the weight of VOC emissions vented to the atmosphere by performing the following:

- (I) Multiplying the ratio determined in clause (B) by the measured concentration of VOC gas (as propane) as indicated by the flame ionization analyzer response output record.
- (II) Converting the parts per million by volume value calculated in subclause (I) into a mass concentration value for the VOCs present.
- (III) Multiplying the mass concentration value calculated in subclause (II) by the exhaust flow rate determined by using EPA Reference Test Methods 1 and 2.
- (ii) Calculate the dry weight of articles dry cleaned.
- (iii) Repeat subparagraphs (i) and (ii) for normal operating conditions that encompass at least 30 dryer loads which meet the following:
  - (A) Total not less than 1,800 kg dry weight.
  - (B) Represent a normal range of variations in fabrics, solvents, load weights, temperatures, flow rates and process deviations.
- (2) To determine compliance with subsection (c)(1)(ii), the owner or operator shall verify that the flow rate of recovered solvent from the solvent recovery dryer at the termination of the recovery phase is no greater than 50 milliliters per minute by performing the following steps:
  - (i) Conducting a one-time procedure for a duration of no less than 2 weeks that:
    - (A) Monitors at least 50% of the dryer loads for their final recovered solvent flow rate.
    - (B) Measures the flow rate of recovered solvent from the solvent-water separator.
      - (I) Near the end of the recovery cycle, the flow of recovered solvent should be diverted to a graduated cylinder.
      - (II) Continue the cycle until the flow rate of the solvent is 50 milliliters per minute.
  - (ii) Recording the type of articles cleaned and the total length of the cycle measured in subparagraph (i).
- (3) To determine compliance with subsection (c)(2)(i) and (ii), the owner or operator shall do the following:
  - (i) Calculate the weight of VOCs contained in each of five 1-kg samples of filtration waste material taken at intervals of 1 week, using ASTM Method D322-97 (Standard Test Method for Gasoline Diluent in Used Gasoline Engine Oils by Distillation).
  - (ii) Calculate the total dry weight of articles dry cleaned during the intervals between removal of filtration waste samples, as well as the total mass of filtration waste produced in the same period.
  - (iii) Calculate the weight of VOCs contained in filtration waste material per 100 kg dry weight of articles dry cleaned.
- (4) To determine compliance with subsection (c)(3), the owner or operator shall perform weekly inspections of washers, dryers, solvent filters, settling tanks, vacuum stills and all containers and conveyors of petroleum solvent to identify a perceptible petroleum solvent vapor or liquid leak.
- (e) *Recordkeeping and reporting requirements.* The owner or operator of a petroleum dry cleaning facility subject to this section shall maintain records sufficient to demonstrate compliance with this section, including:

- (1) Records of the weight of VOC emissions vented from the dryer emission control device, calculated according to subsection (d)(1).
- (2) Records of the dry weight of articles dry cleaned for use in the calculations in subsection (d)(1)—(3).
- (3) Records of the weight of VOCs contained in the filtration waste samples required in subsection (d)(1)(i).
- (4) Records of the weight of VOCs contained in the filtration waste material for each 220 lb (100 kg) dry weight of articles dry cleaned.
- (f) *Exemption.* The owner or operator of a petroleum dry cleaning facility subject to subsection (a) claiming exemption from the requirements of subsections (c)—(e) shall maintain records of annual solvent consumption onsite for 5 years to demonstrate that the applicability threshold of subsection (a) has not been exceeded.

#### Authority

The provisions of this § 129.63b added under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.63b added January 20, 2023, effective January 21, 2023, 53 Pa.B. 465.

### § 129.64. Cutback asphalt paving.

- (a) After April 30, 1982, no person may permit the use or application of cutback asphalt for paving operations except when any of the following applies:
  - (1) Long-life stockpile is necessary.
  - (2) The use or application between October 31 and April 30, is necessary.
  - (3) The cutback asphalt is used solely as a tack coat, a penetrating prime coat, a dust palliative or precoating of aggregate.
  - (4) Skin patching is necessary during October. Skin patching shall be less than 500 feet continuous length, 1300 linear feet per mile or 1750 square yards per lane mile.
- (b) After April 30, 1982, emulsion asphalts may not contain more than the maximum percentage of solvent as shown in Table 2.

Table 2		% Solvent, Max.
Emulsion Grade	Type	
E-1	Rapid Setting	0
E-2	Rapid Setting (Anionic)	0
E-3	Rapid Setting (Cationic)	3
E-4	Medium Setting	12
E-5	Medium Setting	12
E-6	Slow Setting (Soft Residue)	0
E-8	Slow Setting (Hard Residue)	0
E-10	Medium Setting (High Float)	7
E-11	High Float	7
E-12	Medium Setting (Cationic)	8





**Authority**

The provisions of this § 129.64 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.64 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended August 12, 1983, effective August 13, 1983, 13 Pa.B. 2478; corrected September 9, 1983, effective August 13, 1983. Immediately preceding text appears at serial pages (62519) to (62520).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.65. Ethylene production plants.**

No person may permit the emission into the outdoor atmosphere of a waste gas stream from an ethylene production plant or facility unless the gas stream is properly burned at no less than 1,300°F for at least .3 seconds; except that no person may permit the emission of volatile organic compounds in gaseous form into the outdoor atmosphere from a vapor blowdown system unless these gases are burned by smokeless flares.

**Source**

The provisions of this § 129.65 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534.

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.66. Compliance schedules and final compliance dates.**

The owner or operator of a source newly subject to the requirements of §§ 129.52—129.52c, §§ 129.59—129.61 or §§ 129.67—129.69 as a result of revised applicability requirements of this title relating to the control of VOC shall achieve compliance with the applicable emission limitations within 1 year of the date of publication of the notice of final adoption of this requirement in the *Pennsylvania Bulletin*. Newly subject sources or facilities are those which were not subject to the emission limitations because they emitted less than the cutoff levels or operated at de minimis production levels prior to the date of publication of the limitation in the *Pennsylvania Bulletin*, but are now subject to the standard because they meet or exceed the cutoff levels contained in § 129.52(a), § 129.52a(a), § 129.52b(a), § 129.52c(a) or § 129.69. The date of adoption of the applicable emission standard for these previously unregulated sources will be

determined to be the date that the applicable cutoff levels contained in § 129.52, § 129.52a, § 129.52b, § 129.52c or § 129.69 are published in the *Pennsylvania Bulletin*.

#### Authority

The provisions of this § 129.66 issued under section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); and section 5 of the Air Pollution Control Act (35 P.S. § 4005).

#### Source

The provisions of this § 129.66 adopted April 27, 1979, effective August 1, 1979, 9 Pa.B. 1447; corrected May 11, 1979, effective August 1, 1979, 9 Pa.B. 1534; amended September 26, 1980, effective September 27, 1980, 10 Pa.B. 3788; amended June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended January 8, 1982, effective January 9, 1982, 12 Pa.B. 130; amended August 12, 1983, effective August 13, 1983, 13 Pa.B. 2478; amended May 6, 1988, effective May 7, 1988, 18 Pa.B. 2098; amended August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406; amended May 22, 1992, effective May 23, 1992, 22 Pa. B. 2720; amended December 17, 2010, effective December 18, 2010, 40 Pa.B. 7224. Immediately preceding text appears at serial pages (248201) to (248202).

#### Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.67. Graphic arts systems.

(a) This section applies as follows:

(1) This section applies to the owner and operator of a facility whose rotogravure and flexographic printing presses by themselves or in combination with a surface coating operation subject to § 129.52, § 129.52a, § 129.52b, § 129.52c or § 129.52d or in combination with a flexible packaging printing press subject to § 129.67a (relating to control of VOC emissions from flexible packaging printing presses) have the potential to emit or have emitted VOCs into the outdoor atmosphere in quantities greater than 1,000 pounds (460 kilograms) per day or 100 tons (90,900 kilograms) per year during any calendar year since January 1, 1987.

(2) This section applies to the owner and operator of a flexographic or rotogravure printing press that prints flexible packaging materials subject to § 129.67a(a)(1)(ii) if the owner or operator was required to install a control device under this section prior to June 28, 2014.

(3) This section does not apply to the owner or operator of a flexible packaging printing press subject to § 129.67a(a)(1)(i).

(b) A person may not permit the emission into the outdoor atmosphere of VOCs from a rotogravure or flexographic printing press subject to this section unless one of the following limitations is met:

(1) The volatile fraction of the ink, as applied to the substrate, contains 25% or less by volume of VOC and 75% or more by volume of water.

- (2) The ink, as applied to the substrate, less water, contains 60% by volume or more of solid material.
- (3) The owner or operator installs and operates a carbon adsorption system, an incineration system or an alternative VOC emission reduction system which recovers or destroys at least 90% of the VOCs entering the system. The overall level of emission recovery or destruction may not be less than that necessary to comply with subsection (c).
- (c) A capture system shall be used in conjunction with the emission control systems in subsection (b)(3). The design and operation of the capture and control system shall be consistent with good engineering practice and shall be designed to provide for a contemporaneous, overall reduction in VOC emission from each ink/press of at least the following:
  - (1) Seventy-five percent where a publication rotogravure process is employed.
  - (2) Sixty-five percent where another rotogravure process is employed.
  - (3) Sixty percent where a flexographic printing process is employed.
- (d) Presses used only to check the quality of the image formation of newly etched or engraved printing cylinders are exempted from this section if the aggregate emissions from the presses do not exceed 400 pounds in a 30-day running period.
- (e) To determine applicability under this section, emissions of VOCs used in clean-up operations shall be summed with emissions from surface coating and printing.

#### Authority

The provisions of this § 129.67 issued under the Air Pollution Control Act (35 P.S. §§ 4001—4015); amended under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.67 adopted June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406; amended May 22, 1992, effective May 23, 1992, 22 Pa. B. 2720; amended September 4, 1998, effective September 5, 1998, 28 Pa.B. 4525; amended June 27, 2014, effective June 28, 2014, 44 Pa.B. 3929; amended October 21, 2016, effective October 22, 2016, 46 Pa.B. 6758. Immediately preceding text appears at serial pages (380434) to (380435).

#### Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.52 (relating to surface coating processes); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

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**§ 129.67a. Control of VOC emissions from flexible packaging printing presses.**

(a) *Applicability.*

(1) Except as specified in paragraph (3) or (4), this section applies to the owner and operator of a flexible packaging printing press if one or more of the following apply:

(i) *Potential VOC emissions.* An individual flexible packaging printing press has potential emissions from the dryer, before consideration of add-on controls, of at least 25 tpy of VOCs from inks, coatings and adhesives combined. This section supersedes § 129.67 (relating to graphic arts systems).

(ii) *Actual VOC emissions at or above threshold.* The total actual VOC emissions from all inks, coatings and adhesives combined from all flexible packaging printing presses and all VOC emissions from related cleaning activities at the facility are equal to or greater than 450 pounds (204.1 kilograms) per month or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of add-on controls.

(iii) *Actual VOC emissions below threshold.* The total actual VOC emissions from all inks, coatings and adhesives combined from all flexible packaging printing presses and all VOC emissions from related cleaning activities at the facility are less than 450 pounds (204.1 kilograms) per month or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of add-on controls.

(2) The owner or operator of a flexographic or rotogravure printing press subject to paragraph (1)(ii) and § 129.67, who was required to install a control device under § 129.67 prior to June 28, 2014, shall continue the operation of that control device and also meet the requirements of this section.

(3) VOCs from adhesives used at a facility that are not used or applied on or with a flexible packaging printing press are not subject to this section and may be regulated under § 129.52b, § 129.77 or Chapter 130, Subchapter D (relating to control of VOC emissions from paper, film and foil surface coating processes; control of emissions from the use or application of adhesives, sealants, primers and solvents; and adhesives, sealants, primers and solvents).

(4) Surface coating of flexible packaging substrates that is not done with a flexible packaging printing press is regulated under § 129.52b.

(b) *Existing RACT permit.* This section supersedes the requirements of a RACT permit issued to the owner or operator of a source subject to this section prior to January 1, 2015, under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to control, reduce or minimize VOCs from a flexible packaging printing press, except to the extent the RACT permit contains more stringent requirements.

(c) *Emission limits.* Beginning January 1, 2015, a person subject to subsection (a)(1)(i) may not cause or permit the emission into the outdoor atmosphere of VOCs from a flexible packaging printing press unless one or more of the following limitations is met:

(1) *Individual ink, coating or adhesive.* The VOC content of each as applied ink, coating or adhesive used on a single flexible packaging printing press meets the following requirements:

(i) The VOC content is equal to or less than one or both of the following limits:

(A) 0.16 lb VOC per lb material as applied.

(B) 0.8 lb VOC per lb material solids as applied.

(ii) The VOC content is calculated as follows for VOC content expressed in units of weight of VOC per weight of material solids:

$$VOC_B = (W_o)/(W_n)$$

Where:

$VOC_B$  = VOC content in lb VOC/lb of solids as applied or kg VOC/kg of solids as applied

$W_o$  = Weight percent of VOC ( $W_v - W_w - W_{ex}$ )

$W_v$  = Weight percent of total volatiles (100%-weight percent solids)

$W_w$  = Weight percent of water

$W_{ex}$  = Weight percent of exempt solvents

$W_n$  = Weight percent of solids of the as applied ink, coating or adhesive

(iii) Sampling of the ink, coating or adhesive and testing for the VOC content of the ink, coating or adhesive is performed in accordance with subsection (f).

(2) *Weighted average.* The daily weighted-average VOC content of all inks, coatings and adhesives combined used on a single flexible packaging printing press meets one or both of the VOC content limits in paragraph (1)(i). The use of averaging to meet the VOC content limits may not be used across multiple printing presses. Averaging is available on a single flexible packaging printing press if the following requirements are met:

(i) The daily weighted average is calculated using the following equation:

$$VOC_w = \frac{\sum_{i=1}^n C_i V_i}{V_t}$$

Where:

VOC<sub>w</sub>=The daily weighted average VOC content, as applied, of all inks, coatings and adhesives combined used on a single flexible packaging printing press, in lb VOC/gal of coating solids

n=The number of different inks, coatings and adhesives used each day on the single flexible packaging printing press

V<sub>i</sub>=The volume of solids for each ink, coating and adhesive, as applied, used each day on the single flexible packaging printing press, in gallons

C<sub>i</sub>=The VOC content of each ink, coating and adhesive, as applied, used each day on the single flexible packaging printing press, in lb VOC/gal coating solids

V<sub>t</sub>=The total volume of solids for all inks, coatings and adhesives combined, as applied, used each day on the single flexible packaging printing press, in gallons

(ii) Sampling of the inks, coatings and adhesives and testing for the VOC content of the inks, coatings and adhesives is performed in accordance with subsection (f).

(3) *Add-on air pollution control device.* The overall weight of VOCs emitted to the atmosphere from all inks, coatings and adhesives combined used on a single flexible packaging printing press is reduced through the use of vapor recovery or oxidation or another method that is acceptable under § 129.51(a) (relating to general). The overall control efficiency of a control system, as determined by the test methods and procedures specified in subsection (f), may not be less than that listed in Table 1.

**Table 1**

*Overall Control Efficiency Requirement of a Control System on a Single Flexible Packaging Printing Press with Potential Emissions  $\geq 25$  tpy of VOC Before Control*

Control System Overall Control Efficiency Requirement	Printing Press First Installation Date <sup>1</sup>		Air Pollution Control Device First Installation Date <sup>1</sup>	
	Prior to	On or after	Prior to	On or after
	March 14, 1995*	March 14, 1995*	January 1, 2015**	January 1, 2015**
$\geq 65\%$	X		X	
$\geq 70\%$	X			X
$\geq 75\%$		X	X	
$\geq 80\%$		X		X

<sup>1</sup> First installation date is the first date of operation for a source or a control device. This date does not change if the source or control device is moved to a new location or if the control device is later used to control a new source.

\* March 14, 1995, is the date of the proposed 1996 NESHAP for the printing and publishing industry.

\*\* January 1, 2015, is the compliance date of the flexible packaging printing press regulation.

(4) *Restriction on potential VOC emissions.* The Department has issued a plan approval, operating permit or Title V permit to the owner or operator prior to January 1, 2015, establishing a Federally-enforceable limitation to limit the potential emissions of VOC from the flexible packaging printing press below 25 tpy before consideration of add-on controls.

(d) *Compliance and monitoring requirements for an add-on air pollution control device.* The owner or operator of a flexible packaging printing press subject to subsection (a)(1)(i) using an add-on air pollution control device in accordance with subsection (c)(3) shall comply with the following requirements:

(1) The add-on air pollution control device shall be equipped with the applicable monitoring equipment and the monitoring equipment shall be installed, calibrated, operated and maintained according to manufacturer's specifications at all times the add-on air pollution control device is in use. If the add-on air pollution control device is a:

(i) Noncatalytic thermal oxidizer, the minimum combustion or operating temperature must be continuously monitored. The temperature reading shall be recorded in accordance with subsection (e)(1) at least once every 15 minutes while the noncatalytic thermal oxidizer is operating.

(ii) Catalytic thermal oxidizer:

(A) The inlet gas temperature must be continuously monitored. The temperature reading shall be recorded in accordance with subsection (e)(1) at least once every 15 minutes while the catalytic thermal oxidizer is operating.

(B) A catalyst activity test shall be performed a minimum of one time per rolling 2-year period.

(iii) Control device other than that specified in subparagraph (i) or (ii), parameters specific to the control device must be continuously monitored. The parameters shall be recorded in accordance with subsection (e)(1) at least once every 15 minutes while the control device is operating.

(2) The add-on air pollution control device specified in paragraph (1) shall be operated at a 3-hour average temperature not lower than 50°F below the average temperature demonstrated during the most recent compliant source test approved by the Department.

(3) The add-on air pollution control device specified in paragraph (1) shall be in operation at all times that the source is operating.

(4) The add-on air pollution control device shall be approved, in writing, by the Department in a plan approval, operating permit or Title V permit prior to use.

(e) *Recordkeeping and reporting requirements.* Beginning January 1, 2015, the owner or operator of a flexible packaging printing press subject to this section shall maintain records sufficient to demonstrate compliance with the requirements of this section. Records maintained for compliance demonstrations may include purchase, use, production and other records.



(1) An owner or operator subject to subsection (a)(1)(i) using an add-on air pollution control device shall maintain records sufficient to demonstrate compliance with subsection (d), including records of the following information:

- (i) Temperature reading of the add-on air pollution control device.
- (ii) Maintenance performed on the add-on air pollution control device and monitoring equipment, including the date and type of maintenance.
- (iii) Catalyst activity test performed, if applicable.

(2) An owner or operator subject to subsection (a)(1)(i) not using an add-on air pollution control device shall maintain records of the as applied VOC content of inks, coatings and adhesives sufficient to demonstrate compliance with the limitations under subsection (c)(1) or (2).

(3) An owner or operator claiming exemption from a VOC control provision of this section based on potential or actual VOC emissions, as applicable, shall maintain records that demonstrate to the Department that the press or facility is exempt.

(4) The owner or operator may group materials into classes using the highest VOC content in any material in a class to represent that class of material.

(5) The records required under paragraphs (1)—(4) shall be maintained for 2 years, unless a longer period is required by a plan approval or operating permit issued under Chapter 127 (relating to construction, modification, reactivation and operation of sources). The records shall be submitted to the Department in an acceptable format upon receipt of a written request.

(6) The owner or operator of a flexible packaging printing press subject to subsection (a)(1)(i) that is required to demonstrate overall control efficiency in accordance with subsections (c)(3) and (d) shall submit reports to the Department in accordance with Chapter 139 (relating to sampling and testing).

(f) *Sampling and testing.*

(1) Sampling and testing shall be performed as follows:

(i) Sampling of an ink or coating and testing for the VOC content of the ink or coating shall be performed in accordance with the procedures and test methods specified in Chapter 139.

(ii) Sampling and testing of an add-on air pollution control device shall be performed in accordance with the procedures and test methods specified in Chapter 139 and meet one of the following:

(A) Sampling and testing shall be performed no later than 180 days after the compliance date of the press.

(B) Sampling and testing shall have been performed within 5 years prior to January 1, 2015, and previously approved by the Department. Capture efficiency retesting may be waived for capture systems that are not permanent total enclosures if the operating parameters indicate that a fundamental change has not taken place in the operation or design of the equipment, unless retesting is required under Subpart C, Article III (relating to air resources) or a plan approval, operating permit or an order issued



by the Department. For purposes of this clause, fundamental changes include adding printing stations to a press, increasing or decreasing the volumetric flow rate from the dryer or changing the static duct pressure.

(2) The overall control efficiency of the add-on air pollution control device shall be determined by the following test methods and procedures subject to prior written approval by the Department.

(i) The capture efficiency shall be determined in accordance with either of the following methods:

(A) 40 CFR Part 51, Appendix M, Methods 204—204F, including updates and revisions.

(B) 40 CFR Part 63, Subpart KK, Appendix A (relating to data quality objective and lower confidence limit approaches for alternative capture efficiency protocols and test methods).

(ii) The control efficiency shall be determined using one or more of the following methods, as applicable. The method used to measure the inlet concentration of VOC may be the same method used to determine the outlet concentration of VOC unless use of the same method is determined to be technically infeasible.

(A) EPA Reference Method 25, *Determination of Total Gaseous Non-methane Organic Emissions as Carbon*, codified in 40 CFR Part 60, Appendix A, including updates and revisions. EPA Reference Method 25 may be used if the total gaseous nonmethane organic compound concentration is equal to or greater than 50 parts per million by volume, measured as carbon.

(B) EPA Reference Method 25A, *Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer*, codified in 40 CFR Part 60, Appendix A, including updates and revisions. EPA Reference Method 25A may not be used if the total gaseous nonmethane organic compound concentration at the outlet of the add-on air pollution control device is equal to or greater than 50 parts per million by volume, measured as carbon.

(C) EPA Reference Method 18, *Measurement of Gaseous Organic Compound Emissions by Gas Chromatography*, codified in 40 CFR Part 60, Appendix A, including updates and revisions. EPA Reference Method 18 may be used if the total gaseous nonmethane organic compound concentration is equal to or greater than 50 parts per million by volume, measured as carbon. EPA Reference Method 18 may be used in conjunction with EPA Reference Method 25A to subtract emissions of exempt VOCs.

(3) Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with this section may be used if prior approval is obtained in writing from the Department and the EPA.

(g) *Work practice requirements for cleaning activities.*

(1) Except as specified in paragraph (3), beginning January 1, 2015, the owner or operator of a flexible packaging printing press subject to subsection (a)(1)(i), (1)(ii) or (2) shall comply with the following work practices for cleaning activities at the facility:

(i) Store all VOC-containing cleaning solutions, waste cleaning solutions and used shop towels in closed containers.

(ii) Ensure that mixing vessels and storage containers used for VOC-containing cleaning solutions, waste cleaning solutions and used shop towels are kept closed at all times, except when depositing or removing these solutions or shop towels.

(iii) Minimize spills of VOC-containing cleaning solutions and waste cleaning solutions and clean up spills immediately.

(iv) Convey VOC-containing cleaning solutions, waste cleaning solutions and used shop towels from one location to another in closed containers or pipes.

(2) The requirements in paragraph (1) apply to the following activities:

(i) Cleaning of ink, coating or adhesive from a press.

(ii) Cleaning of ink, coating or adhesive from press parts, including press parts that have been removed from the press for cleaning.

(iii) Cleaning of ink, coating or adhesive from areas around a press.

(3) The requirements in paragraph (1) do not apply to the following activities:

(i) Cleaning electronic components of a press.

(ii) Cleaning in pre-press (for example, platemaking) operations.

(iii) Cleaning in post-press (for example, binding) operations.

(iv) Using janitorial supplies (for example, detergents or floor cleaners) for general cleaning around a press.

(v) The use of parts washers or cold cleaners at a flexible packaging printing facility. The use of parts washers and cold cleaners is regulated under § 129.63 (relating to degreasing operations).

**Authority**

The provisions of this § 129.67a issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

**Source**

The provisions of this § 129.67a adopted June 27, 2014, effective June 28, 2014, 44 Pa.B. 3929.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.67 (relating to graphic arts systems); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.67b. Control of VOC emissions from offset lithographic printing presses and letterpress printing presses.**

(a) *Applicability.*

(1) Except as specified in paragraph (3), this section applies to the owner and operator of an offset lithographic printing press or a letterpress printing press, or both, if the press meets one or a combination of the following:

(i) *Add-on air pollution control device.* A single heatset web offset lithographic printing press or heatset web letterpress printing press that has potential emissions from the dryer, before consideration of add-on controls, of at least 25 tpy of VOCs from all heatset inks (including varnishes), coatings and adhesives combined.

(ii) *Letterpress printing.* One or more letterpress printing presses if the total actual VOC emissions from all inks (including varnishes), coatings and adhesives combined from all letterpress printing presses and all VOC emissions from related cleaning activities at the facility are equal to or greater than 450 pounds (204.1 kilograms) per month or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of add-on controls.

(iii) *Offset lithographic printing.* One or more offset lithographic printing presses if the total actual VOC emissions from all inks (including varnishes), coatings, adhesives and fountain solutions combined from all offset lithographic printing presses and all VOC emissions from related cleaning activities at the facility are equal to or greater than 450 pounds (204.1 kilograms) per month or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of add-on controls.

(iv) *Offset lithographic printing and letterpress printing.* One or more offset lithographic printing presses and one or more letterpress printing presses if the total actual VOC emissions from all inks (including varnishes), coatings, adhesives and fountain solutions combined and all VOC emissions from related cleaning activities at the facility are equal to or greater than 450 pounds (204.1 kilograms) per month or 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of add-on controls.

(v) *Emissions below 450 pounds per month and 2.7 tons per 12-month rolling period.* The total actual VOC emissions from all inks (including varnishes), coatings, adhesives and fountain solutions combined from all offset lithographic printing presses, all letterpress printing presses and all VOC emissions from related cleaning activities at the facility are less than 450 pounds (204.1 kilograms) per month and 2.7 tons (2,455 kilograms) per 12-month rolling period, before consideration of add-on controls.

(2) The owner or operator of an offset lithographic printing press subject to paragraph (1) may use the VOC emission retention factors and capture efficiency factors specified in subsection (1) to determine the amount of potential or actual VOC emissions that is available for capture and control from the inks

(including varnishes), fountain solutions and cleaning solutions used on the offset lithographic printing press.

(3) VOCs from adhesives used at a facility that are not used or applied on or with an offset lithographic printing press or a letterpress printing press are not subject to this section and may be regulated under § 129.77 or Chapter 130, Subchapter D (relating to control of emissions from the use or application of adhesives, sealants, primers and solvents; and adhesives, sealants, primers and solvents).

(b) *Existing RACT permit.* This section supersedes the requirements of a RACT permit issued to the owner or operator of a source subject to subsection (a) prior to January 1, 2015, under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to control, reduce or minimize VOCs from an offset lithographic printing press or a letterpress printing press, or both, except to the extent the RACT permit contains more stringent requirements.

(c) *Emission limits for cleaning solutions and fountain solutions used in or on printing presses subject to this section.*

(1) *Cleaning solutions.* Beginning January 1, 2015, a person subject to subsection (a)(1)(i), (ii), (iii) or (iv) may not cause or permit the emission into the outdoor atmosphere of VOCs from cleaning solutions used in or on an offset lithographic printing press or a letterpress printing press unless the following conditions are met:

(i) The cleaning solutions used must meet one or both of the following VOC limits:

(A) A VOC composite partial vapor pressure less than 10 millimeters of mercury at 68°F (20°C).

(B) A VOC content less than 70% by weight.

(ii) The use of one or more cleaning solutions with a higher VOC composite partial vapor pressure or higher VOC content, or both, than is listed in subparagraph (i) is limited to 110 gallons per year, combined, of all cleaning solutions that exceed the limits in subparagraph (i).

(2) *Fountain solutions.* Except as specified in paragraph (3), beginning January 1, 2015, a person subject to subsection (a)(1)(i), (iii) or (iv) may not cause or permit the emission into the outdoor atmosphere of VOCs from a fountain solution used in an offset lithographic printing press unless the fountain solution meets one or more of the following VOC limits.

(i) For each heatset web offset lithographic printing press, the press-ready (as applied) fountain solution must meet one of the following limits:

(A) A VOC content of 1.6% or less by weight.

(B) A VOC content of 3% or less by weight if the fountain solution is refrigerated below 60°F (15.5°C).

(C) A VOC content of 5% or less by weight and no alcohol in the fountain solution.

- (D) Another method that achieves a level of control of VOC emissions from the press-ready (as applied) fountain solution equal to or better than the methods listed in clauses (A)—(C).
- (ii) For each sheet-fed offset lithographic printing press, the press-ready (as applied) fountain solution must meet one of the following limits:
- (A) A VOC content of 5% or less by weight.
  - (B) A VOC content of 8.5% or less by weight if the fountain solution is refrigerated below 60°F (15.5°C).
  - (C) A VOC content of 5% or less by weight and no alcohol in the fountain solution.
  - (D) Another method that achieves a level of control of VOC emissions from the press-ready (as applied) fountain solution equal to or better than the methods listed in clauses (A)—(C).
- (iii) For each non-heatset web offset lithographic printing press, the press-ready (as applied) fountain solution shall contain a VOC content of 5% or less by weight and no alcohol in the fountain solution.
- (3) *Fountain solution exceptions.* The control requirements under paragraph (2) for a fountain solution do not apply to the owner or operator of either of the following:
- (i) A sheet-fed offset lithographic printing press with maximum sheet size 11 x 17 inches or smaller.
  - (ii) An offset lithographic printing press with total fountain solution reservoir of less than 1 gallon.
- (d) *Emission limits for heatset web offset lithographic printing presses and heatset web letterpress printing presses.*
- (1) Except as specified in paragraph (2) or (3), beginning January 1, 2015, a person subject to subsection (a)(1)(i) may not cause or permit the emission into the outdoor atmosphere of VOCs from a heatset web offset lithographic printing press or a heatset web letterpress printing press, or both, unless the overall weight of VOCs emitted to the atmosphere from the heatset dryer is reduced through the use of vapor recovery or oxidation or another method that is authorized under § 129.51(a) (relating to general). The heatset dryer pressure must be maintained lower than the press room area pressure so that air flows into the heatset dryer at all times when the press is operating.
- (i) The VOC control efficiency of an add-on air pollution control device for a heatset dryer, determined in accordance with subsection (h), must meet either of the following:
- (A) At least 90% for an add-on air pollution control device whose first installation date was prior to January 1, 2015.
  - (B) At least 95% for an add-on air pollution control device whose first installation date is on or after January 1, 2015.

(ii) The first installation date is the first date of operation for a source or a control device. This date will not change if the source or control device is moved to a new location or if the control device is later used to control a new source.

(iii) The owner or operator of the printing press may request the Department's approval for an alternative limitation if the following requirements are met:

(A) The request is submitted to the Department in writing.

(B) The request demonstrates one of the following:

(I) The inlet VOC concentration to the control device is so low that compliance with the 90% or 95% overall efficiency in subparagraph (i) is not achievable.

(II) The press is using a combination dryer and oxidizer or other control equipment configuration that does not have an inlet that meets the requirement for testing specified in subsection (h).

(C) The request demonstrates the minimum outlet VOC concentration that the unit can achieve, not to exceed 20 ppm as hexane (40 ppm as propane) on a dry basis.

(iv) The alternative limitation requested under subparagraph (iii) must be approved by the Department in a plan approval, operating permit or Title V permit.

(2) This subsection does not apply for one or a combination of the following circumstances:

(i) The press is used for book printing.

(ii) The press has a maximum web width of 22 inches or less.

(iii) The press is operated with one or a combination of the following inks, coatings or varnishes:

(A) Waterborne coatings.

(B) Ultra-violet light or electron beam radiation cured materials.

(C) Sheet-fed or non-heatset web inks.

(D) Sheet-fed or non-heatset web varnishes.

(3) This subsection does not apply to the owner or operator of the press if the Department has issued a plan approval, operating permit or Title V permit to the owner or operator prior to January 1, 2015, establishing a Federally-enforceable limitation to limit the potential emissions of VOC from the offset lithographic printing press or the letterpress printing press below 25 tpy, before consideration of add-on controls.

(e) *Compliance and monitoring requirements.*

(1) *Add-on air pollution control device.* The owner or operator of a heatset web offset lithographic printing press or heatset web letterpress printing press subject to this section using an add-on air pollution control device in accordance with subsection (d) shall comply with the following requirements:

(i) The add-on air pollution control device shall be equipped with the applicable monitoring equipment and the monitoring equipment shall be installed, calibrated, operated and maintained according to manufacturer's specifications at all times the add-on air pollution control device is in use. If the add-on air pollution control device is a:

(A) Noncatalytic thermal oxidizer, the minimum combustion or operating temperature must be continuously monitored. The temperature reading shall be recorded in accordance with subsection (f)(1) at least once every 15 minutes while the noncatalytic thermal oxidizer is operating.

(B) Catalytic thermal oxidizer:

(I) The inlet gas temperature must be continuously monitored. The temperature reading shall be recorded in accordance with subsection (f)(1) at least once every 15 minutes while the thermal catalytic oxidizer is operating.

(II) A catalyst activity test shall be performed a minimum of one time per rolling 2-year period.

(C) Control device other than that specified in clause (A) or (B), parameters specific to the control device must be continuously monitored. The parameters shall be recorded in accordance with subsection (f)(1) at least once every 15 minutes while the control device is operating.

(ii) The add-on air pollution control device specified in subparagraph (i) must be operated at a 3-hour average temperature not lower than 50°F below the average temperature demonstrated during the most recent compliant source test approved by the Department.

(iii) The add-on air pollution control device specified in subparagraph (i) must be in operation at all times that the source is operating.

(iv) The negative dryer pressure shall be established during the initial test using an air flow direction indicator, such as a smoke stick or aluminum ribbons, or a differential pressure gauge. Capture efficiency testing and continuous dryer air flow monitoring are not required.

(v) The add-on air pollution control device shall be approved, in writing, by the Department in a plan approval, operating permit or Title V permit prior to use.

(2) *Fountain solution.* The owner or operator of an offset lithographic printing press subject to this section that is required to meet one of the fountain solution VOC limits of subsection (c)(2) shall demonstrate compliance by using one or more of the following methods:

(i) Analysis of a sample of the press-ready (as applied) fountain solution for VOC content using EPA Reference Method 24, *Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings*, codified in 40 CFR Part 60, Appendix A, including updates and revisions.



(ii) Maintenance onsite of MSDS, CPDS or other data provided by the manufacturer of the fountain solution that indicates the VOC content of the press-ready (as applied) fountain solution.

(iii) Calculation of the VOC content of the press-ready (as applied) fountain solution that combines the EPA Reference Method 24 analytical VOC content data for each of the concentrated components or additives used to prepare the press-ready fountain solution.

(A) The VOC content data for each of the concentrated components or additives shall be combined in the proportions in which the concentrated components or additives are mixed to make the batch of press-ready (as applied) fountain solution.

(B) The VOC content shall be calculated one time for each recipe of press-ready (as applied) fountain solution. The recipe name, VOC content for each concentrated component or additive and fountain solution mix ratio shall be recorded in a logbook.

(C) The EPA Reference Method 24 analysis of the concentrated components or additives used to prepare the press-ready (as applied) fountain solution may be performed by the supplier of the components or additives and these results provided to the owner or operator of the affected press.

(iv) Measurement of the recirculating reservoir temperature of a refrigerated press-ready (as applied) fountain solution specified in subsection (c)(2)(i)(B) or (ii)(B) with a thermometer or other temperature detection device capable of reading to 0.5°F (0.28°C) to ensure that the temperature of the refrigerated fountain solution containing alcohol is maintained below 60°F (15.5°C) at all times. The temperature on the thermometer or other temperature detection device shall be continuously monitored. The temperature reading shall be recorded at least once per operating day to verify that the refrigeration system is operating properly.

(v) Monitoring of the press-ready (as applied) fountain solution for alcohol concentration or VOC content with one or more of the following instruments:

(A) A refractometer or a hydrometer to monitor the fountain solution alcohol concentration. The instrument must:

- (I) Be corrected for temperature one time per 8-hour shift.
- (II) Have a visual, analog or digital readout with an accuracy of 0.5%.
- (III) Be calibrated with a standard solution for the type of alcohol used in the fountain solution.

(B) A conductivity meter to determine the fountain solution VOC content. Reading for the fountain solution must be referenced to the conductivity of the incoming water.



(vi) Another method to determine compliance with the VOC content limits for fountain solutions in subsection (c)(2) if the following requirements are met:

(A) The facility owner or operator submits a request, in writing, to the appropriate regional office of the Department for approval of the alternative method.

(B) The request demonstrates that the alternative method provides results that accurately determine the fountain solution VOC content.

(C) The Department provides prior written approval of the alternative method.

(3) *Cleaning solution.* The owner or operator of an offset lithographic printing press or a letterpress printing press subject to this section shall demonstrate compliance with the VOC content limit or VOC composite partial vapor pressure limit for cleaning solutions in subsection (c)(1) by one or more of the following methods:

(i) Analysis of a sample of press-ready (as applied) cleaning solution for VOC content using EPA Reference Method 24.

(ii) Use of the equation in subsection (j) to calculate the composite partial vapor pressure of the press-ready (as applied) cleaning solution.

(iii) Use of the methods in subsection (k) to determine the VOC composite partial vapor pressure of a single concentrated component or additive used to prepare the press-ready (as applied) cleaning solution.

(iv) Maintenance onsite of MSDS, CPDS or other data provided by the manufacturer of the press-ready (as applied) cleaning solution that indicates the VOC content or the VOC composite partial vapor pressure, or both, of the press-ready (as applied) cleaning solution.

(v) Calculation of the VOC content or the VOC composite partial vapor pressure, or both, of the press-ready (as applied) cleaning solution that combines the EPA Reference Method 24 analytical VOC content data or analytical VOC composite partial vapor pressure data for each of the concentrated components or additives used to prepare the press-ready (as applied) cleaning solution.

(A) The VOC content data or VOC composite partial vapor pressure data for each of the concentrated components or additives shall be combined in the proportions in which the concentrated components or additives are mixed to make the batch of press-ready (as applied) cleaning solution.

(B) The VOC content or VOC composite partial vapor pressure shall be calculated one time for each recipe of press-ready (as applied) cleaning solution. The recipe name, VOC content or VOC composite partial vapor pressure for each concentrated component or additive and cleaning solution mix ratio shall be recorded in a log book.

(C) The EPA Reference Method 24 analysis of the concentrated components or additives used to prepare the press-ready (as applied) cleaning

solution may be performed or the VOC composite partial vapor pressure data may be determined by the supplier of the components or additives and these results provided to the owner or operator of the affected press.

(vi) Another method to determine compliance with the VOC content limits for cleaning solutions in subsection (c)(1) if the following requirements are met:

(A) The facility owner or operator submits a request, in writing, to the appropriate regional office of the Department for approval of the alternative method.

(B) The request demonstrates that the alternative method provides results that accurately determine the cleaning solution VOC content or VOC composite partial vapor pressure.

(C) The Department provides prior written approval of the alternative method.

(f) *Recordkeeping requirements.* Beginning January 1, 2015, the owner or operator of a printing press subject to this section shall maintain records sufficient to demonstrate compliance with this section. Records maintained for compliance demonstrations may include purchase, use, production and other records.

(1) An owner or operator using an add-on air pollution control device shall maintain records sufficient to demonstrate compliance with subsection (e), including the following:

(i) Temperature reading of the add-on air pollution control device.

(ii) Maintenance performed on the add-on air pollution control device and monitoring equipment, including the date and type of maintenance.

(iii) Catalyst activity test performed, if applicable.

(2) An owner or operator subject to subsection (a)(1)(i), (ii), (iii) or (iv) shall maintain records of cleaning solutions and fountain solutions used at the facility, including:

(i) The following parameters for each press ready blanket, roller or other cleaning solution:

(A) The name and identification number for the blanket, roller or other cleaning solution.

(B) The VOC content (weight %) or VOC composite partial vapor pressure of each cleaning solution as applied.

(C) The volume used of each cleaning solution as applied, if the owner or operator is using cleaning solutions which exceed the limits in subsection (c)(1)(i).

(D) Records of cleaning solution monitoring as required under subsection (e)(3).

(ii) The following parameters for each press-ready (as applied) fountain solution:

(A) The VOC content (weight %).

(B) Records of fountain solution monitoring as required under subsection (e)(2).

(3) An owner or operator claiming exemption from a VOC control provision of this section based on potential or actual VOC emissions, as applicable, shall maintain records that demonstrate to the Department that the press or facility is exempt.

(4) The owner or operator may group materials into classes using the highest VOC content in any material in a class to represent that class of material.

(g) *Reporting requirements.* Beginning January 1, 2015, the owner or operator of an offset lithographic printing press or a letterpress printing press subject to this section shall meet the following reporting requirements:

(1) The records required under subsection (f) shall be maintained onsite for 2 years unless a longer period is required by a plan approval or operating permit issued under Chapter 127 (relating to construction, modification, reactivation and operation of sources). The records shall be submitted to the Department in an acceptable format upon receipt of a written request.

(2) The owner or operator of an offset lithographic printing press or letterpress printing press required to demonstrate VOC control efficiency in accordance with subsection (d) shall submit reports to the Department in accordance with Chapter 139 (relating to sampling and testing).

(h) *Sampling and testing.*

(1) Sampling and testing shall be performed as follows:

(i) Sampling of an ink, varnish, coating, fountain solution or cleaning solution and testing for the VOC content of the ink, varnish, coating, fountain solution or cleaning solution shall be performed in accordance with the procedures and test methods specified in Chapter 139.

(ii) Sampling and testing of an add-on air pollution control device shall be performed in accordance with the procedures and test methods specified in Chapter 139 and meet one of the following:

(A) Sampling and testing shall be performed no later than 180 days after the compliance date of the press.

(B) Sampling and testing shall have been performed within 5 years prior to January 1, 2015, and previously approved by the Department.

(2) The control efficiency shall be determined using one or more of the following methods, as applicable, subject to prior written approval by the Department. The method used to measure the inlet concentration of VOC may be the same method used to determine the outlet concentration of VOC unless use of the same method is determined to be technically infeasible.

(i) EPA Reference Method 25, *Determination of Total Gaseous Non-methane Organic Emissions as Carbon*, codified in 40 CFR Part 60, Appendix A, including updates and revisions. EPA Reference Method 25 may be used if the total gaseous nonmethane organic compound concentration is equal to or greater than 50 parts per million by volume, measured as carbon.

(ii) EPA Reference Method 25A, *Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer*, codified in 40 CFR Part 60, Appendix A, including updates and revisions. EPA Reference Method 25A may not be used if the total gaseous nonmethane organic compound concentration at the outlet of the add-on air pollution control device is equal to or greater than 50 parts per million by volume, measured as carbon.

(iii) EPA Reference Method 18, *Measurement of Gaseous Organic Compound Emissions by Gas Chromatography*, codified in 40 CFR Part 60, Appendix A, including updates and revisions. EPA Reference Method 18 may be used if the total gaseous nonmethane organic compound concentration is equal to or greater than 50 parts per million by volume, measured as carbon. EPA Reference Method 18 may be used in conjunction with EPA Reference Method 25A to subtract emissions of exempt VOCs.

(3) Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with this section may be used if prior approval is obtained in writing from the Department and the EPA.

(i) *Work practice requirements for cleaning activities.*

(1) Except as specified in paragraph (3), beginning January 1, 2015, the owner or operator of an offset lithographic printing press or a letterpress printing press subject to subsection (a)(1)(i), (ii), (iii) or (iv) shall comply with the following work practices for cleaning activities at the facility:

(i) Store all VOC-containing cleaning solutions, waste cleaning solutions and used shop towels in closed containers.

(ii) Ensure that mixing vessels and storage containers used for VOC-containing cleaning solutions, waste cleaning solutions and used shop towels are kept closed at all times, except when depositing or removing these solutions or shop towels.

(iii) Minimize spills of VOC-containing cleaning solutions and waste cleaning solutions and clean up spills immediately.

(iv) Convey VOC-containing cleaning solutions, waste cleaning solutions and used shop towels from one location to another in closed containers or pipes.

(2) The requirements in paragraph (1) apply to the following activities:

(i) Cleaning of a press, including blanket washing, roller washing, plate cleaners, metering roller cleaners, impression cylinder cleaners and rubber rejuvenators.

(ii) Cleaning of press parts, including press parts that have been removed from the press for cleaning.

(iii) Cleaning of ink, coating or adhesive from areas around a press.

(3) The requirements in paragraph (1) do not apply to the following activities:

(i) Cleaning electronic components of a press.

(ii) Cleaning in pre-press (for example, platemaking) operations.

- (iii) Cleaning in post-press (for example, binding) operations.
- (iv) Using janitorial supplies (for example, detergents or floor cleaners) for general cleaning around a press.
- (v) The use of parts washers or cold cleaners at an offset lithographic printing or a letterpress printing facility. The use of parts washers and cold cleaners is regulated under § 129.63 (relating to degreasing operations).
- (j) *Composite partial vapor pressure.* The composite partial vapor pressure of organic compounds in cleaning solutions shall be determined by one of the following procedures:
  - (1) Quantifying the amount of each compound in the blend using gas chromatographic analysis, using an appropriate and current ASTM test method with prior written approval by the Department.
  - (2) Calculating the composite partial vapor pressure using the following equation:

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i)/MW_i}{W_w/MW_w + \sum_{e=1}^k W_e/MW_e + \sum_{i=1}^n W_i/MW_i}$$

Where:

$PP_c$  = VOC composite partial vapor pressure at 20°C, in mm mercury

$W_i$  = Weight of the “i”th VOC compound, in grams

$W_w$  = Weight of water, in grams

$W_e$  = Weight of the “e”th exempt compound, in grams

$MW_i$  = Molecular weight of the “i”th VOC compound, in grams per g-mole, as given in chemical reference literature

$MW_w$  = Molecular weight of water, in grams per g-mole (18 grams per g-mole)

$MW_e$  = Molecular weight of the “e”th exempt compound, in grams per g-mole, as given in chemical reference literature

$VP_i$  = Vapor pressure of the “i”th VOC compound at 20°C, in mm mercury, as determined by subsection (k)

(k) *Determination of vapor pressure of single organic compounds in cleaning solutions.* The vapor pressure of each single component compound shall be determined from one or more of the following:

- (1) An appropriate and current ASTM test method with prior written approval by the Department.
- (2) The most recent edition of one or more of the following sources:

- (i) *Vapour Pressures of Pure Substances*, Boublik, Elsevier Scientific Publishing Company, New York.
  - (ii) *Perry's Chemical Engineers' Handbook*, Green and Perry, McGraw-Hill Book Company.
  - (iii) *CRC Handbook of Chemistry and Physics*, CRC Press.
  - (iv) *Lange's Handbook of Chemistry*, McGraw-Hill Book Company.
  - (v) Additional sources approved by the Department.
- (l) *VOC retention factors and capture efficiency factors*. As specified in subsection (a)(2), if:
- (1) A portion of the VOCs contained in the ink or cleaning solution, or both, is retained in the printed web substrate or in the shop towels used for cleaning, the following VOC emission retention factors shall be used, as applicable:
    - (i) A 20% VOC emission retention factor for a petroleum ink oil-based heatset ink printed on an absorptive substrate, meaning 80% of the petroleum ink oil content is emitted as VOC during the printing process and is available for capture and control by an add-on air pollution control device. The petroleum ink oil content of a heatset ink may be determined from formulation data included on a CPDS or MSDS.
    - (ii) A 95% VOC emission retention factor for a petroleum ink oil-based non-heatset web or non-heatset sheet-fed ink, meaning 5% of the petroleum ink oil content is emitted as VOC during the printing process and is available for capture and control by an add-on air pollution control device. The petroleum ink oil content of a non-heatset web or non-heatset sheet-fed ink may be determined from formulation data included on a CPDS or MSDS.
    - (iii) A 100% VOC emission retention factor for vegetable ink oil-based heatset and non-heatset inks.
    - (iv) A 50% VOC emission retention factor for low VOC composite vapor pressure cleaning solutions in shop towels if both of the following conditions are met:
      - (A) The VOC composite vapor pressure of the cleaning solution is less than 10mm Hg at 20°C (68°F).
      - (B) The cleaning solutions and used shop towels are kept in closed containers.
  - (2) A portion of the VOCs contained in one or more of the ink, fountain solution or automatic blanket wash materials is captured in the press dryer for control by the add-on air pollution control device, the following capture efficiency factors shall be used, as applicable:
    - (i) A 100% VOC emission capture efficiency for volatilized ink oils for oil-based heatset paste inks and varnishes as specified in paragraph (1) if both of the following conditions are met:
      - (A) The press dryer is operating at negative pressure relative to the surrounding pressroom.

- (B) The air flow is into the press dryer.
- (ii) A 70% VOC emission capture efficiency for a fountain solution that contains an alcohol substitute.
- (iii) A 40% VOC emission capture efficiency for an automatic blanket wash if the VOC composite vapor pressure of the cleaning solution is less than 10mm Hg at 20°C (68°F).

#### Authority

The provisions of this § 129.67b issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.67b adopted June 27, 2014, effective June 28, 2014, 44 Pa.B. 3929.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.68. Manufacture of synthesized pharmaceutical products.

- (a) This section applies to synthesized pharmaceutical manufacturing facilities.
- (b) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall control the VOC emissions from reactors, distillation operations, crystallizers, centrifuges and vacuum dryers that emit 15 pounds per day or more of VOC. Surface condensers or equivalent controls shall be used if:
  - (1) Surface condensers are used, the condenser outlet gas temperature may not exceed:
    - (i) -25°C when condensing VOC of vapor pressure greater than 5.8 psi (40 kilopascals) when measured at 68°F.
    - (ii) -15°C when condensing VOC of vapor pressure greater than 2.9 psi (20 kilopascals) when measured at 68°F.
    - (iii) 0°C when condensing VOC of vapor pressure greater than 1.5 psi (10 kilopascals) when measured at 68°F.
    - (iv) 10°C when condensing VOC of vapor pressure greater than 1 psi (7 kilopascals) when measured at 68°F.
    - (v) 25°C when condensing VOC of vapor pressure greater than .5 psi (3.5 kilopascals) when measured at 68°F.
  - (2) Equivalent controls are used, the VOC emissions shall be reduced by an equivalent or greater amount than would be required in paragraph (1).
- (c) The owner or operator of a synthetic pharmaceutical manufacturing facility subject to this section shall reduce the VOC emissions from air dryers and production equipment exhaust systems:



- (1) By at least 90% if emissions are 220 pounds per day (100 kilograms per day) or more of VOC.
- (2) To 33 pounds per day or less if emissions are less than 220 pounds per day of VOC.
- (d) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall enclose centrifuges, rotary vacuum filters and other filters having an exposed liquid surface, where the liquid contains VOC and exerts a total VOC vapor pressure of .5 psi (3.5 kilopascals) or more at 20°C.
- (e) The owner or operator of a synthesized pharmaceutical facility subject to this section shall install covers on in-process tanks containing a VOC at any time. These covers shall remain closed, unless production, sampling, maintenance or inspection procedures require operator access.
- (f) The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall repair leaks from which a liquid, containing VOC, can be observed running or dripping. The repair shall be completed the first time the equipment is off-line for a period of time long enough to complete the repair.

#### Authority

The provisions of this § 129.68 issued under the Air Pollution Control Act (35 P.S. §§ 4001—4015).

#### Source

The provisions of this § 129.68 adopted June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended August 2, 1991, effective August 3, 1991, 21 Pa.B. 3406. Immediately preceding text appears at serial pages (151694) to (151695).

#### Cross References

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.69. Manufacture of pneumatic rubber tires.

(a) This section applies to pneumatic rubber tire manufacturing facilities. For purposes of this section, pneumatic rubber tire manufacturing means the production of pneumatic rubber passenger-type tires on a mass production basis. Passenger-type tires are agricultural, airplane, industrial, mobile home, light- or medium-duty truck or passenger vehicle tires with bead diameters up to 20 inches (50.8 centimeters) and cross-sectional dimensions up to 12.8 inches (32.5 centimeters). With prior written approval from the Department, the production of speciality tires for antique or other vehicles when produced on an irregular basis or with short production runs and when produced on equipment separate from normal production lines for passenger-type tires are exempt from the requirements of this section.



(b) The owner or operator of an undertread cementing, tread-end cementing or bead dipping operation subject to this section shall comply with the following:

(1) Install and operate a capture system designed to achieve maximum reasonable capture, of at least 85% by weight of VOC emitted, from undertread cementing, tread-end cementing and bead dipping operations. Maximum reasonable capture shall be consistent with the following documents:

(i) *Industrial Ventilation, A Manual of Recommended Practices*, 14th Edition, American Federation of Industrial Hygienists.

(ii) *Recommended Industrial Ventilation Guidelines, United States Department of Human Services National Institute of Occupational Safety and Health*.

(2) Install and operate a control device that meets the requirements of one of the following:

(i) A carbon adsorption system designed and operated in a manner so that there is at least a 95% removal of VOC by weight from the gases ducted to the control device.

(ii) An incineration system that oxidizes at least 90% of the nonmethane VOCs which enter the incinerator to carbon dioxide and water.

(c) The owner or operator of a green-tire spraying operation subject to this section shall implement one of the following means of reducing VOC emissions:

(1) Substitute water-based sprays for the normal solvent-based mold release compound.

(2) Install a capture system designed and operated in a manner that will capture and transfer at least 90% of the VOC emitted by the green-tire spraying operation to a control device that meets the requirements in subsection (b)(2).

(d) Notwithstanding the provisions of this section, the Department may allow a pneumatic rubber tire manufacturing facility to implement permanent and enforceable measures, including recordkeeping and reporting requirements, which are approved by the Department and the EPA as reasonably available control technology.

#### Authority

The provisions of this § 129.69 issued under the Air Pollution Control Act (35 P.S. §§ 4001—4015).

#### Source

The provisions of this § 129.69 adopted June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended May 22, 1992, effective May 23, 1992, 22 Pa. B. 2720. Immediately preceding text appears at serial pages (159218) to (159219).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.54 (relating to seasonal operation of auxiliary incineration equipment); 25 Pa. Code § 129.66 (relating to compliance schedules and final compliance dates); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.70. [Reserved].****Source**

The provisions of this § 129.70 adopted June 19, 1981, effective June 20, 1981, 11 Pa.B. 2118; amended August 12, 1983, effective August 13, 1983, 13 Pa.B. 2478; reserved September 4, 1998, effective September 5, 1998, 28 Pa.B. 4525. Immediately preceding text appears at serial pages (199542) to (199543).

**Cross References**

This section cited in 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs).

**§ 129.71. Synthetic organic chemical and polymer manufacturing—fugitive sources.**

(a) This section applies to surface active agent manufacturing facilities subject to § 129.72 (relating to manufacture of surface active agents) and to a facility with design capability to manufacture 1,000 tons per year or more of one or a combination of the following:

- (1) Synthetic organic chemicals listed in 40 CFR 60.489 (relating to list of chemicals provided by affected facilities).
- (2) Methyl tert-butyl ether.
- (3) Polyethylene.
- (4) Polypropylene.
- (5) Polystyrene.

(b) Exempt from this section are systems operated entirely under a vacuum, or process fluids that contain less than 10% by weight of VOCs and systems in service handling compounds with vapor pressures less than 0.044 psia at 68° F.

(c) The owner or operator of a newly affected facility shall complete the following by May 24, 1993.

- (1) Install a second valve, blind flange, plug, cap or other equivalent sealing system on open ended lines, except for safety pressure relief valves.
- (2) Develop and initiate a leak detection program including liquid leaks for pumps, valves, compressors, vessels and safety pressure relief valves and a repair program for these components that cause a hydrocarbon detection instru-

ment reading equal to or greater than 10,000 ppm. The leak detection and repair program shall include the following:

(i) A leak check during every calendar quarter of the components, by methods referenced in § 139.14 (relating to emissions of VOCs).

(ii) Attachment of an identification tag to the leaking component causing an instrument reading equal to or greater than 10,000 ppm. The identification tag shall be waterproof, readily visible, bear an identification number, the date on which the leak was detected and indicate if the component cannot be repaired until a process shutdown that will not occur within 15 days from the date of detection.

(iii) Repair and retest of a leaking component within 15 days or as soon as possible if a shutdown is required to make the repair.

(iv) A weekly visual check of pumps in light liquid service for indications of leaks.

(v) Check, by methods referenced in § 139.14, a safety relief valve within 24 hours after it has vented to the atmosphere to assure that the safety relief valve has resealed.

(vi) The initiation and maintenance of a log of leaking components. The log shall contain, at a minimum, the total number of components checked, the total number of components found leaking, the location of the leaking component, the type of component—for example, valve, seal and the like—the tag identification number, the date on which the component was discovered to be leaking, date of repair, leak detection instrument reading after repairs, the components that cannot be repaired until a process shutdown that will not occur within 15 days from the date of detection and a record of the calibration of the leak detection monitoring instrument. The monitoring log shall be retained by the owner for 2 years after the date on which an entry was made. The log shall be made available to the Department upon oral or written request.

(d) The owner or operator of a facility subject to this section may submit to the Department an alternative plan for the control of leaks from components. If the Department finds that the alternative plan will achieve an emission reduction which is equivalent to or greater than the reduction which can be achieved under this section and that the alternative plan is as enforceable as this section, the Department may approve the alternative plan.

(e) The owner or operator of a facility subject to this section may submit to the Department a list of components the inspection of which would involve a significant element of danger. The Department may exempt the components on the list from the requirements of this section if the owner or operator can demonstrate to the satisfaction of the Department that a significant element of danger exists which cannot be reasonably eliminated, and that these exemptions will not result in a significant reduction of the VOC emission control effectiveness.

**Authority**

The provisions of this § 129.71 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.71 adopted May 6, 1988, effective May 7, 1988, 18 Pa.B. 2098; corrected May 20, 1988, effective May 7, 1988, 18 Pa.B. 2298; corrected July 1, 1988, effective May 7, 1988, 18 Pa.B. 2903; amended May 22, 1992, effective May 23, 1992, 22 Pa. B. 2720. Immediately preceding text appears at serial pages (159220) and (162531) to (162532).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.71a. Control of VOC emissions from the synthetic organic chemical manufacturing industry—air oxidation, distillation and reactor processes.**

(a) *Applicability.*

(1) Except as specified in paragraph (3), this section applies to the owner and operator of a synthetic organic chemical manufacturing facility that has a vent stream originating from a process unit in which an air oxidation unit process, distillation operation or reactor process produces one or more of the chemicals listed in Table 1 as a product, coproduct, byproduct or intermediate.

(2) For purposes of this section, reference to total organic compounds or TOC in 40 CFR Part 60, Subpart III (relating to standards of performance for volatile organic compound (VOC) emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) air oxidation unit processes), 40 CFR Part 60, Subpart NNN (relating to standards of performance for volatile organic compound (VOC) emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) distillation operations) or 40 CFR Part 60, Subpart RRR (relating to standards of performance for volatile organic compound (VOC) emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) reactor processes) shall be considered equivalent to VOC as defined in § 121.1 (relating to definitions).

(3) The owner and operator of a synthetic organic chemical manufacturing facility located in this Commonwealth that has a vent stream originating from a process unit in which an air oxidation unit process, distillation operation or reactor process produces one or more of the chemicals listed in Table 1 as a product, coproduct, byproduct or intermediate shall meet the requirements of this section unless more stringent requirements in an applicable permit or plan approval issued by the Department apply.

(b) *Standards.*

(1) *Process vents.* For a process vent that is subject to equivalent VOC control provisions under an existing 40 CFR Part 60 (relating to standards of performance for new stationary sources) or 40 CFR Part 63 (relating to National emission standards for hazardous air pollutants for source categories) standard, compliance with the requirements of the existing 40 CFR Part 60 or 63 standard shall constitute compliance with the provisions of this section.

(2) *Air oxidation unit processes.*

(i) The owner or operator of a source with an air oxidation unit process meeting the applicability criteria in subsection (a) shall comply with the requirements of 40 CFR Part 60, Subpart III unless the source has RACT control measures approved in a permit as part of the Commonwealth's Federally approved SIP prior to January 21, 2023.

(ii) The exemption listed in 40 CFR 60.610(c) (relating to applicability and designation of affected facility) applies to an owner or operator subject to this section.

## (iii) Notwithstanding 40 CFR 60.610, for purposes of this section:

(A) An affected source is one that meets the criteria in 40 CFR 60.610(a) regardless of the specific date of construction, modification or reconstruction of the source for a regulated chemical described in subsection (a)(1) and Table 1.

(B) The owner or operator of an affected source shall comply with this section no later than January 21, 2025.

(iv) Notwithstanding 40 CFR 60.615(a) (relating to reporting and recordkeeping requirements), each owner or operator subject to this section shall notify the Department no later than April 21, 2023, of the method by which the owner or operator of the affected source will comply with the applicable provisions of 40 CFR 60.612 (relating to standards).

(v) For purposes of this section, 40 CFR 60.616 and 40 CFR 60.618 (relating to reconstruction; and delegation of authority) are not applicable.

(vi) Notwithstanding 40 CFR 60.610(d)(4), 60.614(g) (relating to test methods and procedures), 60.615(c), 60.615(g) (but not 60.615(g)(1) or 60.615(g)(4)), and 60.615(j), a reference to the Administrator shall mean the Department.

(vii) Notwithstanding 40 CFR 60.614(c), the Department reserves the option to require testing at other times as may be required.

(3) *Distillation operations.*

(i) The owner or operator of a source with a distillation operation subject to subsection (a) shall comply with the requirements of 40 CFR Part 60, Subpart NNN.

## (ii) The following exemptions apply:

(A) The exemptions listed in 40 CFR 60.660(c) (relating to applicability and designation of affected facility).

(B) The owner or operator of a distillation operation with a vent stream that has a total VOC concentration of less than 500 ppmv is subject only to the test method and procedure and the recordkeeping and reporting requirements specified in 40 CFR 60.660(c)(6) and not to the test method and procedure and the recordkeeping and reporting requirements of this section.

(iii) Notwithstanding 40 CFR 60.660, for purposes of this section:

(A) An affected source is one that meets the criteria in 40 CFR 60.660(a), regardless of the specific date of construction, modification or reconstruction of the source.

(B) A regulated chemical is one described in subsection (a)(1) and Table 1, rather than in 40 CFR 60.667 (relating to chemicals affected by subpart NNN).

(C) The owner or operator of an affected source shall comply with this section no later than January 21, 2025.

(iv) Notwithstanding 40 CFR 60.665(a) (relating to reporting and recordkeeping requirements), each owner or operator subject to this section shall notify the Department no later than April 23, 2023, of the method by which the owner or operator of the affected source will comply with the applicable provisions of 40 CFR 60.662 (relating to standards).

(v) For purposes of this section, 40 CFR 60.666 and 40 CFR 60.668 (relating to reconstruction; and delegation of authority) are not applicable.

(vi) Notwithstanding 40 CFR 60.660(d)(4), 60.664(g)(1) (relating to test methods and procedures), 60.665(c), 60.665(g) (but not 60.665(g)(1)(ii)), 60.665(l), 60.665(n) and 60.665(o), a reference to the Administrator shall mean the Department.

(vii) Notwithstanding 40 CFR 60.664(c), the Department reserves the option to require testing at other times as may be required.

(4) *Reactor processes.*

(i) The owner or operator of a source with a reactor process subject to subsection (a) shall comply with the requirements of 40 CFR Part 60, Subpart RRR.

(ii) The following exemptions apply:

(A) Exemptions listed in 40 CFR 60.700(c) (relating to applicability and designation of affected facility), except that the cutoff for the vent stream flow rate shall be 0.0085 scm/min, not 0.011 scm/min as specified in 40 CFR 60.700(c)(4).

(B) The owner or operator of a reactor operation with a vent stream that has a total VOC concentration of less than 500 ppmv is subject only to the test method and procedure and the recordkeeping and reporting requirements specified in 40 CFR 60.700(c)(8), and not to the test method and procedure and recordkeeping and reporting requirements of this section.

(iii) Notwithstanding 40 CFR 60.700, for purposes of this section:

(A) An affected source is one that meets the criteria in 40 CFR 60.700(a), regardless of the specific date of construction, modification or reconstruction of the source.

(B) A regulated chemical is one described in subsection (a)(1) and Table 1 rather than in 40 CFR 60.707 (relating to chemicals affected by subpart RRR).

(C) The owner or operator of an affected source shall comply with this section no later than January 21, 2025.

(iv) Notwithstanding 40 CFR 60.705(a) (relating to reporting and recordkeeping requirements), each owner or operator subject to this section shall notify the Department no later than April 21, 2023, of the method by which the owner or operator of the affected source will comply with the applicable provisions of 40 CFR 60.702 (relating to standards).

(v) For purposes of this section, 40 CFR 60.706 and 40 CFR 60.708 (relating to reconstruction and delegation of authority) are not applicable.

(vi) Notwithstanding 40 CFR 60.700(d)(4), 60.704(f)(1) (relating to test methods and procedures), 60.705(c), 60.705(f) (but not 60.705(f)(1)), 60.705(l), 60.705(n), 60.705(o), 60.705(p) and 60.705(r), a reference to the Administrator shall mean the Department.

(vii) Notwithstanding 40 CFR 60.704(b)(5)(iii), the Department reserves the option to require testing at other times as may be required.

**Table 1. List of Regulated SOCMI Chemicals**

CAS No. <sup>a</sup>	Chemical name <sup>b</sup>	Reactor and Distillation CTG Chemicals	Air Oxidation CTG Chemicals	Distillation NSPS Chemicals	Reactor Process NSPS Chemicals	Air Oxidation NSPS Chemicals
	1,1,1-Tribromo-2-methyl-2-propanol	X				
584032	1,2 Butanediol	X				
28553-12-0	1,2-Benzenedicarboxylic acid diisononyl ester	X				
524-42-5	1,2-Naphthoquinone (particulate, vapor)		X			
	1,4-Dichloride	X				
109693	1-Chloro-4-nitrobenzene	X				
63-25-2	1-Naphthyl-N-methylcarbamate			X		

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
3071-32-7	1-Phenylethyl hydroperoxide	X				
221-341-3	1-Phenylethyl hydroperoxide			X		
107-01-7	2-Butene				X	
110-65-6	2-Butyne-1,4-diol				X	
26266682	2-Ethylhexanal			X		
53971-27-0	2-Hydroxy-1,2,3-propanetricarboxylic acid	X				
513-35-9	2-Methylbutenes, mixed	X				
	3-Hydroxybutyraldehyde	X				
617-94-7	a,a-Dimethyl Benzyl Alcohol (2-Phenyl-2-Propanol) (Vapor)		X			
	Acrylic esters	X				
67774-74-7	Alkyl benzene	X				
6358-15-2	Amino-3,4,6-trichlorophenol (2-)	X				
85-68-7	Butylbenzyl Phthalate				X	
1111-78-0	Carbamic acid, mono ammonium salt	X				
126-99-8	Chloroprene			X		
61789-31-9	Coconut oil acids, sodium salt	X				
75-34-3	Dichloropane (1,1-)	X				
85687	Di-n-heptyl-n-nonyl undecyl phthalate			X		
123-66-0	Ethyl caproate	X				
61790-45-2	Fatty acids, tall oil, sodium salt	X				
123013	Linear alkyl benzene	X				



<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
67774-74-7	Linear alkylbenzene			X		
763-29-1	Methyl-1-pentene (2-)	X				
25377837	Octene -	X				
	Pentenenes, mixed	X				
463-49-0	Propadiene		X			
108-32-7	Propyl carbonate	X				
75-56-9	Propylene Oxide			X		
98-51-1	p-tert-Butyltoluene	X				
61790-32-7	Tallow acids, potassium salt	X				
0000057-13-6	Urea ammonium nitrate	X				
76131	(1,1,2-) Trichloro (1,2,2-) trifluoroethane	X		X	X	
104756	(2-Ethylhexyl) amine	X		X	X	
85687	1,2-Benzenedicarboxylic acid butyl, phenyl methyl ester -	X				
78875	1,2-dichloropropane	X				
110576	1,4-Dichlorobutene	X		X	X	
106989	1-Butene	X		X	X	
684255	1-Dodecene -	X				
872504	1-Methyl-2-pyrrolidone	X		X	X	
124118	1-Nonene	X				
25167673	1-Phenyl ethyl hydroperoxide	X		X	X	
3071-32-7	1-Phenylethyl hydroperoxide				X	
	2,2'-Iminobisethanol - 11422	X				

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
11466	2,2'-Oxybisethanol	X				
80568	2,6,6-Trimethylbicyclo (3,1,1) hept-2-ene	X				
78923	2-Butanol	X				
110656	2-Butene	X		X	X	
126998	2-Butyne-1,4-diol	X		X	X	
78897	2-Chloro-1-propanol	X				
1912249	2-Chloro-4-(ethylamino)- 6-(isopropylamino)-S- triazine	X		X		
123057	2-Ethylhexanal -	X				
104767	2-Ethylhexanol (2-ethyl-1-hexanol)	X		X	X	
13042029	2-Hexenedinitrile	X		X		
64037543	3,4-Dichloro-1-butene	X		X	X	
1119853	3-Hexenedintrile	X		X		
4635874	3-Pentenitrile	X		X	X	
1912249	6-Chloro-N-ethyl-N'- (1-methylethyl)- 1,3,5-triazine- 2,4-diamine -	X				
15547178	6-Ethyl-1,2,3,4-tetrahydro- 9,10-antracenedione	X		X	X	
26952216	6-Methyl-heptanol -	X				
83329	Acenaphthene	X				
105577	Acetal (1,1-diethoxy-ethane)	X				
75070	Acetaldehyde -	X	X	X	X	X
107891	Acetaldol (3-hydroxy-butanal) -	X		X		
60355	Acetamide	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
60355	Acetamides	X				
103844	Acetanilide	X				
64197	Acetic acid -	X	X	X	X	X
108247	Acetic anhydride -	X	X	X	X	
102012	Acetoacetanilide	X				
67641	Acetone -	X	X	X	X	X
75865	Acetone cyanohydrin -	X		X	X	
75058	Acetonitrile -		X			X
98862	Acetophenone -		X			X
75365	Acetyl chloride	X				
74862	Acetylene -	X		X	X	
79276	Acetylene tetrabromide (1,1,2,2-tetrabromomethane)	X				
107028	Acrolein -		X			X
79061	Acrylamide	X				
79107	Acrylic acid -	X	X	X	X	X
107131	Acrylonitrile -	X	X	X	X	X
124049	Adipic acid -	X		X	X	
111693	Adiponitrile -	X		X	X	
	Alcohols, C-12 or higher, mixtures	X		X	X	
	Alcohols, C-11 or lower, mixtures -	X		X	X	
	Alcohols, C-12 or higher, unmixed	X		X	X	
72480	Alizarin	X				
84651	Alkyl anthraquinones	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
	Alkyl naphthalene sulfonates	X				
91203	Alkyl naphthalenes	X				
107186	Allyl alcohol	X				
106956	Allyl bromide	X				
107051	Allyl chloride	X		X	X	
109751	Allyl cyanide	X				
7360443	Aluminum acetate	X				
7429905	Aluminum formates	X				
1321115	Aminobenzoic acid	X				
111411	Aminoethylethanolamine	X				
123308	Aminophenol (p-isomer)	X				
96-67-3	Aminophenol sulfonic acid	X				
631618	Ammonium acetate	X				
1762954	Ammonium thiocyanate	X				
	Amyl acetates	X				
71410	Amyl alcohol (n-) (1-pentanol)	X				
75854	Amyl alcohol (tert-)	X				
30899195	Amyl alcohols (mixed)	X				
543599	Amyl chloride (n-)	X				
	Amyl chlorides (mixed)	X				
693652	Amyl ether	X				
110587	Amylamines	X				
513359	Amylene	X		X	X	
	Amylenes, mixed	X		X	X	
62533	Aniline	X		X	X	

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
142041	Aniline hydrochloride	X				
90040	Anisidine (o-)	X				
100663	Anisole (methoxyl benzene)	X				
120127	Anthracene	X				
118923	Anthranilic acid	X				
84651	Anthraquinone -	X	X			X
25376458	ar-Methylbenzenediamine	X		X	X	
103333	Azobenzene	X				
543806	Barium acetate	X				
100527	Benzaldehyde -	X	X			X
55210	Benzamide	X				
71432	Benzene -	X	X	X	X	
98486	Benzenedisulfonic acid	X				
98113	Benzenesulfonic acid	X		X	X	
68081812	Benzenesulfonic acid C10-16-alkyl derivatives, sodium salts	X		X	X	
92875	Benzidine	X				
134816	Benzil	X				
76937	Benzillic acid	X				
91769	Benzoguanamine	X				
65850	Benzoic acid -	X	X	X		X
119539	Benzoin	X				
100470	Benzonitrile	X				
119619	Benzophenone	X				
98077	Benzotrichloride	X				
98884	Benzoyl chloride	X				

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
94360	Benzoyl peroxide	X				
140114	Benzyl acetate	X				
100516	Benzyl alcohol	X				
120514	Benzyl benzoate	X				
100447	Benzyl chloride	X		X	X	
98873	Benzyl dichloride	X				
100469	Benzylamine	X				
1896624	Benzylideneacetone	X				
92524	Biphenyl	X		X		
542881	Bis(Chloromethyl)Ether	X				
80057	Bisphenol A	X		X	X	
	Brometone	X		X	X	
108861	Bromobenzene	X				
75252	Bromoform	X		X		
27497514	Bromonaphthalene	X				
106990	Butadiene (1,3-) -	X	X	X	X	X
	Butadiene and butene fractions	X		X	X	
106978	Butane -	X	X	X	X	
110634	Butanediol (1,4-)	X		X	X	
	Butanes, mixed	X		X	X	
	Butenes, mixed	X		X	X	
123864	Butyl acetate (n-) (Acetic Acid, butyl ester)	X		X	X	
105464	Butyl acetate (sec-)	X				
540885	Butyl acetate (tert-)	X				
141322	Butyl acrylate (n-)	X		X	X	

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
71363	Butyl alcohol (n-)	X		X	X	
78922	Butyl alcohol (sec-)	X		X	X	
75650	Butyl alcohol (tert-)	X		X	X	
136607	Butyl benzoate	X				
507200	Butyl chloride (tert-)	X				
75912	Butyl hydroperoxide (tert-)	X		X	X	
109795	Butyl mercaptan (n-)	X				
97881	Butyl methacrylate (n-)	X				
585-07-9	Butyl methacrylate (tert-)	X				
88186	Butyl phenol (tert-)	X				
109739	Butylamine (n-)	X				
13952846	Butylamine (s-)	X				
75649	Butylamine (t-)	X				
98066	Butylbenzene (tert-)	X				
98737	Butylbenzoic acid (p-tert-) -	X	X			X
85867	Butylbenzyl phthalate	X		X	X	
107880	Butylene glycol (1,3-)			X		
123728	Butyraldehyde (n-)	X		X	X	
107926	Butyric acid (n-) -	X	X			X
106310	Butyric anhydride (n-)	X		X	X	
96480	Butyrolactone—must be Butyrolactone	X				
109740	Butyronitrile	X				
62544	Calcium acetate	X				
4075814	Calcium propionate	X				
142621	Caproic acid	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
105602	Caprolactam	X		X	X	
63252	Carbaryl	X				
86748	Carbazole	X				
75150	Carbon disulfide	X		X	X	
558134	Carbon tetrabromide	X		X		
56235	Carbon tetrachloride	X		X	X	
75730	Carbon tetrafluoride	X				
75876	Chloral	X				
2435532	Chloranil (o-chloranil)	X				
79118	Chloroacetic acid	X			X	
532274	Chloroacetophenone (2-)	X				
108429	Chloroaniline (m-)	X				
95512	Chloroaniline (o-)	X				
106478	Chloroaniline (p-)	X				
89985	Chlorobenzaldehyde (2-)	X				
587042	Chlorobenzaldehyde (3-)	X				
104881	Chlorobenzaldehyde (4-)	X				
108907	Chlorobenzene	X		X	X	
118912	Chlorobenzoic acid (2-)	X				
535808	Chlorobenzoic acid (3-)	X				
74113	Chlorobenzoic acid (4-)	X				
2136892	Chlorobenzotrichloride (o-)	X				
5216251	Chlorobenzotrichloride (p-)	X				
609654	Chlorobenzoyl chloride (o-)	X				



<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
122010	Chlorobenzoyl chloride (p-)	X				
25497294	Chlorodifluoroethane	X				
75456	Chlorodifluoromethane	X			X	
	Chlorofluorocarbons	X				
67663	Chloroform	X		X	X	
	Chlorohydrin	X				
25586430	Chloronaphthalene	X				
121733	Chloronitrobenzene (m-)	X				
88733	Chloronitrobenzene (o-)	X				
100005	Chloronitrobenzene (p-)	X		X	X	
108430	Chlorophenol (m-)	X				
95578	Chlorophenol (o-)	X				
106489	Chlorophenol (p-)	X				
126998	Chloroprene -	X				
7790945	Chlorosulfonic acid	X				
108418	Chlorotoluene (m-)	X				
95498	Chlorotoluene (o-)	X				
106434	Chlorotoluene (p-)	X				
79389	Chlorotrifluoroethylene	X				
67481	Choline chloride	X				
218019	Chrysene	X				
140103	Cinnamic acid	X				
77929	Citric acid	X		X	X	
	Cobalt acetate	X				
142712	Copper acetate	X				

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
108394	Cresol and cresylic acid (m-)	X				
95487	Cresol and cresylic acid (o-)	X				
106445	Cresol and cresylic acid (p-)	X				
1319773	Cresols and cresylic acids (mixed)	X				
4170300	Crotonaldehyde	X		X		
3724650	Crotonic acid -	X	X	X		X
98828	Cumene -	X	X	X	X	
80159	Cumene hydroperoxide -	X	X	X	X	X
420042	Cyanamide	X				
372098	Cyanoacetic acid	X				
	Cyanoformamide	X				
506774	Cyanogen chloride	X				
108805	Cyanuric acid	X				
108770	Cyanuric chloride	X		X	X	
110827	Cyclohexane -	X	X	X	X	
68512152	Cyclohexane, oxidized	X		X	X	
108930	Cyclohexanol -	X	X	X	X	X
108941	Cyclohexanone -	X	X	X	X	X
100641	Cyclohexanone oxime	X		X	X	
110838	Cyclohexene	X		X	X	
108918	Cyclohexylamine	X				
29965977	Cyclooctadiene	X				
3806595	Cyclooctadiene (1,3-)			X		
111784	Cyclooctadiene (1,5-)	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
542-92-7	Cyclopentadiene (1,3-)	X				
75194	Cyclopropane	X		X	X	
91178	Decahydronaphthalene	X				
117828	Di(2-methoxyethyl) phthalate	X				
123422	Diacetone alcohol	X		X	X	
25260-60-0	Diacetoxy-2-Butene (1,4-)	X				
1087-21-4	Diallyl isophthalate	X				
131179	Diallyl phthalate	X				
27576041	Diaminobenzoic acids	X				
137097	Diaminophenol hydrochloride	X				
	Dibutanized aromatic concentrate	X		X		
17-83-9	Dibutoxyethyl phthalate	X				
760236	Dichloro-1-butene (3,4-)	X				
764410	Dichloro-2-butene (1,4-)	X				
27134276	Dichloroaniline (mixed isomers)	X				
541731	Dichlorobenzene (m-)	X				
95501	Dichlorobenzene (o-)	X				
106467	Dichlorobenzene (p-)	X				
91941	Dichlorobenzidine (3,3'-)	X				
75718	Dichlorodifluoromethane	X		X	X	
75785	Dichlorodimethylsilane	X		X	X	
107062	Dichloroethane (1,2-) (Ethylene dichloride) (EDC) -	X	X			

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
111444	Dichloroethyl ether (bis(2-chloroethyl) ether)	X				
540590	Dichloroethylene (1,2-)	X				
75434	Dichlorofluoromethane	X		X	X	
96231	Dichlorohydrin (a-)	X		X		
99-54-7	Dichloronitrobenzenes	X				
628-76-2	Dichloropentanes	X				
120832	Dichlorophenol (2,4-)	X				
78999	Dichloropropane (1,1-)	X				
542756	Dichloropropene (1,3-)	X				
	Dichloropropene/ dichloropropane (mixed)	X				
1320372	Dichlorotetrafluoroethane	X				
461585	Dicyandiamide	X				
101837	Dicyclohexylamine	X				
77736	Dicyclopentadiene	X				
111422	Diethanolamine (2,2'-Iminodiethanol)			X	X	
84662	Diethyl phthalate	X				
64675	Diethyl sulfate	X				
109897	Diethylamine	X				
579668	Diethylaniline (2,6-)	X				
91667	Diethylaniline (N,N-)	X				
25340174	Diethylbenzene	X		X	X	
111466	Diethylene glycol	X		X	X	
112732	Diethylene glycol dibutyl ether	X				

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
112367	Diethylene glycol diethyl ether	X				
111966	Diethylene glycol dimethyl ether	X				
112345	Diethylene glycol monobutyl ether	X				
124174	Diethylene glycol monobutyl ether acetate	X				
111900	Diethylene glycol monoethyl ether	X				
112152	Diethylene glycol monoethyl ether acetate	X				
111773	Diethylene glycol monomethyl ether	X				
629389	Diethylene glycol monomethyl ether acetate	X				
75379	Difluoroethane (1,1-)	X				
25167708	Diisobutylene	X				
26761400	Diisodecyl phthalate	X		X	X	
28553120	Diisononyl phthalate	X		X		
27554263	Diisooctyl phthalate	X				
108189	Diisopropylamine	X				
674828	Diketene (4-methylene-2-oxetanone) -	X	X			
115106	Dimethyl ether -	X	X			
131113	Dimethyl phthalate	X				
77781	Dimethyl sulfate	X				
75183	Dimethyl sulfide	X				
67685	Dimethyl sulfoxide	X				
120616	Dimethyl terephthalate -	X	X	X	X	X

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
127195	Dimethylacetamide (N,N-)	X				
124403	Dimethylamine	X		X		
108010	Dimethylaminoethanol (2-)	X				
121697	Dimethylaniline (N,N)	X				
119937	Dimethylbenzidine (3,3'-)	X				
68122	Dimethylformamide (N,N-)	X				
57147	Dimethylhydrazine (1,1-)	X				
526750	Dimethylphenol (2,3-) Xylenol (2,3-)	X				
105679	Dimethylphenol (2,4-) Xylenol (2,4-)	X				
95874	Dimethylphenol (2,5-) Xylenol (2,5-)	X				
576261	Dimethylphenol (2,6-) Xylenol (2,6-)	X		X		
95658	Dimethylphenol (3,4-) Xylenol (3,4-)	X				
108689	Dimethylphenol (3,5-) Xylenol (3,5-)	X				
25154545	Dinitrobenzenes (NOS)c	X				
99343	Dinitrobenzoic acid (3,5-)	X				
51285	Dinitrophenol (2,4-)	X				
602017	Dinitrotoluene (2,3-)	X				
121142	Dinitrotoluene (2,4-)	X		X	X	
606202	Dinitrotoluene (2,6-)	X		X	X	
610399	Dinitrotoluene (3,4-)	X				
117817	Di-o-ly phthalate	X		X	X	
97392	Di-o-tolyguanidine	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
123911	Dioxane (1,4-) (1,4-Diethyleneoxide)	X				
646060	Dioxolane (1,3-)	X				
101815	Diphenyl methane	X				
101848	Diphenyl oxide	X				
102089	Diphenyl thiourea (N,N'-)	X				
122394	Diphenylamine	X				
110985	Dipropylene glycol	X				
112414	Dodecene (branched)	X				
25378227	Dodecene (n-)	X		X	X	
123013	Dodecyl benzene (branched)	X			X	
121158585	Dodecyl phenol (branched)	X				
28675174	Dodecylaniline	X				
121013	Dodecylbenzene (n-)	X				
27176870	Dodecylbenzene sulfonic acid	X		X	X	
25155300	Dodecylbenzene sulfonic acid, sodium salt	X		X	X	
	Dodecylbenzene, nonlinear	X		X	X	
25103586	Dodecylmercaptan (branched)	X				
27193868	Dodecylphenol	X				
106898	Epichlorohydrin (1-chloro- 2,3-epoxypropane)	X		X	X	
74840	Ethane -	X	X			
64175	Ethanol -	X	X	X	X	

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
141435	Ethanolamine (2-Aminoethanol)	X		X	X	
141786	Ethyl acetate (Acetic acid, ethyl ester) <sup>1</sup> -	X	X	X	X	
141979	Ethyl acetoacetate	X				
140885	Ethyl acrylate	X		X	X	
74964	Ethyl bromide	X				
75003	Ethyl chloride (Chloroethane) -	X	X	X	X	
105395	Ethyl chloroacetate	X				
107120	Ethyl cyanide	X		X		
60297	Ethyl ether	X				
75081	Ethyl mercaptan (ethanethiol)	X				
122510	Ethyl orthoformate	X				
95921	Ethyl oxalate	X				
41892711	Ethyl sodium oxalacetate	X				
75047	Ethylamine	X				
103695	Ethylaniline (n-)	X				
578541	Ethylaniline (o-)	X				
100414	Ethylbenzene	X		X	X	
9004573	Ethylcellulose	X				
105566	Ethylcyanoacetate	X				
74851	Ethylene -	X	X	X	X	
96491	Ethylene carbonate	X				
107073	Ethylene chlorohydrin	X				
106934	Ethylene dibromide (Dibromoethane)	X		X	X	



<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
107062	Ethylene dichloride -	X	X	X	X	X
107211	Ethylene glycol	X		X		
111557	Ethylene glycol diacetate	X				
112481	Ethylene glycol dibutyl ether	X				
629141	Ethylene glycol diethyl ether (1,2-diethoxyethane)	X				
110714	Ethylene glycol dimethyl ether	X				
542596	Ethylene glycol monoacetate	X				
111762	Ethylene glycol monobutyl ether	X		X	X	
112072	Ethylene glycol monobutyl ether acetate	X			X	
110805	Ethylene glycol monoethyl ether	X		X		
111159	Ethylene glycol monoethyl ether acetate	X		X	X	
109864	Ethylene glycol monomethyl ether	X		X	X	
110496	Ethylene glycol monomethyl ether acetate	X				
	Ethylene glycol monoethyl ether	X				
122996	Ethylene glycol monophenyl ether	X				
2807309	Ethylene glycol monopropyl ether	X				
75218	Ethylene oxide -	X	X	X	X	X
107153	Ethylenediamine	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
60004	Ethylenediamine tetraacetic acid	X				
151564	Ethylenimine (Aziridine)	X				
149575	Ethylhexanoic acid (2-)	X				
103117	Ethylhexyl acrylate (2-isomer)	X				
	Ethylhexyl succinate (2-)	X				
25550145	Ethylmethylbenzene	X		X		
206440	Fluoranthene	X				
50000	Formaldehyde -	X	X	X	X	X
75127	Formamide	X				
64186	Formic acid -	X	X			X
110178	Fumaric acid	X				
111308	Glutaraldehyde	X				
367475	Glyceraldehyde	X				
56815	Glycerol	X		X	X	
26545737	Glycerol dichlorohydrin	X				
556525	Glycidol	X				
56406	Glycine	X				
	Glycol ethers	X				
107222	Glyoxal (ethane dial) -	X	X			X
	Guanidine	X				
506934	Guanidine nitrate	X				
592-76-7	Heptenes	X		X	X	
118741	Hexachlorobenzene	X				
87683	Hexachlorobutadiene	X				
77474	Hexachlorocyclopentadiene	X				

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
67721	Hexachloroethane	X				
36653824	Hexadecyl alcohol (1-hexadecanol)	X				
4860031	Hexadecyl chloride			X		
592450	Hexadiene (1,4-)	X				
3323533	Hexamethylene diamine adipate	X		X	X	
124094	Hexamethylenediamine	X		X	X	
100970	Hexamethylenetetramine	X		X	X	
110543	Hexane	X		X	X	
106694	Hexanetriol (1,2,6-)	X				
111273	Hexyl alcohol	X				
107415	Hexylene glycol	X				
	Higher glycols	X				
74908	Hydrogen cyanide -	X	X	X		X
123319	Hydroquinone	X				
141311	Hydroxyadipaldehyde	X				
99967	Hydroxybenzoic acid (p-)	X				
111422	Iminodiethanol (2,2-) (diethanolamine)	X				
123513	Isoamyl alcohol	X				
	Isoamyl chloride (mixed)	X				
26760645	Isoamylene	X				
75285	Isobutane	X		X	X	
78831	Isobutanol	X		X	X	
110190	Isobutyl acetate	X				
106638	Isobutyl acrylate	X				
97869	Isobutyl methacrylate	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
109535	Isobutyl vinyl ether	X				
115117	Isobutylene	X		X	X	
78842	Isobutyraldehyde (2-methyl-propanal)	X		X	X	
79312	Isobutyric acid -	X	X			X
25339177	Isodecanol	X		X		
	Isohexyldecyl alcohol	X				
27458-94-2	Isononyl alcohol	X				
26952216	Isooctyl alcohol	X		X		
78784	Isopentane	X		X	X	
78591	Isophorone	X				
7027114	Isophorone nitrile	X				
121915	Isophthalic acid -	X	X	X		X
78795	Isoprene	X		X	X	
67630	Isopropanol	X		X	X	
108214	Isopropyl acetate	X				
75296	Isopropyl chloride	X				
108203	Isopropyl ether	X				
75310	Isopropylamine	X				
25168063	Isopropylphenol	X				
463514	Ketene	X		X	X	
79334	Lactic acid	X				
1643-20-5	Lauryl dimethylamine oxide	X				
6080564	Lead acetate	X				
17976- 436-1	Lead phthalate	X				
1335326	Lead subacetate	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
	Linear alcohols, ethoxylated and sulfated, sodium salt, mixed	X		X	X	
	Linear alcohols, ethoxylated, mixed	X		X	X	
	Linear alcohols, sulfated, sodium salt, mixed			X	X	
	Linear alkyl benzene (linear dodecylbenzene)	X				
142723	Magnesium acetate (Acetic acid, magnesium salt)	X		X		
110167	Maleic acid -	X	X			
108316	Maleic anhydride -	X	X	X	X	X
123331	Maleic hydrazide	X				
6915157	Malic acid	X				
108781	Melamine (1,3,5-triazine- 2,4,6-triamine)	X		X		
1600277	Mercuric acetate	X				
141797	Mesityl oxide -	X	X	X	X	
121471	Metanilic acid	X				
79414	Methacrylic acid	X				
126987	Methacrylonitrile	X		X		
513428	Methallyl alcohol	X				
563473	Methallyl chloride	X				
74828	Methane -	X	X			
67561	Methanol -	X	X	X	X	
63683	Methionine	X				
79209	Methyl acetate -	X	X			
105453	Methyl acetoacetate	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
96333	Methyl acrylate	X				
74839	Methyl bromide (Bromomethane)	X				
	Methyl butenols	X				
37365712	Methyl butynol	X				
74873	Methyl chloride (Chloromethane) -	X	X	X	X	
78933	Methyl ethyl ketone (2-butanone) -	X	X	X	X	X
107313	Methyl formate	X				
60344	Methyl hydrazine	X				
74884	Methyl iodide -	X	X	X		
108112	Methyl isobutyl carbinol	X				
108101	Methyl isobutyl ketone (Hexone)	X		X	X	
624839	Methyl isocyanate	X				
74931	Methyl mercaptan	X				
80626	Methyl methacrylate	X		X	X	
98851	Methyl phenyl carbinol	X				
119368	Methyl salicylate	X				
1634044	Methyl tert-butyl ether	X		X	X	
74895	Methylamine	X		X	X	
100618	Methylaniline (N-)	X				
910807	Methylbenzene (80/20 mixture) -	X				
137326	Methylbutanol (2-)	X				
108872	Methylcyclohexane	X				
25639423	Methylcyclohexanol	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
1331222	Methylcyclohexanone	X				
75092	Methylene chloride (Dichloromethane)	X		X	X	
101779	Methylene dianiline (4,4')	X				
101688	Methylene diphenyl diisocyanate (4,4') (MDI)	X				
79696	Methylenes (a-)	X				
90120	Methylnaphthalene (1-)	X				
91576	Methylnaphthalene (2-)	X				
107835	Methylpentane (2-)	X		X		
77758	Methylpentynol	X				
98839	Methylstyrene (a-) -	X	X			X
110918	Morpholine	X				
91203	Naphthalene	X		X	X	
85472	Naphthalene sulfonic acid (a-)	X				
120183	Naphthalene sulfonic acid (b-)	X				
1338-24-5	Naphthenic acids	X				
90153	Naphthol (a-)	X				
135193	Naphthol (b-)	X				
567180	Naphtholsulfonic acid (1-)	X				
134327	Naphthylamine (1-)	X				
91598	Naphthylamine (2-)	X				
84866	Naphthylamine sulfonic acid (1,4-)	X				
81163	Naphthylamine sulfonic acid (2,1-)	X				
75832	Neohexane	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
75989	Neopentanoic acid	X				
126307	Neopentyl glycol	X				
142825	n-Heptane	X		X	X	
3349-06-2	Nickel formate	X				
	Nitriloacetic acid	X				
99092	Nitroaniline (m-)	X				
88744	Nitroaniline (o-)	X				
100016	Nitroaniline (p-)	X				
91236	Nitroanisole (o-)	X				
100174	Nitroanisole (p-)	X				
98953	Nitrobenzene	X		X	X	
121926	Nitrobenzoic acid (m-)	X				
552169	Nitrobenzoic acid (o-)	X				
62237	Nitrobenzoic acid (p-)	X				
122-04-3	Nitrobenzoyl chloride (p-)	X				
79243	Nitroethane	X				
556887	Nitroguanidine	X				
75525	Nitromethane	X				
86577	Nitronaphthalene (1-)	X				
88755	Nitrophenol (o-)	X				
100027	Nitrophenol (p-)	X				
25322014	Nitropropane (1-)	X				
79469	Nitropropane (2-)	X				
1321126	Nitrotoluene (all isomers)	X				
99081	Nitrotoluene (m-)	X				
88722	Nitrotoluene (o-)	X				



<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
99990	Nitrotoluene (p-)	X				
25168041	Nitroxylenes	X				
27215958	Nonene	X		X	X	
1430808	Nonyl alcohol	X		X	X	
1081772	Nonylbenzene (branched)	X				
25154523	Nonylphenol	X		X	X	
25154523	Nonylphenol (branched)	X				
9016459	Nonylphenol, ethoxylated	X		X	X	
111659	Octane	X				
111660	Octene-1	X		X	X	
107459	Octylamine (tert-)	X				
27193288	Octylphenol	X				
	Oil-soluble petroleum sulfonate calcium salt	X		X	X	
	Oil-soluble petroleum sulfonate sodium salt	X		X		
144627	Oxalic acid	X				
471465	Oxamide	X				
	Oxo chemicals	X				
30525894	Paraformaldehyde	X				
123637	Paraldehyde	X				
87865	Pentachlorophenol	X				
78-11-5	Pentaerythritol tetranitrate	X				
109660	Pentane	X		X		
115775	Pentanethiol	X		X	X	
6032297	Pentanol (2-)	X				
584021	Pentanol (3-)	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
109671	Pentene (1-)	X		X	X	
109682	Pentene (2-)	X				
79210	Peracetic acid	X				
594423	Perchloromethyl mercaptan	X				
62442	Phenacetin	X				
85018	Phenanthrene	X				
94702	Phenetidine (o-)	X				
156434	Phenetidine (p-)	X				
108952	Phenol -	X	X	X	X	X
77098	Phenolphthalein	X				
1333397	Phenolsulfonic acids (all isomers)	X				
91407	Phenyl anthranilic acid (all isomers)	X				
108452	Phenylenediamine (m-)	X				
95545	Phenylenediamine (o-)	X				
106503	Phenylenediamine (p-)	X				
89-25-8	Phenylmethylpyrazolone	X				
103651	Phenylpropane	X		X	X	
108736	Phloroglucinol (1,3,5- benzenetriol)	X				
75445	Phosgene	X		X	X	
88993	Phthalic acid	X				
85449	Phthalic anhydride -	X	X	X	X	X
85416	Phthalimide	X				
91156	Phthalonitrile	X				
109-06-8	Picoline (a-)	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
108996	Picoline (b-)	X				
96-91-3	Picramic acid	X				
88891	Picric acid	X				
110850	Piperazine	X				
504609	Piperlyene	X				
25322683	Polyethylene glycol	X				
25322694	Polypropylene glycol	X				
127082	Potassium acetate	X				
74986	Propane -	X	X	X	X	
57578	Propiolactone (beta-) (2-Oxetanone)	X				
123386	Propionaldehyde	X		X	X	
79094	Propionic acid -	X	X	X		X
109604	Propyl acetate (n-)	X				
71238	Propyl alcohol (n-)	X		X	X	
540545	Propyl chloride	X				
107108	Propylamine	X				
115071	Propylene -	X	X	X	X	
127004	Propylene chlorohydrin	X		X		
57556	Propylene glycol	X		X	X	
107982	Propylene glycol monomethyl ether	X				
75569	Propylene oxide -	X	X	X	X	X
95636	Pseudocumene	X				
137-17-7	Pseudocumidine	X				
129000	Pyrene	X				
110861	Pyridine	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
616455	Pyrrolidone (2-)	X				
106514	Quinone	X				
108463	Resorcinol (1,3-benzenediol)	X				
69727	Salicylic acid	X				
11206	Sebacic acid	X				
127093	Sodium acetate	X				
532321	Sodium benzoate	X				
3926623	Sodium chloroacetate	X				
143339	Sodium cyanide	X		X		
25155-30-0	Sodium dodecyl benzene sulfonate	X				
141537	Sodium formate	X				
124414	Sodium methoxide	X				
62760	Sodium oxalate	X				
139026	Sodium phenate	X				
137406	Sodium propionate	X				
110441	Sorbic acid	X				
50704	Sorbitol (D-Glucitol)	X		X	X	
588590	Stilbene	X				
100425	Styrene -	X	X	X	X	X
110156	Succinic acid	X				
110612	Succinonitrile	X				
121573	Sulfanilic acid	X				
126330	Sulfolane	X				
	Synthesis gas	X				

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
	Tallow acids, sodium salt Tetra (methyl-ethyl) plumbane	X				
526830	Tartaric acid	X				
100210	Terephthalic acid -	X	X	X	X	X
100209	Terephthaloyl chloride	X				
	Tetra (methyl-ethyl) lead	X		X	X	
632791	Tetrabromophthalic anhydride	X				
634-90-2	Tetrachlorobenzene (1,2,3,5-)	X				
95943	Tetrachlorobenzene (1,2,4,5-)	X				
79345	Tetrachloroethane (1,1,2,2-)	X		X		
127184	Tetrachloroethylene (Perchloroethylene)	X		X	X	
117088	Tetrachlorophthalic anhydride	X				
78002	Tetraethyl lead	X		X	X	
112607	Tetraethylene glycol	X				
112572	Tetraethylenepentamine	X				
116-14-3	Tetrafluoroethylene	X				
109999	Tetrahydrofuran	X		X	X	
119642	Tetrahydronaphthalene	X				
85438	Tetrahydrophthalic anhydride	X				
110601	Tetramethylenediamine	X				
110189	Tetramethylethylene- diamine	X				
75741	Tetramethyllead	X		X	X	

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
62566	Thiourea	X				
108883	Toluene	X		X	X	
95807	Toluene diamine (2,4-)	X		X		
584849	Toluene diisocyanate (2,4-)	X				
26471627	Toluene diisocyanates (mixture)	X		X	X	
1333079	Toluene sulfonamides (o- and p-)	X				
104154	Toluene sulfonic acids	X				
584-84-9 (2,4-TDI) and 91-08-7 (2,6-TDI)	Toluene-2,4 (and 2,6)- diisocyanate (80/20) mixture			X		
98599	Toluenesulfonyl chloride	X				
95534	Toluidine (o-)	X				
76039	Trichloroacetic acid	X				
634935	Trichloroaniline (2,4,6-)	X				
87616	Trichlorobenzene (1,2,3-)	X				
120821	Trichlorobenzene (1,2,4-)	X				
108703	Trichlorobenzene (1,3,5-)	X				
71556	Trichloroethane (1,1,1-)	X		X	X	
79005	Trichloroethane (1,1,2-)	X		X	X	
79016	Trichloroethylene	X		X	X	
75694	Trichlorofluoromethane	X		X	X	
95954	Trichlorophenol (2,4,5-)	X				
96184	Trichloropropane (1,2,3-)	X				
1330785	Tricresyl phosphate	X				

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<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
112709	Tridecyl alcohol	X				
102716	Triethanolamine	X		X	X	
121448	Triethylamine	X				
112276	Triethylene glycol	X		X	X	
112492	Triethylene glycol dimethyl ether	X				
112505	Triethylene glycol monoethyl ether	X				
112356	Triethylene glycol monomethyl ether	X				
7756947	Triisobutylene	X				
552307	Trimellitic anhydride	X				
144194	Trimethyl-1,3-pentanediol (2,2,4-)	X				
16325636	Trimethyl-1-pentanol (2,4,4-)	X				
75503	Trimethylamine	X				
933482	Trimethylcyclohexanol	X				
2408379	Trimethylcyclohexanone	X				
34216347	Trimethylcyclohexylamine	X				
77996	Trimethylolpropane	X				
540841	Trimethylpentane (2,2,4-)	X				
24800440	Tripropylene glycol	X				
57136	Urea	X				
88120	Vinyl (N-)-pyrrolidone (2-)	X				
108054	Vinyl acetate (Acetic acid, ethenyl ester)	X		X	X	
75014	Vinyl chloride (Chloroethylene)	X		X	X	

129-84.35

<i>CAS No.<sup>a</sup></i>	<i>Chemical name<sup>b</sup></i>	<i>Reactor and Distillation CTG Chemicals</i>	<i>Air Oxidation CTG Chemicals</i>	<i>Distillation NSPS Chemicals</i>	<i>Reactor Process NSPS Chemicals</i>	<i>Air Oxidation NSPS Chemicals</i>
25013154	Vinyl toluene	X				
100403	Vinylcyclohexene (4-)	X				
75354	Vinylidene chloride (1,1-dichloroethylene)	X		X	X	
140896	Xanthates	X				
108383	Xylene (m-)	X	X	X	X	
1330207	Xylene (NOS) <sup>c</sup>	X		X	X	
95476	Xylene (o-) -	X	X	X	X	
106423	Xylene (p-) -	X	X	X	X	
25321419	Xylene sulfonic acid	X				
1300716	Xylenols (Mixed)	X				
1300738	Xylidene (2,3-)	X				
1300738	Xylidene (2,4-)	X				
1300738	Xylidene (2,5-)	X				
1300738	Xylidene (2,6-)	X				
1300738	Xylidene (3,4-)	X				
1300738	Xylidene (3,5-)	X				
5970456	Zinc acetate	X				

<sup>a</sup> CAS Number = Chemical Abstract Service number.

<sup>b</sup> Isomer means all structural arrangements for the same number of atoms of each element and does not mean salts, esters or derivatives.

#### Authority

The provisions of this § 129.71a added under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.71a added January 20, 2023, effective January 21, 2023, 53 Pa.B. 465.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions).

129-84.36



**§ 129.72. Manufacture of surface active agents.**

(a) This section applies to a facility which has surface active agent manufacturing sources with a potential to emit greater than 100 tons of VOCs per year.

(b) A person may not cause or permit the emission into the outdoor atmosphere of VOCs from solvent wash tanks, reaction vessels, separators, distillation processes, solvent strippers and solvent storage tanks unless the emissions are exhausted through an emission reduction system which is designed and operated to recover or destroy at least 90% by weight of the VOC emissions exhausted to the emission reduction system.

**Authority**

The provisions of this § 129.72 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.72 adopted May 6, 1988, effective May 7, 1988, 18 Pa.B. 2098; amended May 22, 1992, effective May 23, 1992, 22 Pa. B. 2720. Immediately preceding text appears at serial page (162532).

**Cross References**

This section cited in 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.71 (relating to synthetic organic chemical and polymer manufacturing—fugitive sources); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.73. Aerospace manufacturing and rework.**

Except as provided in paragraph (1), this section applies to the manufacture or rework of commercial, civil or military aerospace vehicles or components at any facility which has the potential to emit 25 tons per year of VOCs or more.

(1) This section does not apply to cleaning and coating of aerospace components and vehicles as follows:



- (i) At any source conducting research and development for the research and development activities.
  - (ii) For quality control and laboratory testing.
  - (iii) For production of electronic parts and assemblies (except for cleaning and coating of completed assemblies).
  - (iv) For rework operations performed on antique aerospace vehicles or components.
- (2) Paragraph (3) does not apply to cleaning and coating of aerospace components and vehicles in the following circumstances:
- (i) The use of touchup, aerosol and Department of Defense “classified” coatings.
  - (ii) The coating of space vehicles.
  - (iii) At facilities that use separate formulations in volumes less than 50 gallons per year to a maximum exemption of 200 gallons per year of all the coatings in aggregate for these formulations.
- (3) Beginning April 10, 1999, a person may not apply to aerospace vehicles or components, aerospace specialty coatings, primers, topcoats and chemical milling maskants including VOC-containing materials added to the original coating supplied by the manufacturer, that contain VOCs in excess of the limits specified in Table II.
- (i) Aerospace coatings that meet the definitions of the specific coatings in Table II shall meet those allowable coating VOC limits.
  - (ii) All other aerospace primers, aerospace topcoats and chemical milling maskants are subject to the general coating VOC limits for aerospace primers, aerospace topcoats and aerospace chemical milling maskants.

**TABLE II**  
**Allowable Content of VOCs in Aerospace Coatings**  
**Weight of VOC Per Volume of Coating (Minus Water and Exempt Solvents)**

<i>COATING TYPE</i>	<i>LIMIT</i>	
	<i>POUNDS PER GALLON</i>	<i>GRAMS PER LITER</i>
Specialty Coatings		
(1) Ablative Coating	5.0	600
(2) Adhesion Promoter	7.4	890
(3) Adhesive Bonding Primers:		
(a) Cured at 250°F or below	7.1	850

<i>COATING TYPE</i>	<i>LIMIT</i>	
	<i>POUNDS PER GALLON</i>	<i>GRAMS PER LITER</i>
(b) Cured above 250°F	8.6	1,030
(4) Adhesives:		
(a) Commercial Interior Adhesive	6.3	760
(b) Cyanoacrylate Adhesive	8.5	1,020
(c) Fuel Tank Adhesive	5.2	620
(d) Nonstructural Adhesive	3.0	360
(e) Rocket Motor Bonding Adhesive	7.4	890
(f) Rubber-Based Adhesive	7.1	850
(g) Structural Autoclavable Adhesive	0.5	60
(h) Structural Nonautoclavable Adhesive	7.1	850
(5) Antichafe Coating	5.5	660
(6) Chemical Agent-Resistant Coating	4.6	550
(7) Clear Coating	6.0	720
(8) Commercial Exterior Aerodynamic Structure Primer	5.4	650
(9) Compatible Substrate Primer	6.5	780
(10) Corrosion Prevention Compound	5.9	710
(11) Cryogenic Flexible Primer	5.4	645
(12) Cryoprotective Coating	5.0	600
(13) Electric or Radiation-Effect Coating	6.7	800
(14) Electrostatic Discharge and Electromagnetic Interference (EMI) Coating	6.7	800
(15) Elevated Temperature Skydrol Resistant Commercial Primer	6.2	740
(16) Epoxy Polyamide Topcoat	5.5	660
(17) Fire-Resistant (Interior) Coating	6.7	800

<i>COATING TYPE</i>	<i>LIMIT</i>	
	<i>POUNDS PER GALLON</i>	<i>GRAMS PER LITER</i>
(18) Flexible Primer	5.4	640
(19) Flight-Test Coatings:		
(a) Missile or Single Use Aircraft	3.5	420
(b) All Other	7.0	840
(20) Fuel-Tank Coating	6.0	720
(21) High-Temperature Coating	7.1	850
(22) Insulation Covering	6.2	740
(23) Intermediate Release Coating	6.2	750
(24) Lacquer	6.9	830
(25) Maskants:		
(a) Bonding Maskant	10.2	1,230
(b) Critical Use and Line Sealer Maskant	8.6	1,020
(c) Seal Coat Maskant	10.2	1,230
(26) Metallized Epoxy Coating	6.2	740
(27) Mold Release	6.5	780
(28) Optical Anti-Reflective Coating	6.2	750
(29) Part Marking Coating	7.1	850
(30) Pretreatment Coating	6.5	780
(31) Rain Erosion-Resistant Coating	7.1	850
(32) Rocket Motor Nozzle Coating	5.5	660
(33) Scale Inhibitor	7.3	880
(34) Screen Print Ink	7.0	840
(35) Sealants:		
(a) Extrudable/Rollable/Brushable Sealant	2.0	240
(b) Sprayable Sealant	5.0	600

<i>COATING TYPE</i>	<i>LIMIT</i>	
	<i>POUNDS PER GALLON</i>	<i>GRAMS PER LITER</i>
(36) Self-Priming Topcoat	3.5	420
(37) Silicone Insulation Material	7.1	850
(38) Solid Film Lubricant	7.3	880
(39) Specialized Function Coating	7.4	890
(40) Temporary Protective Coating	2.7	320
(41) Thermal Control Coating	6.7	800
(42) Wet Fastener Installation Coating	5.6	675
(43) Wing Coating	7.1	850
Aerospace Primers, Aerospace Topcoats and Aerospace Chemical Milling Maskants		
(1) Primers	2.9	350
(2) Topcoats	3.5	420
(3) Chemical Milling Maskants (Type I/II)	1.3	160

(4) The mass of VOC per combined volume of VOC and coating solids, less water and exempt compounds shall be calculated for each coating by the following equation:

$$VOC = \frac{(W_v - W_w - W_{ex})(D_c)}{100\% - (W_w)(D_c/D_w) - (W_{ex})(D_c/D_{ex})}$$

Where:

VOC = VOC content in grams per liter (g/l) of each coating less water and exempt solvents,

$W_v$  = Weight of total volatiles, % (100% – Weight % Nonvolatiles),

$W_w$  = Weight of water, %,

$W_{ex}$  = Weight of exempt solvent, %

$D_c$  = Density of coating, g/l at 25°C,

$D_w$  = Density of water,  $0.997 \times 10^3$  g/l at 25°C, and

$D_{ex}$  = Density of exempt solvent, g/l, at 25°C.

To convert from grams per liter (g/l) to pounds per gallon (lb/gal), multiply the result (VOC content) by  $8.345 \times 10^3$  (lb/gal/g/l).

(5) Except as provided in paragraph (6), beginning April 10, 1999, a person shall use one or more of the following application techniques in applying primer or topcoat to aerospace vehicles or components:

- (i) Flow/curtain coat.
- (ii) Dip coat.
- (iii) Roll coating.
- (iv) Brush coating.
- (v) Cotton-tipped swab application.
- (vi) Electrodeposition (DIP) coating.
- (vii) High volume low pressure (HVLP) spraying.
- (viii) Electrostatic spray.

(6) The following situations are exempt from application equipment requirements listed in paragraph (5):

- (i) Any situation that normally requires the use of an airbrush or an extension on the spray gun to properly apply coatings to limited access spaces.
- (ii) The application of specialty coatings.
- (iii) The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the applicant has demonstrated and the Department has determined cannot be applied by any of the application methods specified in paragraph (5).
- (iv) The application of coatings that normally have a dried film thickness of less than 0.0013 centimeter (0.0005 in.) when the applicant has demonstrated and the Department has determined cannot be applied by any of the application methods specified in paragraph (5).
- (v) The use of airbrush application methods for stenciling, lettering and other identification markings.
- (vi) The use of hand-held spray can application methods.
- (vii) Touch-up and repair operations.

(7) Except as provided in paragraph (8), beginning April 10, 1999, a person may not use solvents for hand-wipe cleaning of aerospace vehicles or components unless the cleaning solvents do one of the following:

- (i) Meet the definition of “aqueous cleaning solvent” in § 121.1 (relating to definitions).
- (ii) Have a VOC composite vapor pressure less than or equal to 45 millimeters (mmHg) at 20°C.
- (iii) Is composed of a mixture of VOCs and has a maximum vapor pressure of 7 millimeters (mmHg) at 20°C (3.75 inches water at 68°F) and contains no hazardous air pollutants (HAP) or ozone depleting compounds.

(8) The following aerospace vehicle and component solvent cleaning operations are exempt from paragraph (7):

(i) Cleaning during the manufacture, assembly, installation, maintenance or testing of components of breathing oxygen systems that are exposed to the breathing oxygen.

(ii) Cleaning during the manufacture, assembly, installation, maintenance or testing of parts, subassemblies or assemblies that are exposed to strong oxidizers or reducers (for example, nitrogen tetroxide, liquid oxygen, hydrazine).

(iii) Cleaning and surface activation prior to adhesive bonding.

(iv) Cleaning of electronics parts and assemblies containing electronics parts.

(v) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems.

(vi) Cleaning of fuel cells, fuel tanks and confined spaces.

(vii) Surface cleaning of solar cells, coated optics and thermal control surfaces.

(viii) Cleaning during fabrication, assembly, installation and maintenance of upholstery, curtains, carpet and other textile materials used in or on the interior of the aircraft.

(ix) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components.

(x) Cleaning of aircraft transparencies, polycarbonate or glass substrates.

(xi) Cleaning and solvent usage associated with research and development, quality control or laboratory testing.

(xii) Cleaning operations, using nonflammable liquids, conducted within 5 feet of any alternating current (AC) or direct current (DC) electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections.

(xiii) Cleaning operations identified in an essential use waiver under section 604(d)(1) of the Clean Air Act (42 U.S.C.A. § 7671c(d)(1)) or a fire suppression or explosion prevention waiver under section 604(g)(1) of the Clean Air Act which has been reviewed and approved by the EPA and the voting parties of the International Montreal Protocol Committee.

(9) Cleaning solvents, except for semiaqueous cleaning solvents, used in the flush cleaning of aerospace vehicles, components, parts, and assemblies and coating unit components, shall be emptied into an enclosed container or collection system that is kept closed when not in use or captured with wipers which



comply with the housekeeping requirements of paragraph (11). Aqueous cleaning solvents are exempt from these requirements.

(10) Spray guns used to apply aerospace coatings shall be cleaned by one of the following:

(i) An enclosed spray gun cleaning system that is kept closed when not in use. Leaks, including visible leakage, misting and clouding, shall be repaired within 14 days from when the leak is first discovered. Each owner or operator using an enclosed spray gun cleaner shall visually inspect the seals and all other potential sources of leaks at least once per month. The results of each inspection shall be recorded, and the record shall indicate the date of the inspection, the person who conducted the inspection and whether components were leaking. Records of the inspections shall be maintained for at least 2 years. Each inspection shall occur while the spray gun cleaner is in operation. If the leak is not repaired by the 15th day after detection, the solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

(ii) Unatomized discharge of solvent into a waste container that is kept closed when not in use.

(iii) Disassembly of the spray gun and cleaning in a vat that is kept closed when not in use.

(iv) Atomized spray into a waste container that is fitted with a device designed to capture atomized solvent emissions.

(11) The owner or operator of an affected facility shall implement the following housekeeping measures for cleaning solvents:

(i) Fresh and used cleaning solvents, except aqueous and semiaqueous cleaning solvents, used in solvent cleaning operations shall be stored in non-absorbent, nonleaking containers. The containers shall be kept closed at all times except when filling or emptying.

(ii) Cloth and paper, or other absorbent applicators, moistened with cleaning solvents, except aqueous cleaning solvents, shall be stored in closed, nonabsorbent, nonleaking containers. Cotton-tipped swabs used for very small cleaning operations are exempt.

(iii) Handling and transfer procedures shall minimize spills during filling and transferring the cleaning solvent, except aqueous cleaning solvents, to or from enclosed systems, vats, waste containers and other cleaning operation equipment that holds or stores fresh or used cleaning solvents.

(12) The owner or operator of an affected facility may comply with this section by using approved air pollution control equipment provided that the following exist:

(i) The control system has combined VOC emissions capture and control equipment efficiency of at least 81% by weight.

(ii) The owner or operator received approval from the Department of a monitoring plan that specifies the applicable operating parameter value, or

range of values, to ensure ongoing compliance with this section. The monitoring device shall be installed, calibrated, operated and maintained in accordance with the manufacturer's specifications, good air pollution control practices that minimize VOC emissions, and the Department's approval.

(iii) The owner or operator shall record monitoring parameters as specified in the approved monitoring plan.

(13) The owner or operator of an affected facility shall maintain records in accordance with §§ 129.51 and 129.52 (relating to general; and surface coating processes) including:

(i) A current list of coatings in use categorized in accordance with Table II showing VOC content as applied and usage on an annual basis.

(ii) A current list of cleaning solvents used and annual usage for hand wiping solvents including the water content of aqueous and semiaqueous solvents and the vapor pressure and composite vapor pressure of all vapor pressure compliant solvents and solvent blends.

(iii) A current list and annual usage information for exempt hand-wipe cleaning solvents with a vapor pressure greater than 45 millimeters of mercury (mmHg) used in exempt hand-wipe cleaning operations.

#### Authority

The provisions of this § 129.73 issued under section 5(a)(1), (8) and (13) of the Air Pollution Control Act (35 P.S. § 4005(a)(1), (8) and (13)).

#### Source

The provisions of this § 129.73 adopted April 9, 1999, effective April 10, 1999, 29 Pa.B. 1879; amended August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814. Immediately preceding text appears at serial pages (380460) to (380467).

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); and 25 Pa. Code § 129.96 (relating to applicability).

### § 129.74. Control of VOC emissions from fiberglass boat manufacturing materials.

#### (a) *Applicability.*

(1) This section applies to the owner and operator of a facility that manufactures a hull or a deck of a boat or a related part from fiberglass, builds a mold or plug to make a fiberglass boat hull or deck or related part, or makes polyester resin putties for assembling fiberglass boat parts, when the total actual VOC emissions from fiberglass boat manufacturing operations identified in Table I are equal to or greater than 15 pounds (6.8 kilograms) per day or 2.7 tons per 12-month rolling period, before consideration of controls. The total actual VOC emissions include the actual VOC emissions from the manufacture of hulls or decks from fiberglass, fiberglass boat parts (including small parts such as hatches, seats and lockers), molds or plugs for fiberglass hulls, decks or boat parts, resin and gel coat mixing operations, resin and gel coat application equipment and related cleaning activities at the facility.

(2) This section does not apply to the owner and operator of a facility that manufactures boat trailers or parts of boats, such as hatches, seats and lockers, but does not manufacture hulls or decks of boats from fiberglass or build molds to make fiberglass boat hulls or decks.

**Table I: Compliant Monomer VOC Content Limit for  
Open Molding Resin and Gel Coat Materials**

<i>Open Molding Resin or Gel Coat Material</i>	<i>Application Method</i>	<i>Individual Monomer VOC Content or Weighted Average Monomer VOC Content (weight percent)</i>
Production Resin	Atomized Spray	28
Production Resin	Non-atomized	35
Pigmented Gel Coat	Any Method	33
Clear Gel Coat	Any Method	48
Tooling Resin	Atomized Spray	30
Tooling Resin	Non-atomized	39
Tooling Gel Coat	Any Method	40

(b) *Definitions.* The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:

*Application equipment cleaning*—The process of flushing or removing resin or gel coat material, or both, from the interior or exterior of equipment that is used to apply resins or gel coats in the manufacture of fiberglass parts.

*Assembly adhesives*—A chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

*Atomized application method*—

(i) A resin application technology in which the resin leaves the application equipment and breaks into droplets or an aerosol as it travels from the application equipment to the surface of the part.

(ii) The term includes resin spray guns and resin chopper spray guns.

*Boat*—A vessel, other than a seaplane, that can be used for transportation on the water.

*Clear gel coat*—

(i) A polyester resin material that is clear or translucent so that underlying colors are visible. These materials are used to manufacture parts for sale.

(ii) The term does not include tooling gel coats used to build or repair molds.

*Closed molding—*

(i) A process in which pressure is used to distribute resin through the reinforcing fabric placed between two mold surfaces to either saturate the

fabric or fill the mold cavity. The pressure may be clamping pressure, fluid pressure, atmospheric pressure or vacuum pressure used either alone or in combination. The mold surfaces may be rigid or flexible.

(ii) The term includes compression molding with sheet molding compound, infusion molding, resin injection molding, vacuum assisted resin transfer molding, resin transfer molding and vacuum assisted compression molding.

(iii) The term does not include:

(A) A process in which a closed mold is used only to compact saturated fabric or remove air or excess resin from the fabric, such as in vacuum bagging.

(B) Open molding steps, such as application of a gel coat or skin coat layer by conventional open molding.

*Cured resin*—A thermosetting plastic material containing styrene or methyl methacrylate or gel coat that has changed irreversibly from a liquid to a solid.

*Fiberglass*—A material consisting of glass fibers made in the form of cloth, mat or roving.

*Fiberglass boat*—A vessel in which either the hull or deck, or both, is built from a composite material consisting of a thermosetting resin matrix reinforced with fibers of glass, carbon, aramid or other material.

*Filled resin*—A thermosetting plastic material to which an inert material has been added to change viscosity, density, shrinkage or other physical properties, particularly for building molds.

*Flowcoater*—A non-atomizing application method of applying resins and gel coats to an open mold with a fluid nozzle in a fan pattern with no air supplied to the nozzle.

*Gel coat*—

(i) A clear or pigmented polyester resin material that does not contain reinforcing fibers and becomes the outer or inner surface of a finished boat product or mold.

(ii) The term includes a clear or pigmented polyester resin mixed with metal flakes.

*Glass cloth*—A fabric made of woven yarns of glass fibers.

*Glass mat*—A prepared material consisting of short glass fibers that are fixed to each other in a random pattern by a chemical binder or are mechanically stitched to a lightweight fabric.

*Glass roving*—A bundle of continuous glass fibers that is fed from a spool to a specialized gun that chops the bundle into short fibers, mixes the fibers with catalyzed resin and deposits the mixture on the mold surface in a random pattern.

*Mixing*—An operation in which resin or gel coat, including the mixing of putties or polyester resin putties, is combined with additives that include fillers, promoters or catalysts.

*Mold—*

- (i) The cavity or surface into or on which gel coat, resin and fibers are placed and from which finished fiberglass parts take their form.
- (ii) The term is also known as a tool.

*Monomer VOC*—A VOC that partially combines with itself or other similar compounds by a cross-linking reaction to become a part of the cured resin.

*Monomer VOC content*—The weight of the monomer divided by the weight of the polymer.

*Non-atomized application method—*

- (i) A resin application technology in which the resin is not broken into droplets or into an aerosol as the resin travels from the application equipment to the surface of the part.
- (ii) The term includes flowcoaters, chopper flowcoaters, pressure-fed resin rollers, resin impregnators and hand application (for example, paint brush or paint roller).

*Open molding—*

- (i) A process in which the reinforcing fibers and resin are placed in the mold and are open to the surrounding air while the reinforcing fibers are saturated with resin.
- (ii) The term includes:
  - (A) An operation in which a vacuum bag or similar cover is used to compress an uncured laminate to remove air bubbles or excess resin or to achieve a bond between a core material and a laminate.
  - (B) Application of a gel coat or skin coat layer prior to a closed molding process.
  - (C) A process in which a closed mold is used only to compact saturated fabric or to remove air or excess resin from the fabric (such as in vacuum bagging).

*Pigmented gel coat—*

- (i) An opaque polyester resin material used to manufacture parts for sale.
- (ii) The term does not include tooling gel coats used to build or repair molds.

*Plug—*

- (i) A full-size model of the part to be manufactured. The mold is built over the finished model.
- (ii) The term is also known as a prototype.

*Polyester resin material*—An unsaturated thermosetting plastic material, such as an isophthalic, orthophthalic, halogenated, bisphenol A, vinylester or furan resin, a cross-linking agent, a catalyst, a gel coat, an inhibitor, an accelerator, a promoter or other material containing VOC used in polyester resin operations.

*Polyester resin operation*—A process in which an unsaturated polyester resin material is used to fabricate, rework, repair or touch-up a product for commer-

cial, military or industrial use by mixing, pouring, hand laying-up, impregnating, injecting, forming, winding, spraying or curing.

*Polyputty or putty*—A polyester or vinylester resin mixed with inert fillers or fibers. The mixture is used to assemble fiberglass parts and to fill gaps between parts. The applied material becomes part of the composite structure. These materials are not considered industrial adhesives.

*Production resin*—

- (i) A thermosetting plastic material used to manufacture parts for sale.
- (ii) The term does not include tooling resins used to build or repair molds and assembly adhesives.

*Repair*—The addition of polyester resin material to a portion of a previously fabricated product to mend damage.

*Resin*—A thermosetting plastic material containing styrene or methyl methacrylate, with or without pigment, used to encapsulate and bind together reinforcement fibers in the construction of fiberglass parts.

*Resin impregnator*—A mechanical non-atomizing composite material application method in which fiber reinforcement is saturated with one or more resins in a controlled ratio for each specific composite product.

*Roll-out*—The process of using rollers, squeegees or similar tools to compact reinforcing materials saturated with resin to remove trapped air or excess resin.

*Skin coat*—A layer of resin and fibers applied over the gel coat to protect the gel coat from being deformed by the next laminate layer.

*Tooling gel coat*—A polyester resin material containing styrene or methyl methacrylate, or both, that becomes the interior surface of a mold, supported by resin and fiberglass, or the exterior surface of a plug used to create a mold or is used to repair a mold.

*Tooling resin*—A thermosetting plastic material, hardened by a catalyst, used to construct or repair a mold or a plug for a mold for the manufacture of a fiberglass boat hull, deck or other part.

*Touch-up*—The application of material to cover minor imperfections.

*Vacuum bagging*—

- (i) A molding technique in which the reinforcing fabric is saturated with resin, covered with a flexible sheet that is sealed to the edge of the mold and a vacuum is applied under the sheet to compress the laminate, remove excess resin or remove trapped air from the laminate during curing.

- (ii) The term does not include a process that meets the definition of “closed molding.”

*Vacuum bagging with roll-out*—A partially closed molding technology that rolls the resin and fabric before the application of vacuum bagging materials.

*Vacuum bagging without roll-out*—A partially closed molding technology that applies vacuum bagging materials to the mold immediately after resin application without rolling the resin and fabric.

*Vinylester resin*—A thermosetting plastic material containing one or more esters of acrylic or methacrylic acids and having double-bond and ester linkage sites only at the ends of the resin molecules.

(c) *Exceptions.* The requirements of this section do not apply to the following circumstances:

- (1) A resin application process in a closed molding operation as defined in subsection (b).
- (2) A surface coating applied to a fiberglass boat.
- (3) A surface coating for a fiberglass and metal recreational boat.
- (4) An industrial adhesive used in the assembly of a fiberglass boat. Industrial adhesives used in fiberglass boat assembly are regulated under § 129.77 or Chapter 130, Subchapter D (relating to control of emissions from the use or application of adhesives, sealants, primers and solvents; and adhesives, sealants, primers and solvents).

(d) *Existing RACT permit.* The requirements of this section supersede the requirements of a RACT permit issued to the owner and operator of a source subject to subsection (a) prior to December 19, 2015, under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to control, reduce or minimize VOCs from a fiberglass boat manufacturing process, except to the extent the RACT permit contains more stringent requirements.

(e) *Compliance deadline.* The owner and operator of a facility subject to this section shall comply with the applicable requirements beginning December 19, 2015.

(f) *Emission limits.* Except as specified in subsection (h) or (j), the owner and operator of a facility subject to this section may not cause or permit the emission into the outdoor atmosphere of monomer VOCs from an open molding resin or gel coat fiberglass boat manufacturing operation, a resin or gel coat mixing operation, or a resin or gel coat application equipment cleaning operation unless one or more of the following limitations is met:

(1) *Compliant materials option.* The individual monomer VOC content limit is achieved through the use of low-monomer VOC content open molding resin and gel coat materials by one or more of the following methods:

(i) Using only low-monomer VOC content resin and gel coat materials within a covered operation listed in Table I.

(A) The monomer VOC content of each resin or gel coat material is equal to or less than the limit specified in Table I.

(B) The monomer VOC content of each resin or gel coat material includes the amount of non-monomer VOC content that exceeds 5% by weight of the resin or gel coat material.

(ii) Averaging the monomer VOC contents for the open molding resin and gel coat materials used within a covered operation listed in Table I on a weight-adjusted basis.

(A) The combined total monomer VOC content of resin or gel coat materials of a certain type must meet the applicable monomer VOC content limit for a specific application method on a 12-month rolling weighted-average basis, calculated using the equation in clause (C).



(B) The monomer VOC content of each resin or gel coat material included in the weighted average specified in clause (A) includes the amount of non-monomer VOC content that exceeds 5% by weight of the resin or gel coat material.

(C) The weighted-average monomer VOC content on a 12-month rolling-average basis shall be calculated as follows:

$$\text{Weighted Average Monomer VOC Content} = \frac{\sum_{i=1}^n (M_i \text{VOC}_i)}{\sum_{i=1}^n (M_i)}$$

Where:

$M_i$  = Mass of open molding resin or gel coat  $i$  used in the past 12 months in an operation, in megagrams.

$\text{VOC}_i$  = Monomer VOC content, by weight percent, of open molding resin or gel coat  $i$  used in the past 12 months in an operation.

$n$  = Number of different open molding resins or gel coats used in the past 12 months in an operation.

(2) *Emissions averaging option.* The numerical monomer VOC emission rate limit is achieved through averaging emissions among different open molding resin and gel coat operations. The equations in subparagraphs (iii)—(v) shall be used to estimate the monomer VOC emission rates from each operation included in the emissions averaging option based on the material and application method.

(i) The monomer VOC content of each open molding resin or gel coat material included in the emissions averaging option includes the amount of non-monomer VOC content that exceeds 5% by weight of the resin or gel coat material.

(ii) The 12-month rolling emissions average shall be determined at the end of each calendar month.

(iii) The facility-specific monomer VOC mass emission limit on a 12-month rolling-average basis shall be calculated as follows:

$$\text{Monomer VOC Limit} = 46(M_R) + 159(M_{PG}) + 291(M_{CG}) + 54(M_{TR}) + 214(M_{TG})$$

Where:

Monomer VOC Limit = Total allowable monomer VOC that can be emitted from the open molding operations included in the emissions averaging program, in kilograms per 12-month period.

$M_R$  = Mass of production resin used in the past 12 months, excluding exempt VOC materials, in megagrams.

$M_{PG}$  = Mass of pigmented gel coat used in the past 12 months, excluding exempt VOC materials, in megagrams.

$M_{CG}$  = Mass of clear gel coat used in the past 12 months, excluding exempt VOC materials, in megagrams.

$M_{TR}$  = Mass of tooling resin used in the past 12 months, excluding exempt VOC materials, in megagrams.

$M_{TG}$  = Mass of tooling gel coat used in the past 12 months, excluding exempt VOC materials, in megagrams.

Numerical coefficients = The allowable monomer VOC emission rate for that particular material, in units of kg/Mg of material used.

(iv) At the end of the first 12-month rolling-average emissions period and at the end of each subsequent calendar month, the owner or operator of the facility shall demonstrate that the monomer VOC emissions from the operations and materials included in the emissions averaging option do not exceed the emission limit calculated under subparagraph (iii) for the same 12-month period as follows:

$$\text{Monomer VOC emissions} = (PV_R)(M_R) + (PV_{PG})(M_{PG}) + (PV_{CG})(M_{CG}) + (PV_{TR})(M_{TR}) + (PV_{TG})(M_{TG})$$

Where:

Monomer VOC emissions = Monomer VOC emissions calculated using the monomer VOC emission equation for each operation included in the emissions averaging program, in kilograms.

$PV_R$  = Weighted-average monomer VOC emission rate for production resin used in the past 12 months, in kilograms per megagram.

$M_R$  = Mass of production resin used in the past 12 months, in megagrams.

$PV_{PG}$  = Weighted-average monomer VOC emission rate for pigmented gel coat used in the past 12 months, in kilograms per megagram.

$M_{PG}$  = Mass of pigmented gel coat used in the past 12 months, in megagrams.

$PV_{CG}$  = Weighted-average monomer VOC emission rate for clear gel coat used in the past 12 months, in kilograms per megagram.

$M_{CG}$  = Mass of clear gel coat used in the past 12 months, in megagrams.

$PV_{TR}$  = Weighted-average monomer VOC emission rate for tooling resin used in the past 12 months, in kilograms per megagram.

$M_{TR}$  = Mass of tooling resin used in the past 12 months, in megagrams.

$PV_{TG}$  = Weighted-average monomer VOC emission rate for tooling gel coat used in the past 12 months, in kilograms per megagram.

$M_{TG}$  = Mass of tooling gel coat used in the past 12 months, in megagrams.

(v) For purposes of subparagraph (iv), the owner or operator of the facility shall determine the weighted-average monomer VOC emission rate for the previous 12 months for each open molding resin and gel coat operation included in the emissions averaging option as follows:

$$PV_{OP} = \frac{\sum_{i=1}^n (M_i PV_i)}{\sum_{i=1}^n (M_i)}$$

Where:

$PV_{OP}$  = Weighted-average monomer VOC emission rate for each open molding operation ( $PV_R$ ,  $PV_{PG}$ ,  $PV_{CG}$ ,  $PV_{TR}$ ,  $PV_{TG}$ ) included in the emissions averaging program, in kilograms of monomer VOC per megagram of material applied.

$M_i$  = Mass of resin or gel coat used within an operation in the past 12 months, in megagrams.

$n$  = Number of different open molding resins and gel coats used within an operation within the past 12 months.

$PV_i$  = The monomer VOC emission rate for resin or gel coat used within an operation in the past 12 months, in kilograms of monomer VOC per megagram of material applied.  $PV_i$  shall be calculated using the applicable emission rate formula specified in Table II.

**Table II: Monomer VOC Emission Rate Formulas for Open Molding Resin and Gel Coat Materials**

<i>Open Molding Resin or Gel Coat Material</i>	<i>Application Method</i>	<i>Emission Rate Formula</i>
Production Resin, Tooling Resin	Atomized	$0.014 \times (\text{Resin VOC}\%)^{2.425}$
Production Resin, Tooling Resin	Atomized, plus vacuum bagging with roll-out	$0.01185 \times (\text{Resin VOC}\%)^{2.425}$
Production Resin, Tooling Resin	Atomized, plus vacuum bagging without roll-out	$0.00945 \times (\text{Resin VOC}\%)^{2.425}$
Production Resin, Tooling Resin	Non-atomized	$0.014 \times (\text{Resin VOC}\%)^{2.275}$
Production Resin, Tooling Resin	Non-atomized, plus vacuum bagging with roll-out	$0.0110 \times (\text{Resin VOC}\%)^{2.275}$
Production Resin, Tooling Resin	Non-atomized, plus vacuum bagging without roll-out	$0.0076 \times (\text{Resin VOC}\%)^{2.275}$
Pigmented Gel Coat	All methods	$0.445 \times (\text{Resin VOC}\%)^{1.675}$
Clear Gel Coat	All methods	$0.445 \times (\text{Resin VOC}\%)^{1.675}$
Tooling Gel Coat	All methods	$0.445 \times (\text{Resin VOC}\%)^{1.675}$

(3) *VOC emissions capture system and add-on air pollution control device option.* A numerical monomer VOC emission rate, determined for a facility

based on the mix of application methods and materials used at the facility, is achieved through the use of a VOC emissions capture system and add-on air pollution control device.

(i) The equation in paragraph (2)(iii) must be used to determine the emission limit to be achieved by the add-on air pollution control device, but modified as specified in this subparagraph. The mass of each open molding monomer VOC-containing material used during the control device performance test must be used in the equation in paragraph (2)(iii), instead of the mass of each material used over the past 12 months, to determine the emission limit, in kilograms of monomer VOC, that is applicable during the control device test.

(ii) The measured emissions at the outlet of the control device, in kilograms of monomer VOC, must be less than the emission limit calculated as specified in subparagraph (i).

(iii) The relevant control device and emission capture system operating parameters must be monitored and recorded during the test.

(iv) The values of the parameters recorded in subparagraph (iii) must be used to establish the operating limits for those parameters.

(v) The operating parameters must be maintained within the established operating limits.

(g) *VOC emissions capture system and add-on air pollution control device requirements.* The owner or operator of a facility subject to this section may elect to comply with the applicable emission limitations of this section through the installation of a VOC emissions capture system and add-on air pollution control device in accordance with subsection (f)(3). The owner or operator shall submit an application for a plan approval to the appropriate regional office. The application for a plan approval must be approved, in writing, by the Department prior to installation and operation of the emissions capture system and add-on air pollution control device. The application for a plan approval must include the following information:

(1) A description, including location, of each affected source or operation to be controlled with the emissions capture system and add-on air pollution control device.

(2) A description of the proposed emissions capture system and add-on air pollution control device to be installed.

(3) A description of the proposed compliance monitoring equipment to be installed.

(4) A description of the parameters to be monitored to demonstrate continuing compliance.

(5) A description of the records to be kept that will document the continuing compliance.

(6) A schedule containing proposed interim dates for completing each phase of the required work to install and test the emissions capture system and add-on air pollution control device described in paragraph (2) and the compliance monitoring equipment described in paragraph (3).

(7) A proposed interim emission limitation that will be imposed on the affected source or operation until compliance is achieved with the applicable emission limitation.

(8) A proposed final compliance date that is as soon as possible but not later than 1 year after the start of installation of the approved emissions capture system and add-on air pollution control device and the compliance monitoring equipment.

(h) *Emission limits for filled production resins and filled tooling resins.* The owner or operator may use an open molding filled production resin or filled tooling resin in each of the emission limit options specified in subsection (f).

(1) If fillers are added to the resin material, the adjusted monomer VOC emission rate of the filled material must be calculated on an as applied basis as follows:

$$PV_F = PV_U \times \frac{(100 - \% \text{ Filler})}{100}$$

Where:

$PV_F$  = The as-applied monomer VOC emission rate for the filled production resin or tooling resin, in kilograms per megagram of filled material.

$PV_U$  = The monomer VOC emission rate for the neat (unfilled) resin, before filler is added, calculated using the applicable emission rate formula in Table II.

% Filler = The weight-percent of filler in the as applied resin system.

(2) The value of  $PV_F$  of a compliant material used in subsection (f)(1), calculated as specified in paragraph (1), for a filled resin used as a:

(i) Production resin shall not exceed 46 kilograms of monomer VOC per megagram of filled resin applied.

(ii) Tooling resin shall not exceed 54 kilograms of monomer VOC per megagram of filled resin applied.

(3) The value of  $PV_F$ , calculated as specified in paragraph (1), must be used in place of the value of  $PV_i$  for a filled resin included in the emissions averaging option equation in subsection (f)(2)(v).

(4) The monomer VOC content of each as applied filled resin includes the amount of non-monomer VOC content that exceeds 5% by weight of the unfilled resin material.

(i) *Monomer VOC control requirement for an open molding resin, gel coat, filled production resin or filled tooling resin not included in an emissions averaging option.* The monomer VOC content of an open molding resin, gel coat, filled production resin or filled tooling resin material not included in an emissions averaging option in subsection (f)(2) shall meet the monomer VOC content requirements of subsection (f)(1) or the add-on air pollution control requirements of subsection (f)(3).

(j) *Alternative requirements for control of monomer VOC content for certain resin and gel coat materials.* The monomer VOC content limits in Table I do not apply to a tooling or production material used for the following purposes:

(1) A production resin, including a skin coat resin, that must meet a specification for use in a military vessel or must be approved by the United States Coast Guard for use in the construction of a lifeboat, rescue boat or life-saving

appliance approved under 46 CFR Chapter 1, Subchapter Q (relating to equipment, construction, and materials: specifications and approval) or the construction of a small passenger vessel regulated under 46 CFR Chapter 1, Subchapter T (relating to small passenger vessels (under 100 gross tons)). A production resin that meets one or more of these criteria shall be applied with non-atomizing resin application equipment.

(2) A production or tooling resin or a pigmented, clear or tooling gel coat used for repair and touch up of a part or a mold, if the weight used of resin and gel coat materials that meet one or more of these criteria does not exceed 1% by weight of the total resin and gel coat material used at a facility on a 12-month rolling-average basis.

(3) Pure 100% vinylester resin used for a skin coat, if the pure 100% vinylester resin used for the skin coat is applied with non-atomizing resin application equipment, and the weight used of resin materials meeting this criterion does not exceed 5% by weight of the total resin used at a facility on a 12-month rolling-average basis.

(k) *Work practices for resin and gel coat materials.* The owner or operator of a facility subject to this section shall ensure that resin and gel coat containers with a capacity equal to or greater than 55 gallons (208 liters), including those used for onsite mixing of putties and polyputties, have a cover in place at all times with no visible gaps, except when materials are being manually added or removed from a container or when mixing equipment is being placed in or removed from a container.

(l) *VOC content limits and work practices for cleaning materials.* The owner or operator of a facility subject to this section shall comply with the following VOC content limits and work practices for VOC-containing cleaning materials:

(1) Ensure that the VOC content of cleaning solvents used for routine application equipment cleaning is equal to or less than 5% by weight or has a composite vapor pressure equal to or less than 0.50 mmHg at 68°F.

(2) Use only non-VOC-containing solvent to remove cured resin or gel coat from application equipment.

(m) *Compliance and monitoring requirements.* The owner or operator of a facility subject to this section shall:

(1) Use the test methods and procedures in subsection (n) to determine the monomer VOC content of resin and gel coat material.

(2) Demonstrate compliance of the monomer VOC content of the resin and gel coat material within 90 days of receipt of a written request from the Department in accordance with subsection (n).

(3) Equip add-on air pollution control devices with the applicable monitoring equipment. The monitoring equipment shall be installed, calibrated, operated and maintained according to manufacturer's specifications at all times that the add-on air pollution control device is in use.

(4) Conduct testing of a VOC emissions capture system and add-on air pollution control device installed in accordance with subsection (f)(3) one time every 5 years starting from completion of the initial testing specified in the plan approval application required in subsection (g).

(n) *Sampling and testing.* The owner or operator of a facility subject to this section shall perform sampling and testing as follows:

(1) Use one or more of the following methods to determine the monomer VOC content of a resin or gel coat.

(i) SCAQMD Method 312-91, *Determination of Percent Monomer in Polyester Resins.*

(ii) Manufacturer's formulation data.

(iii) Other test methods or data demonstrated to provide results that are acceptable for purposes of determining compliance with this section if prior approval is obtained in writing from the Department and the United States Environmental Protection Agency.

(2) Use the test methods and procedures specified in Chapter 139 (relating to sampling and testing) for sampling and testing of add-on air pollution control devices.

(o) *Recordkeeping requirements.* The owner or operator of a facility subject to this section shall maintain monthly records sufficient to demonstrate compliance with this section. The records must include the following information:

(1) The name and identification number of each resin and gel coat.

(2) The total quantity of atomized molding production resin, non-atomized production resin, pigmented gel coat, clear gel coat, atomized tooling resin, non-atomized tooling resin and tooling gel coat used per month.

(3) The monomer VOC content for each resin and gel coat.

(4) The non-monomer VOC content for each resin and gel coat.

(5) The calculations performed for each applicable requirement under subsections (f), (h) and (j).

(6) The name and identification number only for each resin used in accordance with subsection (j)(1). The records specified in paragraphs (1)–(5) do not apply to resins used in accordance with subsection (j)(1).

(7) The name, identification number and VOC content or composite vapor pressure for each cleaning solvent used for routine application equipment cleaning.

(8) The information required by the plan approval issued under subsection (g), as applicable.

(9) The results of sampling and testing performed in accordance with subsection (n).

(p) *Reporting requirements.* The records shall be maintained for 2 years unless a longer period is required by an order issued by the Department or a plan approval or operating permit issued under Chapter 127 (relating to construction, modification, reactivation and operation of sources). The records shall be submitted to the Department in an acceptable format upon receipt of a written request.

#### Authority

The provisions of this § 129.74 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.74 adopted December 18, 2015, effective December 19, 2015, 45 Pa.B. 7127.

#### Cross References

This section cited in 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).



**§ 129.75. Mobile equipment repair and refinishing.**

(a) Except as provided in subsection (b), this section applies to a person who applies mobile equipment repair and refinishing or color matched coatings to mobile equipment or mobile equipment components.

(b) This section does not apply to a person who applies surface coating to mobile equipment or mobile equipment components under one of the following circumstances:

(1) The surface coating process is subject to the miscellaneous metal parts finishing requirements of § 129.52 (relating to surface coating processes) or the requirements of § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings).

(2) The surface coating process is at an automobile assembly plant.

(3) The person applying the coatings does not receive compensation for the application of the coatings.

(c) Beginning November 27, 2000, a person may not apply to mobile equipment or mobile equipment components any automotive pretreatment, automotive primer-surfacer, automotive primer-sealer, automotive topcoat and automotive specialty coatings including any VOC-containing materials added to the original coating supplied by the manufacturer, that contain VOCs in excess of the limits specified in Table III.

**Table III**

**Allowable Content of VOCs in Mobile Equipment  
Repair and Refinishing Coatings**

**Allowable VOC Content  
(as applied)**

**Weight of VOC per Volume of Coating  
(minus water and non-VOC solvents)**

<i>Coating Type</i>	<i>Limit Pounds per Gallon</i>	<i>Grams per Liter</i>
Automotive pretreatment primer	6.5	780
Automotive primer-surfacer	4.8	575
Automotive primer-sealer	4.6	550
Automotive topcoat		
single stage-topcoat	5.0	600
2 stage basecoat/clearcoat	5.0	600
3 or 4-stage basecoat/clearcoat	5.2	625
Automotive multicolored topcoat	5.7	680
Automotive specialty	7.0	840

(d) A person who provides mobile equipment repair and refinishing coatings subject to this section shall provide documentation concerning the VOC content of the coatings calculated in accordance with the following:



(1) The mass of VOC per combined volume of VOC and coating solids, less water and exempt compounds, shall be calculated by the following equation:

$$\text{VOC} = \frac{(W_v - W_w - W_{ec})}{(V - V_w - V_{ec})}$$

where:

VOC = VOC content in grams per liter (g/l) of coating less water and non-VOC solvents.

$W_v$  = Mass of total volatiles, in grams.

$W_w$  = Mass of water, in grams.

$W_{ec}$  = Mass of exempt compounds, in grams.

$V$  = Volume of coating, in liters.

$V_w$  = Volume of water, in liters.

$V_{ec}$  = Volume of exempt compounds, in liters.

To convert from grams per liter to pounds per gallon (lb/gal), multiply the result (VOC content) by  $8.345 \times 10^{-3}$  (lb/gal/g/l).

(2) The VOC content of a multistage topcoat shall be calculated by the following equation:

$$\text{VOC}_{\text{multi}} = \frac{\text{VOC}_{\text{bc}} + \sum_{i=0}^M \text{VOC}_{\text{mci}} + 2(\text{VOC}_{\text{cc}})}{M + 3}$$

where:

$\text{VOC}_{\text{multi}}$  = VOC content of multistage topcoat, g/l

$\text{VOC}_{\text{bc}}$  = VOC content of basecoat, g/l

$\text{VOC}_{\text{mci}}$  = VOC content of the midcoat(s), g/l

$\text{VOC}_{\text{cc}}$  = VOC content of the clear coat, g/l

$M$  = number of midcoats

(e) Beginning November 27, 2000, a person at a facility subject to this section shall use one or more of the following application techniques to apply any finish material listed in Table III:

- (1) Flow/curtain coating.
- (2) Dip coating.
- (3) Roller coating.
- (4) Brush coating.
- (5) Cotton-tipped swab application.
- (6) Electrodeposition coating.
- (7) High volume low pressure (HVLP) spraying.
- (8) Electrostatic spray.
- (9) Airless spray.

(10) Other coating application method that the person demonstrates and the Department determines achieves emission reductions equivalent to HVLP or electrostatic spray application methods.

(f) The following situations are exempt from the application equipment requirements in subsection (e):

- (1) The use of airbrush application methods for stenciling, lettering and other identification markings.
- (2) The application of coatings sold in nonrefillable aerosol containers.
- (3) Automotive touch-up repair.

(g) Spray guns used to apply mobile equipment repair and refinishing coatings shall be cleaned by one of the following:

- (1) An enclosed spray gun cleaning system that is kept closed when not in use.
- (2) Unatomized discharge of solvent into a paint waste container that is kept closed when not in use.
- (3) Disassembly of the spray gun and cleaning in a vat that is kept closed when not in use.
- (4) Atomized spray into a paint waste container that is fitted with a device designed to capture atomized solvent emissions.

(h) The owner and operator of a facility subject to this section shall implement the following housekeeping and pollution prevention and training measures:

- (1) Fresh and used coatings, solvent and cleaning solvents shall be stored in nonabsorbent, nonleaking containers. The containers shall be kept closed at all times except when filling or emptying.
- (2) Cloth and paper, or other absorbent applicators, moistened with coatings, solvents or cleaning solvents, shall be stored in closed, nonabsorbent, nonleaking containers.
- (3) Handling and transfer procedures shall minimize spills during the transfer of coatings, solvents and cleaning solvents through the use of devices including pumps or spouts on larger containers.
- (4) Ensure that a person who applies mobile equipment repair and refinishing coatings has completed training in the proper use and handling of the mobile equipment repair and refinishing coatings, solvents and waste products to minimize the emission of air contaminants and to comply with this section.

#### Authority

The provisions of this § 129.75 amended under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.75 adopted November 24, 1999, effective November 27, 1999, 29 Pa.B. 6003; amended October 21, 2016, effective October 22, 2016, 46 Pa.B. 6758. Immediately preceding text appears at serial pages (380480) to (380482).

#### Cross References

This section cited in 25 Pa. Code § 129.96 (relating to applicability); and 25 Pa. Code § 129.111 (relating to applicability).

### **§ 129.77. Control of emissions from the use or application of adhesives, sealants, primers and solvents.**

(a) This section applies to the owner or operator of a facility that uses or applies one or more of the following at the facility on or after January 1, 2012:

- (1) An adhesive, sealant, adhesive primer or sealant primer subject to the VOC content limits in Table V.

- (2) An adhesive or sealant product applied to the listed substrate subject to the VOC content limits in Table VI.
- (3) A surface preparation solvent or cleanup solvent.
- (b) On or after January 1, 2012, an owner or operator of a facility may not use or apply at the facility an adhesive, sealant, adhesive primer or sealant primer that exceeds the applicable VOC content limit in Table V or VI, except as provided elsewhere in this section.
- (c) On or after January 1, 2012, an owner or operator of a facility may not use or apply at the facility a surface preparation or cleanup solvent that exceeds the applicable VOC content limit or composite partial vapor pressure requirements of this section, except as provided elsewhere in this section.
- (d) The VOC content limits in Table VI for adhesives or sealants applied to particular substrates apply as follows:
  - (1) If an owner or operator of a facility uses or applies at the facility an adhesive or sealant subject to a specific VOC content limit in Table V, the specific limit is applicable rather than the adhesive-to-substrate limit in Table VI.
  - (2) If an owner or operator of a facility uses or applies at the facility an adhesive to bond dissimilar substrates together, the applicable substrate category with the highest VOC content limit is the limit for this use.
  - (e) An owner or operator of a facility subject to this section using or applying a surface preparation solvent or cleanup solvent at the facility may not:
    - (1) Except as provided in paragraph (2) for single-ply roof membrane, use materials containing VOCs for surface preparation, unless the VOC content of the surface preparation solvent is less than 70 grams per liter of material or 0.6 pound of VOC per gallon of material.
    - (2) Use materials containing VOCs for surface preparation or cleanup when applying single-ply roof membrane, unless the composite partial vapor pressure, excluding water and exempt compounds, of the surface preparation solvent or cleanup solvent is less than or equal to 45 mm mercury at 20° C.
    - (3) Except as provided in subsection (f), use cleanup solvent materials containing VOCs for the removal of adhesives, sealants, adhesive primers or sealant primers from surfaces, other than from the parts of spray application equipment, unless the composite partial vapor pressure of the solvent is less than or equal to 45 mm mercury at 20° C.
  - (f) Removal of an adhesive, sealant, adhesive primer or sealant primer from the parts of spray application equipment shall be performed by one or more of the following methods:
    - (1) Using an enclosed cleaning system, or an equivalent cleaning system as determined by the test method identified in subsection (z).
    - (2) Using a solvent with a VOC content less than or equal to 70 grams of VOC per liter of material or 0.6 pound of VOC per gallon of material.
    - (3) Soaking parts containing dried adhesive in a solvent if the composite partial vapor pressure of the solvent, excluding water and exempt compounds, is less than or equal to 9.5 mm mercury at 20° C and the parts and solvent are in a closed container that remains closed except when adding parts to or removing parts from the container.

(g) An owner or operator of a facility using or applying at the facility an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent subject to the VOC content limits of this section may comply with the requirements of this section through the use of add-on air pollution control equipment if the following requirements are met:

(1) The VOC emissions from the use of all noncomplying as applied adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents and cleanup solvents subject to this section are reduced by an overall efficiency of at least 85%, by weight.

(i) The capture efficiency of the system shall be determined in accordance with subsection (y)(1).

(ii) The control efficiency of the system shall be determined in accordance with subsection (y)(2).

(2) The combustion temperature is continuously monitored and recorded daily if a thermal incinerator is operated.

(3) Inlet and exhaust gas temperatures are continuously monitored and recorded daily if a catalytic incinerator is operated.

(4) Control device efficiency is monitored continuously and recorded daily if a carbon absorber or control device other than a thermal or catalytic incinerator is operated.

(5) Operation records sufficient to demonstrate compliance with the requirements of this section are maintained in accordance with subsections (o), (p) and (q).

(6) The following information is also recorded and maintained:

(i) Daily records of the volume used each day of each noncomplying as applied adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent and cleanup solvent.

(ii) Daily records of the hours of operation of the add-on air pollution control equipment.

(iii) Records of all maintenance performed on the add-on air pollution control equipment, including the date and type of maintenance.

(7) The control equipment is approved, in writing, by the Department in an operating permit.

(8) The owner or operator of a facility that intends to comply with this section using add-on air pollution control equipment may apply to the Department for an extension to the compliance date specified in subsections (a)—(c).

(i) The Department will approve the extension request if the request meets the requirements in subparagraph (ii).

(ii) The extension request must:

(A) Be received, in writing, by January 1, 2012.

(B) Include the date by which a permit application or request for plan approval will be submitted.

(C) Demonstrate to the Department's satisfaction that an extension is necessary.

(iii) An extension will be automatically revoked if the recipient fails to comply with its terms by the dates specified in it.

(h) An owner or operator of a facility subject to this section shall store or dispose of all absorbent materials, including cloth or paper, which are moistened with adhesives, sealants, primers, surface preparation solvents or cleanup solvents subject to this section, in nonabsorbent containers at the facility that are kept closed except when placing materials in or removing materials from the container.

(i) An owner or operator of a facility subject to this section may not solicit, require or specify the use or application of an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent if the use or application would result in a violation of this section, unless the emissions are controlled through the use of add-on air pollution control equipment as specified in subsection (g). The prohibition of this subsection applies to all written or oral contracts created on or after January 1, 2012, under which an adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent subject to this section is to be used or applied at a facility in this Commonwealth.

(j) An owner or operator of a facility subject to this section who uses or applies an adhesive, sealant, adhesive primer or sealant primer subject to this section may not add solvent to the adhesive, sealant, adhesive primer or sealant primer in an amount in excess of the manufacturer's recommendation for application, if this addition causes the adhesive, sealant, adhesive primer or sealant primer to exceed the applicable VOC content limit listed in Table V or VI, unless the emissions are controlled through the use of add-on air pollution control equipment as specified in subsection (g).

(k) This section does not apply to the use or application of the following compounds or products:

(1) Adhesives, sealants, adhesive primers or sealant primers being tested or evaluated in a research and development, quality assurance or analytical laboratory, if records are maintained as required in subsections (p) and (q).

(2) Adhesives, sealants, adhesive primers or sealant primers that are subject to other sections in this chapter or Chapter 130 (relating to standards for products).

(3) Adhesives and sealants that contain less than 20 grams of VOC per liter of adhesive or sealant, less water and less exempt compounds, as applied.

(4) Cyanoacrylate adhesives.

(5) Adhesives, sealants, adhesive primers or sealant primers that are sold or supplied by the manufacturer or supplier in containers with a net volume of 16 fluid ounces or less, or a net weight of 1 pound or less, except plastic cement welding adhesives and contact adhesives.

(6) Contact adhesives that are sold or supplied by the manufacturer or supplier in containers with a net volume of 1 gallon or less.

(l) This section does not apply to the use of adhesives, sealants, adhesive primers, sealant primers, surface preparation solvents or cleanup solvents in the following operations:

(1) Tire repair operations, if the label of the adhesive states, "For tire repair only."

- (2) The assembly, repair and manufacture of aerospace components or undersea-based weapons systems.
- (3) The manufacture of medical equipment.
- (4) Plaque laminating operations in which adhesives are used to bond clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992. An owner or operator claiming an exemption under this paragraph shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with subsections (o)—(q).
- (m) This section does not apply if the total VOC emissions from all adhesives, sealants, adhesive primers and sealant primers used or applied at the facility are less than 200 pounds or an equivalent volume, per calendar year. An owner or operator of a facility claiming exemption under this subsection shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with subsections (o)—(q).
- (n) This section does not apply to the use or application of a noncomplying adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent or cleanup solvent if the total volume of noncomplying adhesives, sealants, primers, surface preparation and cleanup solvents used or applied facility-wide does not exceed 55 gallons per calendar year. An owner or operator of a facility claiming exemption under this subsection shall record and maintain operational records sufficient to demonstrate compliance with this exemption, in accordance with subsections (o)—(q).
- (o) Except as provided in subsection (p), each owner or operator subject to this section shall maintain records demonstrating compliance with this section, including the following information:
  - (1) A list of each adhesive, sealant, adhesive primer, sealant primer, surface preparation solvent and cleanup solvent product in use and in storage.
  - (2) A data sheet or material list which provides the product name, manufacturer identification and use or material application for each product included on the list required under paragraph (1).
  - (3) The VOC content of each product on the list required under paragraph (1), as supplied.
  - (4) Catalysts, reducers or other components used and the mix ratio.
  - (5) The VOC content or vapor pressure of each product on the list required by paragraph (1), as applied, if solvent or other VOC is added to the product before application.
  - (6) The volume purchased or produced of each product on the list required under paragraph (1).
  - (7) The monthly volume used or applied as part of a manufacturing process at the facility of each product on the list required under paragraph (1).
- (p) For an adhesive, sealant, adhesive primer and sealant primer product subject to the laboratory testing exemption of subsection (k)(1), the person conducting the testing shall make and maintain records of all products used, including the following information:
  - (1) The product name.
  - (2) The product category of the material or type of application.

- (3) The VOC content of the material.
- (q) Records made to determine compliance with this section shall be:
  - (1) Maintained onsite for 5 years from the date the record is created.
  - (2) Made available to the Department upon receipt of a written request.
- (r) Except as otherwise provided in this section, the VOC and solids content of nonaerosol adhesives (including one-part moisture cure urethane adhesives and silicone adhesives), sealants, adhesive primers, sealant primers, surface preparation solvents and cleanup solvents shall be determined using one of the following:
  - (1) EPA Reference Method 24, *Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.
  - (2) SCAQMD Method 304, *Determination of Volatile Organic Compounds (VOC) in Various Materials*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.
- (s) The weight volatile matter content and weight solids content for one-part or multiple part reactive adhesives, except one-part moisture cure urethane adhesives and silicone adhesives, shall be determined using the EPA Reference Method, *Determination of Weight Volatile Matter Content and Weight Solids Content of Reactive Adhesives*, found at 40 CFR 63, Subpart P, Appendix A, including updates and revisions.
- (t) The identity and concentration of exempt organic compounds shall be determined using one of the following:
  - (1) ASTM D4457, *Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph*, ASTM International, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959 USA including updates and revisions.
  - (2) SCAQMD Method 303, *Determination of Exempt Compounds*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.
- (u) The VOC content of a plastic cement welding adhesive or primer shall be determined using SCAQMD Method 316A, *Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.
- (v) To determine if a diluent is a reactive diluent, the percentage of the reactive organic compound that becomes an integral part of the finished material shall be determined using SCAQMD Method 316A, *Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings*, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.
- (w) The composite partial vapor pressure of organic compounds in cleaning materials shall be determined by the following procedure:
  - (1) Quantifying the amount of each compound in the blend using gas chromatographic analysis, using the following methods:



(i) ASTM E260, *Standard Practice for Packed Column Gas Chromatography*, ASTM International, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959 USA, for organic content, including updates and revisions.

(ii) ASTM D3792, *Standard Test Method for Water Content of Coatings by Direct Injection Into a Gas Chromatograph*, ASTM International, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959 USA, for water content, including updates and revisions.

(2) Calculating the composite partial vapor pressure using the following equation:

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i)/MW_i}{W_w/MW_w + \sum_{e=1}^k W_e/MW_e + \sum_{i=1}^n W_i/MW_i}$$

Where:

$PP_c$  = VOC composite partial vapor pressure at 20° C, in mm mercury.

$W_i$  = Weight of the “i”th VOC compound, in grams, as determined by ASTM E260.

$W_w$  = Weight of water, in grams, as determined by ASTM D3792.

$W_e$  = Weight of the “e”th exempt compound, in grams, as determined by ASTM E260.

$MW_i$  = Molecular weight of the “i”th VOC compound, in grams per g-mole, as given in chemical reference literature.

$MW_w$  = Molecular weight of water, in grams per g-mole (18 grams per g-mole).

$MW_e$  = Molecular weight of the “e”th exempt compound, in grams per g-mole, as given in chemical reference literature.

$VP_i$  = Vapor pressure of the “i”th VOC compound at 20° C, in mm mercury, as determined by subsection (x).

(x) The vapor pressure of each single component compound shall be determined from one or more of the following:

(1) ASTM D2879, *Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope*, ASTM International, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959 USA, including updates and revisions.

(2) The most recent edition of one or more of the following sources:

(i) *Vapour Pressures of Pure Substances*, Boublik, Elsevier Scientific Publishing Company, New York.

(ii) *Perry's Chemical Engineers' Handbook*, Green and Perry, McGraw-Hill Book Company.

(iii) *CRC Handbook of Chemistry and Physics*, CRC Press.

(iv) *Lange's Handbook of Chemistry*, McGraw-Hill Book Company.

(v) Additional sources approved by the SCAQMD or other California air districts.

(y) If air pollution control equipment is used to meet the requirements of this section, the owner or operator shall make both of the following determinations:



(1) The measurement of capture efficiency shall be conducted and reported in accordance with the EPA Technical Document “*Guidelines for Determining Capture Efficiency*,” issued January 9, 1995.

(2) The control efficiency shall be determined in accordance with one of the following:

(i) EPA Reference Method 25, *Determination of Total Gaseous Non-methane Organic Emissions as Carbon*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(ii) EPA Reference Method 25A, *Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(iii) EPA Reference Method 25B, *Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer*, found at 40 CFR 60, Subpart D, Appendix A, including updates and revisions.

(iv) CARB Method 100, *Procedures for Continuous Gaseous Emission Stack Sampling*, California Air Resources Board, 1001 “I” Street, Post Office Box 2815, Sacramento, CA 95812 USA, including updates and revisions.

(z) The active and passive solvent losses from the use of an enclosed spray gun cleaning system or equivalent cleaning system, as listed in subsection (f)(1), shall be determined using the SCAQMD method, *General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems*, dated October 3, 1989, SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765 USA, including updates and revisions.

(1) The test solvent for this determination shall be a lacquer thinner with a minimum vapor pressure of 105 mm of mercury at 20° C.

(2) The minimum test temperature shall be 15° C.

(aa) Another test method may be used to determine the VOC or solids content of a product if the request for approval of the test method meets the following requirements:

(1) The request is submitted to the Department in writing.

(2) The request demonstrates that the test method provides results that accurately determine the concentration of VOCs in the product or its emissions.

(3) The Department approves the request in writing.

(bb) For adhesive, sealant, adhesive primer or sealant primer products that do not contain reactive diluents, grams of VOC per liter of product thinned to the manufacturer’s recommendation, less water and exempt compounds, shall be calculated according to the following equation:

$$\text{Grams of VOC per liter of product, as applied} = \frac{W_s - W_w - W_e}{V_m - V_w - V_e}$$

Where:

Ws = weight of volatile compounds, in grams.

Ww = weight of water, in grams.

We = weight of exempt compounds, in grams.

Vm = volume of material, in liters.

V<sub>w</sub> = volume of water, in liters.

V<sub>e</sub> = volume of exempt compounds, in liters.

(cc) For adhesive, sealant, adhesive primer or sealant primer products that contain reactive diluents, the VOC content of the product is determined after curing. The grams of VOC per liter of product thinned to the manufacturer's recommendation, less water and exempt compounds, shall be calculated according to the following equation:

$$\text{Grams of VOC per liter of product, as applied} = \frac{W_{rs} - W_{rw} - W_{re}}{V_{rm} - V_{rw} - V_{re}}$$

Where:

W<sub>rs</sub> = weight of volatile compounds not consumed during curing, in grams.

W<sub>rw</sub> = weight of water not consumed during curing, in grams.

W<sub>re</sub> = weight of exempt compounds not consumed during curing, in grams.

V<sub>rm</sub> = volume of material not consumed during curing, in liters.

V<sub>rw</sub> = volume of water not consumed during curing, in liters.

V<sub>re</sub> = volume of exempt compounds not consumed during curing, in liters.

(dd) For low-solids adhesive, sealant, adhesive primer or sealant primer products, grams of VOC per liter of product thinned to the manufacturer's recommendation, including the volume of water and exempt compounds, shall be calculated according to the following equation:

$$\text{Grams of VOC per liter of product, as applied} = \frac{W_s - W_w - W_e}{V_m}$$

Where:

W<sub>s</sub> = weight of volatile compounds, in grams.

W<sub>w</sub> = weight of water, in grams.

W<sub>e</sub> = weight of exempt compounds, in grams.

V<sub>m</sub> = volume of material, in liters.

(ee) Percent VOC by weight shall be calculated according to the following equation:

$$\% \text{ VOC by weight} = [(W_v/W)] \times 100$$

Where:

W<sub>v</sub> = weight of VOCs, in grams.

W = weight of material, in grams.

(ff) To convert from grams per liter (g/l) to pounds per gallon (lb/gal), multiply the result (VOC content) by  $8.345 \times 10^{-3}$  (lb/gal/g/l).

**Table V. VOC Content Limits for Adhesives, Sealants, Adhesive Primers and Sealant Primers, As Applied**

<i>Adhesive, sealant, adhesive primer or sealant primer category</i>	<i>VOC content limit (pounds VOC per gallon, less water and exempt compounds)*</i>	<i>VOC content limit (grams VOC per liter, less water and exempt compounds)*</i>
<i>Adhesives</i>		
ABS welding	3.3	400
Ceramic tile installation	1.1	130
Computer diskette jacket manufacturing	7.1	850
Contact bond	2.1	250
Cove base installation	1.3	150
CPVC welding	4.1	490
Indoor floor covering installation	1.3	150
Metal to urethane/rubber molding or casting	7.1	850
Multipurpose construction	1.7	200
Nonmembrane roof installation/repair	2.5	300
Outdoor floor covering installation	2.1	250
Perimeter bonded sheet vinyl flooring installation	5.5	660
Plastic cement welding, other than ABS, CPVC or PVC welding	4.3	510
PVC welding	4.3	510
Sheet rubber installation	7.1	850
Single-ply roof membrane installation/repair	2.1	250
Structural glazing	0.8	100
Thin metal laminating	6.5	780
Tire retread	0.8	100
Waterproof resorcinol glue	1.4	170
<i>Sealants</i>		
Architectural	2.1	250
Marine deck	6.3	760
Nonmembrane roof installation/repair	2.5	300
Roadway	2.1	250
Single-ply roof membrane	3.8	450
Other	3.5	420

<i>Adhesive, sealant, adhesive primer or sealant primer category</i>	<i>VOC content limit (pounds VOC per gallon, less water and exempt compounds)*</i>	<i>VOC content limit (grams VOC per liter, less water and exempt compounds)*</i>
<i>Adhesive Primers</i>		
Automotive glass	5.8	700
Plastic cement welding	5.4	650
Single-ply roof membrane	2.1	250
Traffic marking tape	1.3	150
Other	2.1	250
<i>Sealant Primers</i>		
Marine deck	6.3	760
Nonporous architectural	2.1	250
Porous architectural	6.5	775
Other	6.3	750

\*The VOC content is determined as the weight of VOC per volume of product, less water and exempt compounds, as specified in subsections (bb) and (cc) or as the weight of VOC per volume of product, as specified in subsection (dd).

**Table VI. VOC Content Limits for Adhesive or Sealant Products Applied to Particular Substrates, As Applied**

<i>Adhesive or Sealant Products Applied to the Listed Substrate</i>	<i>VOC content limit (pounds VOC per gallon, less water and exempt compounds)*</i>	<i>VOC content limit (grams VOC per liter, less water and exempt compounds)*</i>
Fiberglass	1.7	200
Flexible vinyl	2.1	250
Metal	0.3	30
Porous material	1.0	120
Rubber	2.1	250
Other substrates	2.1	250

\*The VOC content is determined as the weight of VOC per volume of product, less water and exempt compounds, as specified in subsections (bb) and (cc) or as the weight of VOC per volume of product, as specified in subsection (dd).

#### Authority

The provisions of this § 129.77 amended under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

**Source**

The provisions of this § 129.77 adopted December 24, 2010, effective December 25, 2010, 40 Pa.B. 7340; amended June 27, 2014, effective June 28, 2014, 44 Pa.B. 3929. Immediately preceding text appears at serial pages (355201) to (355212).

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.51 (relating to general); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.111 (relating to applicability); and 25 Pa. Code § 130.703 (relating to exemptions and exceptions).

**MOBILE SOURCES****§ 129.81. Organic liquid cargo vessel loading and ballasting.**

The following provisions apply in the counties of Delaware and Philadelphia:

(1) A person may not cause or permit the loading of gasoline into an organic liquid cargo vessel unless the following exist:

(i) The VOC vapors displaced by the loading operation are processed through a vapor recovery or destruction device operated to reduce the VOCs by at least 90% by weight.

(ii) The vapor collection and transport system employed to carry VOCs to the vapor control system is maintained and operated so that it prevents the following:

(A) A reading equal to or greater than 100% of the lower explosive limit (LEL), measured as propane, at 1 inch (2.5 centimeters) from all points on the perimeter of a potential leak source when measured by the method referenced in § 139.14 (relating to emissions of VOCs) during loading operations.

(B) Avoidable liquid leaks during loading operations.

(C) Visually or audibly detectable leaks in the organic liquid cargo vessel's cargo tanks, hatch covers, storage tanks pressure/vacuum relief valves and associated vapor and liquid lines during loading.

(iii) The pressure and vacuum relief valves on the liquid cargo vessel are set to release at no less than 0.7 psig (4.8 kilopascals) of pressure or 0.3 psig (2.1 kilopascals) of vacuum or the highest allowable pressure and vacuum as specified in State or local fire codes, the National Fire Prevention Association guidelines or other National consensus standards acceptable to the Department.

(2) Except as provided in paragraph (4), a person may not cause or permit the emission of VOCs from the ballasting of an organic liquid cargo vessel containing crude oil or gasoline unless the emissions are processed through a vapor recovery or destruction device operated so as to reduce the VOCs by at least 90% by weight.

(3) Compliance with this section shall be achieved in accordance with the following:

(i) Installation of the piping, pressure relief valves and other devices necessary to collect and transport VOCs from affected organic liquid vessel

cargo compartments to the required VOC vapor recovery/destruction system shall be completed by September 28, 1996.

(ii) Installation of vapor recovery devices/destruction devices at marine terminals shall be completed by September 28, 1994.

(iii) Installation of vessel mounted vapor recovery or destruction devices shall be completed by September 28, 1996.

(4) Other provisions of this section notwithstanding, the Department may allow a facility to implement permanent and enforceable measures, including recordkeeping and reporting requirements, which are approved by the EPA to reduce the emission of VOCs from ballasting of an organic liquid cargo vessel containing crude oil or gasoline as follows:

(i) By September 28, 1992, a minimum of 40% of the total volume of receipts of crude oil and gasoline during a specified period shall be delivered to the facility in vessels which do not ballast, such as barges, or in vessels which do not emit VOCs when ballasted, such as tankers using segregated ballast tanks.

(ii) By September 28, 1996, a minimum of 65% of the total volume of receipts of crude oil and gasoline during a specified period shall be delivered to the facility in vessels which do not ballast, such as barges, or in vessels which do not emit VOCs when ballasted, such as tankers using segregated ballast tanks.

(iii) By January 1, 2003, a minimum of 90% of the total volume of receipts of crude oil and gasoline during a specified period shall be delivered to the facility in vessels which do not ballast, such as barges, or in vessels which do not emit VOCs when ballasted, such as tankers using segregated ballast tanks.

(iv) By January 1, 2010, 98% of the total volume of receipts of crude oil and gasoline during a specified period shall be delivered to the facility in vessels which do not ballast, such as barges, or in vessels which do not emit VOCs when ballasted, such as tankers using segregated ballast tanks.

(5) Compliance with paragraphs (2)—(4) may also be achieved by meeting the requirements for equivalency in § 129.51(a) (relating to general).

#### **Authority**

The provisions of this § 129.81 issued under sections 5 and 6.1 of the Air Pollution Control Act (35 P.S. §§ 4005 and 4006.1).

#### **Source**

The provisions of this § 129.81 adopted September 27, 1991, effective September 28, 1991, 21 Pa.B. 4400.

#### **Cross References**

This section cited in 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs).

**§ 129.82. Control of VOCs from gasoline dispensing facilities (Stage II).**

(a) (Reserved).

(a.1) *Applicability.* This section applies to the owner and operator of a gasoline dispensing facility equipped with a Stage II vapor recovery system and located in Allegheny, Armstrong, Beaver, Bucks, Butler, Chester, Delaware, Fayette, Montgomery, Philadelphia, Washington or Westmoreland County.

(b) *Operating requirements.* The owner or operator, or both, of a gasoline dispensing facility subject to this section shall meet the following requirements until the Stage II vapor recovery system at the gasoline dispensing facility is decommissioned under § 129.82a (relating to requirements to decommission a Stage II vapor recovery system):

(1) Maintain a Department-approved and properly operating Stage II vapor recovery system. The Department will not approve a Stage II vapor recovery system unless the Stage II vapor recovery system collects at least 90% by weight of the gasoline vapors that are displaced from a vehicle fuel tank during refueling and returns the captured vapors to a vapor tight system.

(1.1) Provide necessary maintenance and make modifications necessary to comply with this section.

(2) Provide adequate training and written instructions to the operator of the gasoline dispensing facility to assure proper operation of the Stage II vapor recovery system.

(3) Immediately remove from service and tag a defective vapor recovery hose, nozzle or other component of the Stage II vapor recovery system until the defective component is replaced or repaired.

(i) A component removed from service may not be returned to service until the defect is corrected.

(ii) If the Department finds during an inspection that a defective vapor recovery hose, nozzle or other component of the Stage II vapor recovery system is not properly tagged, the component may not be returned to service until the defect is corrected and the Department approves its return to service.

(4) Conspicuously post the operating instructions for the gasoline dispensing system in the gasoline dispensing area which, at a minimum, include:

(i) A clear description of how to correctly dispense gasoline with the vapor recovery nozzles used at the site.

(ii) A warning that continued attempts to dispense gasoline after the system indicates that the motor vehicle fuel tank is full may result in spillage and contamination of the air or water or recirculation of the gasoline into the vapor recovery system.

(iii) A telephone number, email address or social media account established by the Department for the public to use to report problems experienced with the gasoline dispensing system.

(5) Maintain records of the gasoline dispensing system test procedure results, monthly throughput, type and duration of any failure of the system and maintenance and repair records onsite at the gasoline dispensing facility or electronically stored allowing for onsite examination. The records must be:

(i) Maintained for 2 years, unless a longer period is required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) or a plan approval, operating permit, consent decree or order issued by the Department.

(ii) Made available for inspection, upon request, by the Department.

(c) (Reserved).

(d) (Reserved).

(e) *Functional testing and certification requirements.* The owner and operator of a gasoline dispensing facility subject to this section shall comply with the functional testing and certification requirements specified in the EPA's Stage II Enforcement and Technical Guidance Documents developed under section 182 of the Clean Air Act.

(1) The owner or operator of a gasoline dispensing facility that uses a Stage II vapor balance vapor recovery system shall conduct the following test procedures:

(i) A liquid blockage test procedure under CARB TP-201.6, "Determination of Liquid Removal of Phase II Vapor Recovery Systems of Dispensing Facilities," adopted April 28, 2000, including updates and revisions, upon major modification of the system and every 5 years thereafter.

(ii) A dynamic backpressure test procedure under CARB TP-201.4, "Dynamic Back Pressure," amended July 3, 2002, including updates and revisions, upon major modification of the system and every 5 years thereafter.

(2) The owner or operator of a gasoline dispensing facility that uses a Stage II vacuum assist vapor recovery system shall quantify the air to liquid volumetric ratio conducted under CARB TP-201.5 "Air to Liquid Volume Ratio," amended February 1, 2001, including updates and revisions, once in every 12-month period.

(3) The owner or operator of a gasoline dispensing facility that conducts a test procedure under paragraph (1) or (2) shall do all of the following:

(i) Conduct the test procedures in paragraph (1) simultaneously, consecutively or separately at different times of the 5-year period.

(ii) Conduct the test procedure in paragraph (2) simultaneously with, consecutively with or separately from the test procedures in § 129.61a(d)(1) (relating to vapor leak monitoring procedures and other requirements for small gasoline storage tank emission control) during the 12-month period.

(iii) Repair to a component on, or correction to, the Stage II vapor recovery system must be made within 10 days following a failed test procedure.



- (iv) Record all of the following information, as applicable, for each test procedure performed under paragraph (1) or (2):
- (A) The name of the test procedure.
  - (B) The name of the person performing the test procedure.
  - (C) The date the test procedure was performed.
  - (D) The result of the test procedure.
  - (E) The date, time, type and duration of a test procedure failure.
  - (F) The name of the person correcting the test procedure failure.
  - (G) The date the test procedure failure was corrected.
  - (H) The action taken to correct the test procedure failure.
- (f) *Additional requirements.* An owner and operator of a gasoline storage tank subject to this section may also be subject to § 129.61a and § 129.82a.

#### Authority

The provisions of this § 129.82 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005); and amended under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.82 adopted February 7, 1992, effective February 8, 1992, 22 Pa.B. 585; amended April 9, 1999, effective April 10, 1999, 29 Pa.B. 1889; amended March 25, 2022, effective March 26, 2022, 52 Pa.B. 1875. Immediately preceding text appears at serial pages (380495) to (380497).

#### Cross References

This section cited in 25 Pa. Code § 129.82a (relating to requirements to decommission a Stage II vapor recovery system); and 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs).

### § 129.82a. Requirements to decommission a Stage II vapor recovery system.

- (a) *Applicability.* Beginning March 26, 2022, this section applies to the owner and operator of a gasoline dispensing facility that uses, has decommissioned or is decommissioning a Stage II vapor recovery system.
- (b) *Compliance deadline.*
- (1) *Stage II vacuum assist vapor recovery system.* The owner or operator of a gasoline dispensing facility located in Allegheny, Armstrong, Beaver, Bucks, Butler, Chester, Delaware, Fayette, Montgomery, Philadelphia, Washington or Westmoreland County that uses a Stage II vacuum assist vapor recovery system shall decommission the Stage II vacuum assist vapor recovery system on or before December 31, 2022.
  - (2) *Stage II vapor balance vapor recovery system.* The owner and operator of a gasoline dispensing facility in this Commonwealth that uses a Stage II

vapor balance vapor recovery system shall comply with this section when the owner or operator decommissions the Stage II vapor balance vapor recovery system.

(c) *Test procedure documents.* The following are the full names of the vapor recovery test procedure documents specified in this section:

(1) PEI/RP300-09—The Petroleum Equipment Institute’s “Recommended Practices for Installation and Testing of Vapor-Recovery Systems at Vehicle-Fueling Sites,” Chapter 14, Decommissioning Stage II Vapor-Recovery Piping, sections 14.1 through 14.6.13, including applicable updates and revisions.

(2) CARB TP-201.3—“Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities,” amended July 26, 2012, including updates and revisions.

(3) CARB TP-201.3C—“Determination of Vapor Piping Connections to Underground Gasoline Storage Tanks (Tie-Tank Test),” adopted March 17, 1999, including updates and revisions.

(d) *Process to decommission a Stage II vapor recovery system.* The owner or operator of a gasoline dispensing facility that decommissions a Stage II vapor recovery system shall decommission the Stage II vapor recovery system by meeting all of the following:

(1) Successfully completing all of the steps in PEI/RP300-09, Chapter 14. The owner or operator shall cap off the vapor tight return line of the Stage II vapor recovery system at the gasoline storage tank top if accessible at the time of decommissioning. If the vapor tight return line is not accessible at the time of decommissioning, the vapor tight return line must be capped when either of the following circumstances occurs:

(i) The storage tank system or an associated piping component is under concrete, and a replacement or repair of the underground storage tank system or associated piping component involves breaking concrete on top of the tank where the vapor tight return line terminates.

(ii) The CARB TP-201.3 procedure performed under paragraph (2) indicates a problem with the vapor tight return line.

(2) Successfully completing all of the steps in CARB TP-201.3.

(3) Successfully completing all of the steps in CARB TP-201.3C.

(4) Completing Form 2700-FM-BAQ0129, including updates and revisions to the form, after decommissioning is complete, regardless of whether the vapor tight return line is accessible at the time of decommissioning and has been capped under paragraph (1). The owner or operator shall send the completed form within 10 business days of completion of the decommissioning to the Department Regional Air Program Manager or to the appropriate approved local air pollution control agency responsible for the county in which the decommissioning occurred.

(5) Maintaining onsite at the gasoline dispensing facility or electronically stored allowing for onsite examination a copy of the completed form that was

submitted under paragraph (4). The owner or operator shall maintain the form onsite or electronically stored allowing for onsite examination for 2 years unless a longer period is required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) or a plan approval, operating permit, consent decree or order issued by the Department.

(e) *Certification requirements for installers and industry inspectors.* The owner and operator of a gasoline dispensing facility subject to this section shall ensure that a person who performs underground storage tank system installation or modification work under this section is appropriately certified for the work they perform, as follows:

(1) The person must be a certified UMI or UMX storage tank installer under Chapter 245, Subchapter A (relating to general provisions).

(2) The person must comply with the applicable requirements of Chapter 245, Subchapter B (relating to certification program for installers and inspectors of storage tanks and storage tank facilities).

(f) *Removal of responsibilities under § 129.82 (relating to control of VOCs from gasoline dispensing facilities (Stage II)).* The owner and operator of a gasoline dispensing facility that decommissions a Stage II vapor recovery system under subsections (d) and (e) are no longer subject to § 129.82 at the gasoline dispensing facility.

(g) *Retention of responsibilities under § 129.61 (relating to small gasoline storage tank control (Stage I control)).* The owner and operator of a gasoline dispensing facility remains subject to § 129.61 after decommissioning a Stage II vapor recovery system.

(h) *Retention of responsibilities under § 129.61a (relating to vapor leak monitoring procedures and other requirements for small gasoline storage tank emission control).* The owner and operator of a gasoline dispensing facility located in Allegheny, Armstrong, Beaver, Bucks, Butler, Chester, Delaware, Fayette, Montgomery, Philadelphia, Washington or Westmoreland County that decommissions a Stage II vapor recovery system remains subject to § 129.61a.

#### Authority

The provisions of this § 129.82a added under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.82a added March 25, 2022, effective March 26, 2022, 52 Pa.B. 1875.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); and 25 Pa. Code § 129.82 (relating to control of VOCs from gasoline dispensing facilities (Stage II)).

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**STATIONARY SOURCES OF NO<sub>x</sub> AND VOCs****§ 129.91. Control of major sources of NO<sub>x</sub> and VOCs.**

(a) This section applies to both the owner and the operator of a major NO<sub>x</sub> emitting facility or major VOC emitting facility for which no RACT requirement has been established in §§ 129.51, 129.52, 129.54—129.72, 129.81 and 129.82. This section does not apply to the owner and operator of a major VOC emitting facility for which requirements have been established in § 129.52, Table I (11) (relating to surface coating processes) and §§ 129.101—129.107 (relating to wood furniture manufacturing operations).

(b) The owner and the operator shall, jointly, provide the Department with the following information on or before May 16, 1994.

(1) An identification of each facility including individual sources to which this section applies.

(2) A determination through emission testing of the following:

(i) The total potential to emit and the actual emissions of VOCs for the 1990 calendar year from each source at the facility.

(ii) The total potential to emit and actual emissions of NO<sub>x</sub> for the 1990 calendar year from each source at the facility.

(c) Alternative methods which accurately characterize the emissions for the 1990 calendar year may be used to determine potential and actual emissions under subsection (b) if emission test data are not available and the Department has approved the alternative method in writing.

(d) The owner and the operator of a major NO<sub>x</sub> emitting facility or major VOC emitting facility shall, jointly, on or before July 15, 1994, provide to the Department and the EPA, Chief, Air Programs Branch, United States EPA, Region III, 841 Chestnut Building, Philadelphia, Pennsylvania 19107 a written proposal for RACT for each source of VOCs and NO<sub>x</sub> at the facility. The RACT proposal shall include, at a minimum, the information contained in § 129.92 (relating to RACT proposal requirements).

(e) The Department will approve, deny or modify each RACT proposal.

(f) Upon receipt of notice of the Department's approval of the RACT proposal, the facility shall begin implementation of the measures necessary to comply with the approved or modified RACT proposal. Implementation of the RACT program shall be completed according to the schedule established in the approved RACT program and shall be as expeditious as practicable but no later than May 31, 1995.

(g) Where the installation of a new source, modification or change in operation of an existing source will result in the source or facility meeting the definition of a major NO<sub>x</sub> emitting facility or a major VOC emitting facility, the owner and the operator shall jointly submit a RACT proposal to the Department and the EPA that meets the requirements of this section, and complete implementation of

the RACT proposal as approved or modified by the Department prior to the installation, modification or change in operation of the existing source.

(h) Except for sources which elect to comply with the presumptive RACT emission limitations in § 129.93 (relating to presumptive RACT emission limitations), the Department will submit each RACT determination to the EPA for approval as a revision to the SIP. A major NO<sub>x</sub> emitting facility or major VOC emitting facility shall bear the costs of public hearings and notification required for EPA approval.

(i) Following the implementation of the RACT requirements, the owner and operator of a combustion unit with a rated heat input of 250 million Btus per hour or greater and subject to § 123.51 (relating to monitoring requirements) shall, through the use of a Department approved continuous emission monitoring system, determine the rate of emissions of NO<sub>x</sub> from the combustion unit. Following the implementation of the RACT requirements, the owner and operator of a combustion unit with a rated heat input greater than 100 million Btus per hour and not subject to § 123.51, shall, through the use of either a Department approved periodic source testing program or predictive modeling program, determine the rate of emissions of NO<sub>x</sub> from the combustion unit unless the owner and operator elects to use a Department approved continuous monitoring system.

(j) Based on the results of the emission monitoring conducted in accordance with subsection (i), the Department will determine the RACT emission limitations for the source and the Department will submit the emission limitations to the EPA as a Federally enforceable permit.

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**Authority**

The provisions of this § 129.91 amended under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**

The provisions of this § 129.91 adopted January 14, 1994, effective January 15, 1994, 24 Pa.B. 467; amended June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995. Immediately preceding text appears at serial pages (254494) to (254496).

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials); 25 Pa. Code § 129.93 (relating to presumptive RACT emission limitations); 25 Pa. Code § 129.94 (relating to NO<sub>x</sub> RACT emission averaging general requirements); 25 Pa. Code § 129.95 (relating to recordkeeping); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

**§ 129.92. RACT proposal requirements.**

(a) Each RACT proposal shall, at a minimum, include the following information:

- (1) A list of each source subject to the RACT requirements.
- (2) The size or capacity of each affected source and the types of fuel combusted or the types and quantities of materials processed or produced in each source.
- (3) A physical description of each source and its operating characteristics.
- (4) Estimates of the potential and actual NO<sub>x</sub> and VOC emissions from each affected source and associated supporting documentation.
- (5) A RACT analysis which meets the requirements of subsection (b), including technical and economic support documentation for each affected source.
- (6) A schedule for completing implementation of the RACT proposal as expeditiously as practicable but not later than May 31, 1995, including interim dates for the issuance of purchase orders, start and completion of process, technology and control technology changes and the completion of compliance testing.
- (7) The testing, monitoring, recordkeeping and reporting procedures proposed to demonstrate compliance with RACT.
- (8) A plan approval application that meets the requirements of this article if required under § 127.11 (relating to plan approval requirements).

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(9) An application for an operating permit amendment or application to incorporate the provisions of the RACT proposal.

(10) Additional information requested by the Department that is necessary for the evaluation of the RACT proposal.

(b) The RACT analysis required under subsection (a)(5) shall include:

(1) A ranking of the available control options for the affected source in descending order of control effectiveness. Available control options are air pollution control technologies or techniques with a reasonable potential for application to the source. Air pollution control technologies and techniques include the application of production process or methods, control systems for VOCs and NO<sub>x</sub> and fuel combustion techniques for the control of NO<sub>x</sub>. The control technologies and techniques shall include existing controls for the source category and technology transfer controls applied to similar source categories.

(2) An evaluation of the technical feasibility of the available control options identified in subsection (b)(1). The evaluation of technical feasibility shall be based on physical, chemical and engineering principles. A determination of technical infeasibility shall identify technical difficulties which would preclude the successful use of the control option on the affected source.

(3) A ranking of the technically feasible control options in order of overall control effectiveness for NO<sub>x</sub> or VOC emissions. The list shall present the array of control options and shall include, at a minimum, the following information:

(i) The baseline emissions of VOCs and NO<sub>x</sub> before implementation of each control option.

(ii) The estimated emission reduction potential or the estimated control efficiency of each control option.

(iii) The estimated emissions after the application of each control option.

(iv) The economic impacts of each control option, including both overall cost effectiveness and incremental cost effectiveness.

(4) An evaluation of cost effectiveness of each control option consistent with the "OAQPS Control Cost Manual" (Fourth Edition), EPA 450/3-90-006 January 1990 and subsequent revisions. The evaluation shall be conducted in accordance with the following requirements:

(i) The cost effectiveness shall be evaluated in terms of dollars per ton of NO<sub>x</sub> or VOC emissions reduction.

(ii) The cost effectiveness shall be calculated on average and incremental bases for each option. Average cost effectiveness is calculated as the annualized cost of the control option divided by the baseline emissions rate minus the control option emission rate, as shown by the following formula:

Average cost effectiveness (\$/ton removed) =

Control option total annualized cost (\$/yr)

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Baseline emission rate — Control option rate (tons/yr)

(iii) For purposes of this paragraph, baseline emission rate represents the maximum emissions before the implementation of the control option. The baseline emissions rate shall be established using either test results or approved emission factors and historic operating data.

(iv) For purposes of this paragraph, the incremental cost effectiveness calculation compares the costs and emission level of a control option to those of the next most stringent option, as shown by the following formula:



$$\begin{aligned} &\text{Incremental Cost (dollars) per incremental ton} \\ &\quad \text{removed) =} \\ &\frac{\text{Control option total annualized cost (\$/yr) - Total} \\ &\quad \text{annualized cost of next most stringent control option}}{\text{Next most stringent control option emission rate -} \\ &\quad \text{control option emission rate}} \end{aligned}$$

(c) The RACT analysis, including the technical and economic documentation required by subsections (a)(5) and (b), will not be required for the sources which comply with the presumptive RACT emission limitations in § 129.93 (relating to presumptive RACT emission limitations).

#### Source

The provisions of this § 129.92 adopted January 14, 1994, effective January 15, 1994, 24 Pa.B. 467.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.94 (relating to NO<sub>x</sub> RACT emission averaging general requirements); 25 Pa. Code § 129.95 (relating to recordkeeping); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

### § 129.93. Presumptive RACT emission limitations.

(a) The owner and operator of a major NO<sub>x</sub> emitting facility listed in this section and subject to § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs) may elect to comply with the emission limitations of this section as an alternative to developing and implementing a RACT emission limitation on a case-by-case basis.

(b) The owner and operator shall develop and implement the following presumptive RACT emission limitations:

(1) For a coal-fired combustion unit with a rated heat input equal to or greater than 100 million Btu/hour, presumptive RACT shall be the installation and operation of low NO<sub>x</sub> burners with separate overfire air.

(2) For a combustion unit with a rated heat input equal to or greater than 20 million Btu/hour and less than 50 million Btu/hour presumptive RACT shall be the performance of an annual adjustment or tuneup on the combustion process. This adjustment shall include, at a minimum, the following:

(i) Inspection, adjustment, cleaning or replacement of fuel-burning equipment, including the burners and moving parts necessary for proper operation as specified by the manufacturer.

(ii) Inspection of the flame pattern or characteristics and adjustments necessary to minimize total emissions of  $\text{NO}_x$ , and to the extent practicable minimize emissions of CO.

(iii) Inspection of the air-to-fuel ratio control system and adjustments necessary to ensure proper calibration and operation as specified by the manufacturer.

(3) For combustion units subject to paragraph (2), the owner and operator of the adjusted equipment shall record each adjustment conducted under the procedures in paragraph (2) in a permanently bound log book or other method approved by the Department. This log shall contain, at a minimum, the following information:

- (i) The date of the tuning procedure.
- (ii) The name of the service company and technicians.
- (iii) The final operating rate or load.
- (iv) The final CO and  $\text{NO}_x$  emission rates.
- (v) The final excess oxygen rate.
- (vi) Other information required by the applicable operating permit.

(4) For oil, gas and combination oil/gas units subject to paragraph (2), the owner and operator shall maintain records including a certification from the fuel supplier of the type of fuel and for each shipment of distillate oils number 1 or 2, a certification that the fuel complies with ASTM D396-78 "Standard Specifications for Fuel Oils." For residual oils, minimum recordkeeping includes a certification from the fuel supplier of the nitrogen content of the fuel, and identification of the sampling method and sampling protocol.

(5) For oil and gas and combination oil/gas fired units subject to paragraph (2), the owner and operator shall make the annual adjustment in accordance with the EPA document "Combustion Efficiency Optimization Manual for Operators of Oil and Gas-fired Boilers," September 1983 (EPA-340/1-83-023) or equivalent procedures approved in writing by the Department.

(c) For the following source types, presumptive RACT emission limitations are the installation, maintenance and operation of the source in accordance with manufacturers specifications:

(1) Boilers and other combustion sources with individual rated gross heat inputs less than 20 million Btu/hour of operation.

(2) Combustion turbines with individual heat input rates less than 25 million Btu/hour which are used for natural gas distribution.

(3) Internal combustion engines rated at less than 500 bhp (gross) which are set and maintaining 4° retarded relative to standard timing.

(4) Incinerators or thermal/catalytic oxidizers used primarily for air pollution control.

(5) Any fuel-burning equipment, gas turbine or internal combustion engine with an annual capacity factor of less than 5%, or an emergency standby engine operating less than 500 hours in a consecutive 12-month period.

(6) Sources which have been approved as meeting LAER for  $\text{NO}_x$  emissions since November 15, 1990, with Federally enforceable emission limitations.

(7) Sources which have been approved as meeting BACT for NO<sub>x</sub> emissions since November 15, 1990, with Federally enforceable emission limitations. These sources shall, however, meet any more stringent category-wide RACT emission limitation promulgated by EPA or the Department.

**Source**

The provisions of this § 129.93 adopted January 14, 1994, effective January 15, 1994, 24 Pa.B. 467; amended April 22, 1994, effective April 23, 1994, 24 Pa.B. 2078. Immediately preceding text appears at serial pages (186080) to (186081).

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.92 (relating to RACT proposal requirements); 25 Pa. Code § 129.94 (relating to NO<sub>x</sub> RACT emission averaging general requirements); 25 Pa. Code § 129.95 (relating to recordkeeping); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

**§ 129.94. NO<sub>x</sub> RACT emission averaging general requirements.**

(a) The owners and operators of major NO<sub>x</sub> emitting facilities may submit a written proposal to the Department as part of an application for operating permits to average emissions to meet the RACT requirements of § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs). Emission averaging which complies with applicable EPA requirements and is approved as an SIP revision, and which meets the criteria in subsection (b) and is approved by the Department shall satisfy the requirements of § 129.91. The Department will approve, deny or modify each averaging proposal.

(b) The Department will not approve an emission averaging proposal unless the proposal demonstrates compliance with the following requirements to the Department's satisfaction:

(1) The proposal shall demonstrate that the aggregate emissions achieved through the RACT averaging proposal are less than the sum of emissions that would be achieved by complying with the RACT requirement on a source specific basis.

(2) The averaging proposal shall include a tons per year emission cap and an emission rate such as pounds/million Btus for each source in the averaging proposal that provide for verification and enforcement of the averaging proposal.

(3) Emission reductions attributed to the shutdown or curtailment of operation of a source may not be included in an averaging proposal.

(4) The proposal shall demonstrate that the ambient air quality impact resulting from implementation of the averaging proposal is less than or equivalent to the impact from each source complying with the RACT requirements in § 129.91 and §§ 129.92 and 129.93 (relating to RACT proposal requirements);

and presumptive RACT emission limitations) individually. The demonstration shall consider the area of emissions impact and the periods of time of emissions impact except as follows:

(i) For emission averaging involving sources located within the same nonattainment area, the demonstration shall only consider the periods of time of emissions impact.

(ii) For emission averaging involving sources not located within the same nonattainment area which are located less than 200 kilometers from another source involved in the averaging proposal, the demonstration shall only consider the periods of time of emissions impact.

(5) The proposal shall provide that each source involved in the averaging proposal shall be required to use continuous emission monitors and record emissions following the requirements of Chapter 139 (relating to sampling and testing). The participating sources are required to establish telemetry links between the sources and to provide real time emission data to all sources affected by the averaging proposal. For an averaging proposal involving sources at a single facility, the Department may approve alternate requirements provided the proposal demonstrates that the alternate methodologies are credible, workable, replicable and fully enforceable and adequately quantify emissions from all sources participating in the averaging program.

(c) An averaging proposal shall be approved by the EPA as an SIP revision before the averaging proposal may be implemented.

(d) Every source or facility involved in the approved averaging proposal is in violation of its operating permit when a source or facility subject to the averaging proposal exceeds an emission limitation or averaging requirement established under this section.

(e) Additional emission reductions required under the act or the Clean Air Act or the regulations adopted under either the act or the Clean Air Act shall be in addition to and not a substitute for the emission reductions required by the averaging proposal.

#### Source

The provisions of this § 129.94 adopted January 14, 1994, effective January 15, 1994, 24 Pa.B. 467.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials); 25 Pa. Code § 129.95 (relating to record-keeping); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

**§ 129.95. Recordkeeping.**

(a) The owner and operator of a major NO<sub>x</sub> emitting facility or a major VOCs emitting facility shall keep records to demonstrate compliance with §§ 129.91—129.94.

(b) The records shall provide sufficient data and calculations to clearly demonstrate that the requirements of §§ 129.91—129.94 are met.

(c) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.

(d) The records shall be retained for at least 2 years and shall be made available to the Department on request.

(e) An owner or operator claiming that a facility is exempt from the RACT requirements of §§ 129.91—129.94, based on the facility's potential to emit, shall maintain records that clearly demonstrate to the Department that the facility or source is not subject to §§ 129.91—129.94.

**Source**

The provisions of this § 129.95 adopted January 14, 1994, effective January 15, 1994, 24 Pa.B. 467.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52a (relating to control of VOC emissions from large appliance and metal furniture surface coating processes); 25 Pa. Code § 129.52b (relating to control of VOC emissions from paper, film and foil surface coating processes); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.52d (relating to control of VOC emissions from miscellaneous metal parts surface coating processes, miscellaneous plastic parts surface coating processes and pleasure craft surface coatings); 25 Pa. Code § 129.52e (relating to control of VOC emissions from automobile and light-duty truck assembly coating operations and heavier vehicle coating operations); 25 Pa. Code § 129.63a (relating to control of VOC emissions from industrial cleaning solvents); 25 Pa. Code § 129.67a (relating to control of VOC emissions from flexible packaging printing presses); 25 Pa. Code § 129.67b (relating to control of VOC emissions from offset lithographic printing presses and letterpress printing presses); 25 Pa. Code § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

**ADDITIONAL RACT REQUIREMENTS FOR MAJOR  
SOURCES OF NO<sub>x</sub> AND VOCs****§ 129.96. Applicability.**

(a) The NO<sub>x</sub> requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a major NO<sub>x</sub> emitting facility and the VOC requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a major VOC emitting facility that were in existence on or before July 20, 2012, for which a requirement or emission limitation, or both, has not been established in §§ 129.51—129.52c, 129.54—129.63, 129.64—129.69, 129.71—129.75, 129.77, 129.101—129.107 and 129.301—129.310.

(b) The NO<sub>x</sub> requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a NO<sub>x</sub> emitting facility and the VOC requirements of this section and §§ 129.97—129.100 apply Statewide to the

owner and operator of a VOC emitting facility when the installation of a new source or a modification or change in operation of an existing source after July 20, 2012, results in the source or facility meeting the definition of a major NO<sub>x</sub> emitting facility or a major VOC emitting facility and for which a requirement or an emission limitation, or both, has not been established in §§ 129.51—129.52e, 129.54—129.69, 129.71—129.75, 129.77, 129.101—129.107 and 129.301—129.310.

(c) This section and §§ 129.97—129.100 do not apply to the owner and operator of a NO<sub>x</sub> air contamination source located at a major NO<sub>x</sub> emitting facility that has the potential to emit less than 1 TPY of NO<sub>x</sub> or a VOC air contamination source located at a major VOC emitting facility that has the potential to emit less than 1 TPY of VOC.

(d) This section and §§ 129.97—129.100 do not apply to the owner and operator of a facility which is not a major NO<sub>x</sub> emitting facility or a major VOC emitting facility on or before January 1, 2017.

#### Authority

The provisions of this § 129.96 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.96 adopted April 22, 2016, effective April 23, 2016, 46 Pa.B. 2036; amended August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814. Immediately preceding text appears at serial pages (384191) to (384192).

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.98 (relating to facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.100 (relating to compliance demonstration and recordkeeping requirements); 25 Pa. Code § 129.112 (relating to resumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

### **§ 129.97. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule.**

(a) The owner and operator of a source listed in one or more of subsections (b)—(h) located at a major NO<sub>x</sub> emitting facility or major VOC emitting facility subject to § 129.96 (relating to applicability) shall comply with the applicable presumptive RACT requirement or RACT emission limitation, or both, beginning with the specified compliance date as follows, unless an alternative compliance schedule is submitted and approved under subsections (k)—(m) or § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule):

(1) January 1, 2017, for a source subject to § 129.96(a).

(2) January 1, 2017, or 1 year after the date the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(b) The owner and operator of a source specified in this subsection, which is located at a major NO<sub>x</sub> emitting facility or major VOC emitting facility subject to § 129.96 shall comply with the following:

(1) The presumptive RACT requirement for a combustion unit with a rated heat input equal to or greater than 20 million Btu/hour and less than 50 million Btu/hour, which is the performance of a biennial tune-up conducted in accordance with the procedures in 40 CFR 63.11223 (relating to how do I demonstrate continuous compliance with the work practice and management practice standards). The biennial tune-up must include, at a minimum, the following:

(i) Inspection and cleaning or replacement of fuel-burning equipment, including the burners and components, as necessary, for proper operation as specified by the manufacturer.

(ii) Inspection of the flame pattern and adjustment of the burner, as necessary, to optimize the flame pattern to minimize total emissions of NO<sub>x</sub> and, to the extent possible, emissions of CO.

(iii) Inspection and adjustment, as necessary, of the air-to-fuel ratio control system to ensure proper calibration and operation as specified by the manufacturer.



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(2) The owner or operator of a combustion unit with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up shall conduct a tune-up of the boiler one time in each 5-year calendar period. The tune-up must include, at a minimum, the following:

(i) Inspection and cleaning or replacement of fuel-burning equipment, including the burners and components, as necessary, for proper operation as specified by the manufacturer.

(ii) Inspection of the flame pattern and adjustment of the burner, as necessary, to optimize the flame pattern to minimize total emissions of  $\text{NO}_x$  and, to the extent possible, emissions of CO.

(iii) Inspection and adjustment, as necessary, of the air-to-fuel ratio control system to ensure proper calibration and operation as specified by the manufacturer.

(3) The applicable recordkeeping requirements of § 129.100(d), (e) or (f) (relating to compliance demonstration and recordkeeping requirements).

(c) The owner and operator of a source specified in this subsection, which is located at a major  $\text{NO}_x$  emitting facility or major VOC emitting facility subject to § 129.96 shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices:

(1) A  $\text{NO}_x$  air contamination source that has the potential to emit less than 5 TPY of  $\text{NO}_x$ .

(2) A VOC air contamination source that has the potential to emit less than 2.7 TPY of VOC.

(3) A boiler or other combustion source with an individual rated gross heat input less than 20 million Btu/hour.

(4) A combustion turbine with a rated output less than 1,000 bhp.

(5) A stationary internal combustion engine rated at less than 500 bhp (gross).

(6) An incinerator, thermal oxidizer or catalytic oxidizer used primarily for air pollution control.

(7) A fuel-burning unit with an annual capacity factor of less than 5%.

(i) For a combustion unit, the annual capacity factor is the ratio of the unit's heat input (in million Btu or equivalent units of measure) to the unit's maximum rated hourly heat input rate (in million Btu/hour or equivalent units of measure) multiplied by 8,760 hours during a period of 12 consecutive calendar months.

(ii) For an electric generating unit, the annual capacity factor is the ratio of the unit's actual electric output (expressed in MWe/hr) to the unit's nameplate capacity (or maximum observed hourly gross load (in MWe/hr) if greater than the nameplate capacity) multiplied by 8,760 hours during a period of 12 consecutive calendar months.

(iii) For any other unit, the annual capacity factor is the ratio of the unit's actual operating level to the unit's potential operating level during a period of 12 consecutive calendar months.

(8) An emergency standby engine operating less than 500 hours in a 12-month rolling period.

(d) Except as specified under subsection (c), the owner and operator of a combustion unit or other combustion source located at a major VOC emitting

facility subject to § 129.96 shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices for the control of the VOC emissions from the combustion unit or other combustion source.

(e) The owner and operator of a municipal solid waste landfill subject to § 129.96 shall comply with the following applicable presumptive RACT requirement:

(1) For a municipal solid waste landfill constructed on or before May 30, 1991, emission guidelines and compliance times in 40 CFR Part 60, Subpart Cc (relating to emission guidelines and compliance times for municipal solid waste landfills), which are adopted and incorporated by reference in § 122.3 (relating to adoption of standards), and applicable Federal or state plans in 40 CFR Part 62 (relating to approval and promulgation of state plans for designated facilities and pollutants).

(2) For a municipal solid waste landfill constructed after May 30, 1991, New Source Performance Standards in 40 CFR Part 60, Subpart WWW (relating to standards of performance for municipal solid waste landfills), which are adopted and incorporated by reference in § 122.3.

(f) The owner and operator of a municipal waste combustor subject to § 129.96 shall comply with the presumptive RACT requirement of 180 ppmvd NO<sub>x</sub> @ 7% oxygen.

(g) Except as specified under subsection (c), the owner and operator of a NO<sub>x</sub> air contamination source specified in this subsection, which is located at a major NO<sub>x</sub> emitting facility or a VOC air contamination source specified in this subsection, which is located at a major VOC emitting facility subject to § 129.96 may not cause, allow or permit NO<sub>x</sub> or VOCs to be emitted from the air contamination source in excess of the applicable presumptive RACT emission limitation:

(1) A combustion unit or process heater:

(i) For a natural gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.10 lb NO<sub>x</sub>/million Btu heat input.

(ii) For a distillate oil-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.12 lb NO<sub>x</sub>/million Btu heat input.

(iii) For a residual oil-fired or other liquid fuel-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.20 lb NO<sub>x</sub>/million Btu heat input.

(iv) For a refinery gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour, 0.25 lb NO<sub>x</sub>/million Btu heat input.

(v) For a coal-fired combustion unit with a rated heat input equal to or greater than 50 million Btu/hour and less than 250 million Btu/hour, 0.45 lb NO<sub>x</sub>/million Btu heat input.

(vi) For a coal-fired combustion unit with a rated heat input equal to or greater than 250 million Btu/hour that is:

(A) A circulating fluidized bed combustion unit, 0.16 lb NO<sub>x</sub>/million Btu heat input.

(B) A tangentially fired combustion unit, 0.35 lb NO<sub>x</sub>/million Btu heat input.

- (C) Any other type of coal-fired combustion unit, 0.40 lb NO<sub>x</sub>/million Btu heat input.
- (vii) For any other type of solid fuel-fired combustion unit with a rated heat input equal to or greater than 50 million Btu/hour, 0.25 lb NO<sub>x</sub>/million Btu heat input.
- (viii) For a coal-fired combustion unit with a selective catalytic reduction system operating with an inlet temperature equal to or greater than 600°F, 0.12 lb NO<sub>x</sub>/million Btu heat input. Compliance with this emission limit is also required when by-passing the selective catalytic reduction system.
- (ix) For a coal-fired combustion unit with a selective noncatalytic reduction system, the selective noncatalytic reduction system shall be operated with the injection of reagents including ammonia or other NO<sub>x</sub>-reducing agents when the temperature at the area of the reagent injection is equal to or greater than 1,600°F.
- (2) A combustion turbine:
- (i) For a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 180 MW when firing:
- (A) Natural gas or a noncommercial gaseous fuel, 42 ppmvd NO<sub>x</sub> @ 15% oxygen.
- (B) Fuel oil, 96 ppmvd NO<sub>x</sub> @ 15% oxygen.
- (C) Natural gas or a noncommercial gaseous fuel, 5 ppmvd VOC (as propane) @ 15% oxygen.
- (D) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.
- (ii) For a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 180 MW when firing:
- (A) Natural gas or a noncommercial gaseous fuel, 4 ppmvd NO<sub>x</sub> @ 15% oxygen.
- (B) Fuel oil, 8 ppmvd NO<sub>x</sub> @ 15% oxygen.
- (C) Natural gas or a noncommercial gaseous fuel, 2 ppmvd VOC (as propane) @ 15% oxygen.
- (D) Fuel oil, 2 ppmvd VOC (as propane) @ 15% oxygen.
- (iii) For a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 6,000 bhp when firing:
- (A) Natural gas or a noncommercial gaseous fuel, 150 ppmvd NO<sub>x</sub> @ 15% oxygen.
- (B) Fuel oil, 150 ppmvd NO<sub>x</sub> @ 15% oxygen.
- (C) Natural gas or a noncommercial gaseous fuel, 9 ppmvd VOC (as propane) @ 15% oxygen.
- (D) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.
- (iv) For a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 6,000 bhp when firing:
- (A) Natural gas or a noncommercial gaseous fuel, 42 ppmvd NO<sub>x</sub> @ 15% oxygen.
- (B) Fuel oil, 96 ppmvd NO<sub>x</sub> @ 15% oxygen.
- (C) Natural gas or a noncommercial gaseous fuel, 9 ppmvd VOC (as propane) @ 15% oxygen.
- (D) Fuel oil, 9 ppmvd VOC (as propane) @ 15% oxygen.

- (3) A stationary internal combustion engine:
- (i) For a lean burn stationary internal combustion engine with a rating equal to or greater than 500 bhp fired with:
    - (A) Natural gas or a noncommercial gaseous fuel, 3.0 grams NO<sub>x</sub>/bhp-hr.
    - (B) Natural gas or a noncommercial gaseous fuel, liquid fuel or dual-fuel, 1.0 gram VOC/bhp-hr excluding formaldehyde.
  - (ii) For a stationary internal combustion engine with a rating equal to or greater than 500 bhp fired with liquid fuel or dual-fuel, 8.0 grams NO<sub>x</sub>/bhp-hr.
  - (iii) For a rich burn stationary internal combustion engine with a rating equal to or greater than 500 bhp fired with:
    - (A) Natural gas or a noncommercial gaseous fuel, 2.0 grams NO<sub>x</sub>/bhp-hr.
    - (B) Natural gas or a noncommercial gaseous fuel, 1.0 gram VOC/bhp-hr.
- (4) A unit firing multiple fuels:
- (i) The applicable RACT multiple fuel emission limit shall be determined on a total heat input fuel weighted basis using the following equation:

$$E_{HI\text{weighted}} = \frac{\sum_{i=1}^n E_i HI_i}{\sum_{i=1}^n HI_i}$$

Where:

$E_{HI\text{weighted}}$  = The heat input fuel weighted multiple fuel emission rate or emission limitation for the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

$E_i$  = The emission rate or emission limit for fuel  $i$  during the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

$HI_i$  = The total heat input for fuel  $i$  during the compliance period.

$n$  = The number of different fuels used during the compliance period.

(ii) A fuel representing less than 1% of the unit's annual fuel consumption on a heat input basis is excluded when determining the applicable RACT multiple fuel emission limit calculated in accordance with subparagraph (i).

(iii) The determination in subparagraph (i) does not apply to a stationary internal combustion engine that is subject to the RACT emission limits in paragraph (3).

(h) The owner and operator of a Portland cement kiln subject to § 129.96 shall comply with the following applicable presumptive RACT emission limitation:

(1) 3.88 pounds of NO<sub>x</sub> per ton of clinker produced for a long wet-process cement kiln as defined in § 145.142 (relating to definitions).

(2) 3.44 pounds of NO<sub>x</sub> per ton of clinker produced for a long dry-process cement kiln as defined in § 145.142.

(3) 2.36 pounds of NO<sub>x</sub> per ton of clinker produced for:

(i) A preheater cement kiln as defined in § 145.142.

(ii) A precalciner cement kiln as defined in § 145.142.

(i) The requirements and emission limitations of this section supersede the requirements and emission limitations of a RACT permit issued to the owner or operator of an air contamination source subject to one or more of subsections (b)—(h) prior to April 23, 2016, under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) to control, reduce or minimize NO<sub>x</sub> emissions or VOC emissions, or both, from the air contamination source unless the permit contains more stringent requirements or emission limitations, or both.

(j) The requirements and emission limitations of this section supersede the requirements and emission limitations of §§ 129.201—129.205, 145.111—145.113 and 145.141—145.146 (relating to additional NO<sub>x</sub> requirements; emissions of NO<sub>x</sub> from stationary internal combustion engines; and emissions of NO<sub>x</sub> from cement manufacturing) unless the requirements or emission limitations of §§ 129.201—129.205, §§ 145.111—145.113 or §§ 145.141—145.146 are more stringent.

\* \* \* \* \*

(k) The owner or operator of a major NO<sub>x</sub> emitting facility or a major VOC emitting facility subject to § 129.96 that includes an air contamination source subject to one or more of subsections (b)—(h) that cannot meet the applicable presumptive RACT requirement or RACT emission limitation without installation of an air cleaning device may submit a petition, in writing, requesting an alternative compliance schedule in accordance with the following:

(1) The written petition shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) The written petition must include:

(i) A description, including make, model and location, of each affected source subject to a RACT requirement or a RACT emission limitation in one or more of subsections (b)—(h).

(ii) A description of the proposed air cleaning device to be installed.

(iii) A schedule containing proposed interim dates for completing each phase of the required work to install the air cleaning device described in subparagraph (ii).

(iv) A proposed interim emission limitation that will be imposed on the affected source until compliance is achieved with the applicable RACT requirement or RACT emission limitation.

(v) A proposed final compliance date that is as soon as possible but not later than 3 years after the written approval of the petition by the Department or the appropriate approved local air pollution control agency. The approved petition shall be incorporated in an applicable operating permit or plan approval.

(l) The Department or appropriate approved local air pollution control agency will review the timely and complete written petition requesting an alternative compliance schedule submitted in accordance with subsection (k) and approve or deny the petition in writing.

(m) Approval or denial under subsection (l) of the timely and complete petition for an alternative compliance schedule submitted under subsection (k) will be effective on the date the letter of approval or denial of the petition is signed by the authorized representative of the Department or appropriate approved local air pollution control agency.

#### Authority

The provisions of this § 129.97 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.97 adopted April 22, 2016, effective April 23, 2016, 46 Pa.B. 2036; amended August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814. Immediately preceding text appears at serial pages (384192) to (384193) and (380507) to (380512).

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.98 (relating to facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.100 (relating to compliance demonstration and recordkeeping requirements); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

### § 129.98. Facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements.

(a) The owner or operator of a major NO<sub>x</sub> emitting facility subject to § 129.96 (relating to applicability) that includes at least one air contamination source subject to a NO<sub>x</sub> RACT emission limitation in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) that cannot meet the applicable NO<sub>x</sub> RACT emission limitation may elect to meet the applicable NO<sub>x</sub> RACT emission limitation in § 129.97 by averaging NO<sub>x</sub> emissions on either a facility-wide or system-wide basis using a 30-day rolling average. System-wide emissions averaging must be among sources under common control of the same owner or operator within the same ozone nonattainment area in this Commonwealth.

(b) The owner or operator of each facility that elects to comply with subsection (a) shall submit a written NO<sub>x</sub> emissions averaging plan to the Department or appropriate approved local air pollution control agency as part of an application for an operating permit modification or a plan approval, if otherwise required. The application incorporating the requirements of this section shall be submitted by the applicable date as follows:

(1) October 24, 2016, for a source subject to § 129.96(a).

(2) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility, whichever is later, for a source subject to § 129.96(b).

(c) Each NO<sub>x</sub> air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NO<sub>x</sub> emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under subsection (b) must be an air contamination source subject to a NO<sub>x</sub> RACT emission limitation in § 129.97.

(d) The application for the operating permit modification or the plan approval, if otherwise required, for averaging NO<sub>x</sub> emissions on either a facility-

wide or system-wide basis using a 30-day rolling average submitted under subsection (b) must demonstrate that the aggregate NO<sub>x</sub> emissions emitted by the air contamination sources included in the facility-wide or system-wide NO<sub>x</sub> emissions averaging plan using a 30-day rolling average are not greater than the NO<sub>x</sub> emissions that would be emitted by the group of included sources if each source complied with the applicable NO<sub>x</sub> RACT emission limitation in § 129.97 on a source-specific basis.

(e) The owner or operator shall calculate the alternative facility-wide or system-wide NO<sub>x</sub> RACT emissions limitation using a 30-day rolling average for the air contamination sources included in the application for the operating permit modification or plan approval, if otherwise required, submitted under subsection (b) by using the following equation to sum the emissions for all of the sources included in the NO<sub>x</sub> emissions averaging plan:

$$\left[ \sum_{i=1}^n Ei_{\text{actual}} \right] \leq \left[ \sum_{i=1}^n Ei_{\text{allowable}} \right]$$

Where:

$Ei_{\text{actual}}$  = The actual NO<sub>x</sub> mass emissions, including emissions during start-ups, shutdowns and malfunctions, for air contamination source i on a 30-day rolling basis.

$Ei_{\text{allowable}}$  = The allowable NO<sub>x</sub> mass emissions computed using the allowable emission rate limitations for air contamination source i on a 30-day rolling basis specified in § 129.97. If an air contamination source included in an averaging plan is subject to a numerical emission rate limit that is more stringent than the applicable allowable emission rate limitation in § 129.97, then the numerical emission rate limit shall be used for the calculation of the allowable NO<sub>x</sub> mass emissions.

n = The number of air contamination sources included in the NO<sub>x</sub> emissions averaging plan.

(f) The application for the operating permit modification or a plan approval, if otherwise required, specified in subsections (b)—(e) may include facility-wide or system-wide NO<sub>x</sub> emissions averaging using a 30-day rolling average only for NO<sub>x</sub> emitting sources or NO<sub>x</sub> emitting facilities that are owned or operated by the applicant.

(g) The application for the operating permit modification or a plan approval, if otherwise required, specified in subsections (b)—(f) must include the following information:

- (1) Identification of each air contamination source included in the NO<sub>x</sub> emissions averaging plan.
- (2) Each air contamination source's applicable emission limitation in § 129.97.
- (3) Methods for demonstrating compliance and recordkeeping and reporting requirements in accordance with § 129.100 (relating to compliance demonstration and recordkeeping requirements) for each source included in the NO<sub>x</sub> emissions averaging plan submitted under subsection (b).

(h) An air contamination source or facility included in the facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted in accordance with subsections (b)—(g) may be included in only one facility-wide or system-wide NO<sub>x</sub> emissions averaging plan.



(i) The Department or appropriate approved local air pollution control agency will issue a modification to the operating permit or a plan approval authorizing the NO<sub>x</sub> emissions averaging plan.

(j) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted in accordance with subsections (b)—(h) shall submit the reports and records specified in subsection (g)(3) to the Department or appropriate approved local air pollution control agency on the schedule specified in subsection (g)(3) to demonstrate compliance with § 129.100.

(k) The owner or operator of an air contamination source or facility included in a facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted in accordance with subsections (b)—(h) that achieves emission reductions in accordance with other emission limitations required under the act or the Clean Air Act, or regulations adopted under the act or the Clean Air Act, that are not NO<sub>x</sub> RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted to the Department or appropriate approved local air pollution control agency under subsection (b).

(l) The owner or operator of an air contamination source subject to a NO<sub>x</sub> RACT emission limitation in § 129.97 that is not included in a facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted under subsection (b) shall operate the source in compliance with the applicable NO<sub>x</sub> RACT emission limitation in § 129.97.

(m) The owner and operator of the air contamination sources included in a facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted under subsection (b) shall be liable for a violation of an applicable NO<sub>x</sub> RACT emission limitation at each source included in the NO<sub>x</sub> emissions averaging plan.

#### Authority

The provisions of this § 129.98 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.98 adopted April 22, 2016, effective April 23, 2016, 46 Pa.B. 2036.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.100 (relating to compliance demonstration and recordkeeping requirements); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

### § 129.99. Alternative RACT proposal and petition for alternative compliance schedule.

(a) The owner or operator of an air contamination source subject to § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) located at a major NO<sub>x</sub> emitting facility or major VOC emitting facility subject to § 129.96 (relating to applicability) that cannot meet the applicable presumptive RACT requirement or RACT emission limitation of § 129.97 may propose an alternative RACT requirement or RACT emission limitation in accordance with subsection (d).

(b) The owner or operator of a NO<sub>x</sub> air contamination source with a potential emission rate equal to or greater than 5.0 tons of NO<sub>x</sub> per year that is not subject



to § 129.97 or §§ 129.201—129.205 (relating to additional NO<sub>x</sub> requirements) located at a major NO<sub>x</sub> emitting facility subject to § 129.96 shall propose a NO<sub>x</sub> RACT requirement or RACT emission limitation in accordance with subsection (d).

(c) The owner or operator of a VOC air contamination source with a potential emission rate equal to or greater than 2.7 tons of VOC per year that is not subject to § 129.97 located at a major VOC emitting facility subject to § 129.96 shall propose a VOC RACT requirement or RACT emission limitation in accordance with subsection (d).

(d) The owner or operator proposing an alternative RACT requirement or RACT emission limitation under subsection (a), (b) or (c) shall:

(1) Submit a written RACT proposal in accordance with the procedures in § 129.92(a)(1)—(5), (7)—(10) and (b) (relating to RACT proposal requirements) to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) Be in receipt of an approval issued by the Department or appropriate approved local air pollution control agency in writing through a plan approval or operating permit modification for a RACT proposal submitted under paragraph (1)(ii) prior to the installation, modification or change in the operation of the existing air contamination source that will result in the source or facility meeting the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility.

(3) Include in the RACT proposal the proposed alternative NO<sub>x</sub> RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation developed in accordance with the procedures in § 129.92(a)(1)—(5) and (b).

(4) Include in the RACT proposal a schedule for completing implementation of the RACT requirement or RACT emission limitation as soon as possible but not later than:

(i) January 1, 2017, for a source subject to § 129.96(a).

(ii) January 1, 2017, or 1 year after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(5) Include interim dates in the schedule required under paragraph (4) for the:

(i) Issuance of purchase orders.

(ii) Start and completion of process, technology and control technology changes.

(iii) Completion of compliance testing.

(6) Include in the RACT proposal methods for demonstrating compliance and recordkeeping and reporting requirements in accordance with § 129.100 (relating to compliance demonstration and recordkeeping requirements) for each air contamination source included in the RACT proposal.

(7) Demonstrate to the satisfaction of the Department or the appropriate approved local air pollution control agency that the proposed requirement or RACT emission limitation is RACT for the air contamination source.

(e) The Department or appropriate approved local air pollution control agency will:

(1) Review the timely and complete alternative RACT proposal submitted in accordance with subsection (d).

(2) Approve the alternative RACT proposal submitted under subsection (d), in writing, if the Department or appropriate approved local air pollution control agency is satisfied that the alternative RACT proposal complies with the requirements of subsection (d) and that the proposed alternative requirement or RACT emission limitation is RACT for the air contamination source.

(3) Deny or modify the alternative RACT proposal submitted under subsection (d), in writing, if the proposal does not comply with the requirements of subsection (d).

(f) The proposed alternative RACT requirement or RACT emission limitation and the implementation schedule submitted under subsection (d) will be approved, denied or modified by the Department or appropriate approved local air pollution control agency in accordance with subsection (e) in writing through the issuance of a plan approval or operating permit modification prior to the owner or operator implementing the alternative RACT requirement or RACT emission limitation.

(g) The emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to April 23, 2016, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f), except to the extent the existing plan approval or operating permit contains more stringent requirements.

(h) The Department will submit each alternative RACT requirement or RACT emission limitation approved under subsection (f) to the Administrator of the EPA for approval as a revision to the SIP. The owner and operator of the facility shall bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal.

(i) The owner and operator of a facility proposing to comply with the applicable RACT requirement or RACT emission limitation under subsection (a), (b) or (c) through the installation of an air cleaning device may submit a petition, in writing, requesting an alternative compliance schedule in accordance with the following:

(1) The written petition requesting an alternative compliance schedule shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) October 24, 2016, for a source subject to § 129.96(a).

(ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).

(2) The written petition must include:

(i) A description, including make, model and location, of each air contamination source subject to a RACT requirement or RACT emission limitation in one or more of subsections (a)–(c).

(ii) A description of the proposed air cleaning device to be installed.

(iii) A schedule containing proposed interim dates for completing each phase of the required work to install the air cleaning device described in subparagraph (ii).

(iv) A proposed interim emission limitation that will be imposed on the affected air contamination source until compliance is achieved with the applicable RACT requirement or RACT emission limitation.

(v) A proposed final compliance date that is as soon as possible but not later than 3 years after the approval of the petition by the Department or the appropriate approved local air pollution control agency. If the petition is for the replacement of an existing source, the final compliance date will be determined on a case-by-case basis. The approved petition shall be incorporated in an applicable operating permit or plan approval.

(j) The Department or appropriate approved local air pollution control agency will review the timely and complete written petition requesting an alternative compliance schedule submitted in accordance with subsection (i) and approve or deny the petition in writing.

(k) The emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (j) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to April 23, 2016, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (j), except to the extent the existing plan approval or operating permit contains more stringent requirements.

(l) Approval or denial under subsection (j) of the timely and complete petition for an alternative compliance schedule submitted under subsection (i) will be effective on the date the letter of approval or denial of the petition is signed by the authorized representative of the Department or appropriate approved local air pollution control agency.

#### Authority

The provisions of this § 129.99 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.99 adopted April 22, 2016, effective April 23, 2016, 46 Pa.B. 2036; amended August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814. Immediately preceding text appears at serial pages (380514) to (380517).

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.100 (relating to compliance demonstration and recordkeeping requirements); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

### § 129.100. Compliance demonstration and recordkeeping requirements.

(a) Except as provided in subsection (c), the owner and operator of an air contamination source subject to a NO<sub>x</sub> RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation, or both, listed in § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate

compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:

- (1) For an air contamination source with a CEMS, monitoring and testing in accordance with the requirements of Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) using a 30-day rolling average, except municipal waste combustors.
  - (i) A 30-day rolling average emission rate for an air contamination source that is a combustion unit shall be expressed in pounds per million Btu and calculated in accordance with the following procedure:
    - (A) Sum the total pounds of pollutant emitted from the combustion unit for the current operating day and the previous 29 operating days.
    - (B) Sum the total heat input to the combustion unit in million Btu for the current operating day and the previous 29 operating days.
    - (C) Divide the total number of pounds of pollutant emitted by the combustion unit for the 30 operating days by the total heat input to the combustion unit for the 30 operating days.
  - (ii) A 30-day rolling average emission rate for each applicable RACT emission limitation shall be calculated for an affected air contamination source for each consecutive operating day.
  - (iii) Each 30-day rolling average emission rate for an affected air contamination source must include the emissions that occur during the entire operating day, including emissions from start-ups, shutdowns and malfunctions.
- (2) For a Portland cement kiln with a CEMS, monitoring of clinker production rates in accordance with 40 CFR 63.1350(d) (relating to monitoring requirements).
- (3) For a municipal waste combustor with a CEMS, monitoring and testing in accordance with the requirements in Chapter 139, Subchapter C, using a daily average.
- (4) For an air contamination source without a CEMS, monitoring and testing in accordance with a Department-approved emissions source test that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted one time in each 5-year calendar period.
  - (b) Except as provided in § 129.97(k) and § 129.99(i) (relating to alternative RACT proposal and petition for alternative compliance schedule), the owner and operator of an air contamination source subject to subsection (a) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation in accordance with the procedures in subsection (a) not later than:
    - (1) January 1, 2017, for a source subject to § 129.96(a) (relating to applicability).
    - (2) January 1, 2017, or 1 year after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).
  - (c) An owner or operator of an air contamination source subject to this section, §§ 129.96 and 129.97 and § 129.98 (relating to facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements) may request a waiver from the requirement to demonstrate compliance with the applicable emission limitation listed in § 129.97 if the following requirements are met:
    - (1) The request for a waiver is submitted, in writing, to the Department not later than:

- (i) October 24, 2016, for a source subject to § 129.96(a).
- (ii) October 24, 2016, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).
- (2) The request for a waiver demonstrates that a Department-approved emissions source test was performed in accordance with the requirements of Chapter 139, Subchapter A, on or after:
  - (i) April 23, 2015, for a source subject to § 129.96(a).
  - (ii) April 23, 2015, or within 12 months prior to the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.96(b).
- (3) The request for a waiver demonstrates to the satisfaction of the Department that the test results show that the source's rate of emissions is in compliance with the source's applicable NO<sub>x</sub> emission limitation or VOC emission limitation.
- (4) The Department approves, in writing, the request for a waiver.
- (d) The owner and operator of an air contamination source subject to this section and §§ 129.96—129.99 shall keep records to demonstrate compliance with §§ 129.96—129.99 in the following manner:
  - (1) The records must include sufficient data and calculations to demonstrate that the requirements of §§ 129.96—129.99 are met.
  - (2) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.
  - (e) Beginning with the compliance date specified in § 129.97(a), the owner or operator of an air contamination source claiming that the air contamination source is exempt from the applicable NO<sub>x</sub> emission rate threshold specified in § 129.99(b) and the requirements of § 129.97 based on the air contamination source's potential to emit shall maintain records that demonstrate to the Department or appropriate approved local air pollution control agency that the air contamination source is not subject to the specified emission rate threshold.
  - (f) Beginning with the compliance date specified in § 129.97(a), the owner or operator of an air contamination source claiming that the air contamination source is exempt from the applicable VOC emission rate threshold specified in § 129.99(c) and the requirements of § 129.97 based on the air contamination source's potential to emit shall maintain records that demonstrate to the Department or appropriate approved local air pollution control agency that the air contamination source is not subject to the specified emission rate threshold.
  - (g) The owner or operator of a combustion unit subject to § 129.97(b) shall record each adjustment conducted under the procedures in § 129.97(b). This record must contain, at a minimum:
    - (1) The date of the tuning procedure.
    - (2) The name of the service company and the technician performing the procedure.
    - (3) The final operating rate or load.
    - (4) The final NO<sub>x</sub> and CO emission rates.
    - (5) The final excess oxygen rate.
    - (6) Other information required by the applicable operating permit.

(h) The owner or operator of a Portland cement kiln subject to § 129.97(h) shall maintain a daily operating log for each Portland cement kiln. The record for each kiln must include:

- (1) The total hours of operation.
- (2) The type and quantity of fuel used.
- (3) The quantity of clinker produced.
- (4) The date, time and duration of a start-up, shutdown or malfunction of a Portland cement kiln or emissions monitoring system.

(i) The records shall be retained by the owner or operator for 5 years and made available to the Department or appropriate approved local air pollution control agency upon receipt of a written request from the Department or appropriate approved local air pollution control agency.

#### Authority

The provisions of this § 129.100 issued under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.100 adopted April 22, 2016, effective April 23, 2016, 46 Pa.B. 2036; amended August 10, 2018, effective August 11, 2018, 48 Pa.B. 4814. Immediately preceding text appears at serial pages (380517) to (380520).

#### Cross References

The section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.98 (relating to facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.121 (relating to general provisions and applicability); and 25 Pa. Code § 29.131 (relating to general provisions and applicability).

### WOOD FURNITURE MANUFACTURING OPERATIONS

#### § 129.101. General provisions and applicability.

(a) Beginning June 10, 2000, this section and §§ 129.102—129.107 apply to each wood furniture manufacturing facility located in a county included in the northeast ozone transport region or in a county designated as severe, serious, moderate or marginal ozone nonattainment that emits or has the potential to emit 25 tons or more per year of VOCs from wood furniture manufacturing operations.

(b) The owner or operator of an existing wood furniture manufacturing facility subject to subsection (a) shall comply with this section and §§ 129.102—129.107 by June 11, 2001, except for those facilities which have RACT determinations approved by the EPA as revisions to the SIP prior to June 10, 2000.

(c) An existing wood furniture manufacturing facility that increases its actual emissions or potential to emit to 25 tons per year or more of VOCs from wood furniture manufacturing operations shall comply with this section and §§ 129.102—129.107 within 1 year after becoming subject to subsection (a), except for those facilities which have RACT determinations approved by the EPA as revisions to the SIP prior to June 10, 2000.



(d) At a minimum, a new source installed at an existing facility that is subject to the requirements of subsection (a) shall comply with the emission standards of § 129.102 (relating to emission standards) upon installation of the new source.

(e) The owner or operator of a wood furniture manufacturing facility subject to this section, §§ 129.52 and 129.102—129.107 shall comply with the more stringent emissions limitation or applicable requirement for wood furniture manufacturing operations in § 129.52 or this section and §§ 129.102—129.107.

(f) The VOC standards in § 129.102 Table IV do not apply to a coating used exclusively for determining product quality and commercial acceptance, touch-up and repair and other small quantity coatings if the coating meets the following criteria:

(1) The quantity of coating used does not exceed 50 gallons per year for a single coating and a total of 200 gallons per year for all coatings combined for the facility.

(2) The owner or operator of the facility requests, in writing, and the Department approves, in writing, the exemption prior to use of the coating.

#### Authority

The provisions of this § 129.101 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.101 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.102 (relating to emission standards); 25 Pa. Code § 129.103 (relating to work practice standards); 25 Pa. Code § 129.104 (relating to compliance procedures and monitoring requirements); 25 Pa. Code § 129.105 (relating to recordkeeping requirements); 25 Pa. Code § 129.106 (relating to reporting requirements); 25 Pa. Code § 129.107 (relating to special provisions for facilities using an emissions averaging approach); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.102. Emission standards.

An owner or operator of a facility subject to this section, §§ 129.101 and 129.103—129.107 shall limit VOC emissions from wood furniture manufacturing operations by:

(1) Applying either waterborne topcoats or a combination of sealers and topcoats and strippable spray booth coatings with a VOC content equal to or less than the standards specified in Table IV:

<p style="text-align: center;"><i>Table IV</i>  <i>Emission Limits of VOC for Wood Furniture</i>  <i>Manufacturing Sealers, Topcoats and Strippable Spray</i>  <i>Booth Coatings As Applied, in Pounds of VOC Per</i>  <i>Pound of Coating Solids (kg VOC/kg of Coating</i>  <i>Solids), by Category</i></p>	
(1) Waterborne Topcoats	0.8
(2) High solids coating systems	
Sealer	1.9
Topcoat	1.8
(3) Acid-cured alkyd amino systems	
(i) Acid-cured alkyd amino sealer	2.3
Acid-cured alkyd amino conversion varnish topcoat	2.0
(ii) Other sealer	1.9
Acid-cured alkyd amino conversion varnish topcoat	2.0
(iii) Acid-cured alkyd amino sealer	2.3
Other topcoat	1.8
(4) Waterborne strippable spray booth coating	0.8

(2) Using an emissions averaging program which meets the requirements in § 129.107 (relating to special provisions for facilities using an emissions averaging approach).

(3) Using a control system that will achieve a reduction in emissions equivalent to 0.8 lb VOC/lb solids for topcoats or 1.8 lbs VOC/lb solids for topcoats and 1.9 lbs VOC/lb solids for sealers.

(4) Using a combination of the methods specified in paragraphs (1)—(3).

#### Authority

The provisions of this § 129.102 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.102 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.101 (relating to general provisions and applicability); 25 Pa. Code § 129.103 (relating to work practice standards); 25 Pa. Code § 129.104 (relating to compliance procedures and monitoring requirements); 25 Pa. Code § 129.105 (relating to recordkeeping requirements); 25 Pa. Code § 129.107 (relating to special provisions for facilities using an emissions averaging approach); 25 Pa. Code § 129.111 (relating to applicability).

### § 129.103. Work practice standards.

(a) *Work practice implementation plan.* Within 60 days after the compliance date specified in § 129.101(b) or (c) (relating to general provisions and applica-



bility), an owner or operator of a facility subject to the requirements in this section and §§ 129.101, 129.102 and 129.104—129.107 shall:

(1) Prepare and maintain a written work practice implementation plan that defines work practices for each wood furniture manufacturing operation and addresses the provisions in subsections (b)—(j). The owner or operator of the facility shall comply with the work practice implementation plan.

(2) Make available the written work practice implementation plan for inspection by the Department upon request. If the Department determines that the work practice implementation plan does not adequately address the criteria specified in subsections (b)—(j), the Department may require that the facility owner or operator modify the plan.

(b) *Operator training program.* New and existing personnel, including contract personnel, who are involved in coating, cleaning or washoff operations or implementation of the requirements of this section, §§ 129.101, 129.102 and 129.104—129.107 shall complete an operator training program.

(1) For a facility subject to § 129.101(b), new personnel hired after June 10, 2000, shall be trained upon hiring. For a facility subject to the requirements of § 129.101(c), new personnel shall be trained upon hiring.

(2) For a facility subject to § 129.101(b), existing personnel hired before June 10, 2000, shall be trained by December 11, 2000. For a facility subject to § 129.101(c), existing personnel shall be trained at least 6 months before the compliance date.

(3) Personnel shall be given refresher training annually.

(4) A copy of the written operator training program shall be maintained with the work practice implementation plan. The operator training program shall include the following:

(i) A list of all current personnel by name and job description that are required to be trained.

(ii) An outline of the subjects to be covered in the initial and annual refresher training sessions for each position or group of personnel.

(iii) Lesson plans for courses to be given at the initial and annual refresher training sessions that include, at a minimum, appropriate application techniques, appropriate cleaning and washoff procedures, appropriate equipment setup and adjustment to minimize coating usage and overspray and appropriate management of cleanup wastes.

(iv) A description of the methods to be used at the completion of the initial or annual refresher training sessions to demonstrate and document successful completion.

(v) A record of the date each employee is trained.

(c) *Leak inspection and maintenance plan.* An owner or operator of a facility shall prepare and maintain with the work practice implementation plan a written leak inspection and maintenance plan which shall include the following:

- (1) A minimum visual inspection frequency of once per month for all equipment used to transfer or apply coatings or solvents.
- (2) An inspection schedule.
- (3) The methods for documenting the date and results of each inspection and any repairs that were made.
- (4) The time frame between identifying a leak and making the repair, which shall adhere to the following schedule:
  - (i) A first attempt at repairs, including tightening of packing glands, shall be made within 5 working days after the leak is detected.
  - (ii) Final repairs shall be made within 15 working days, unless the leaking equipment is to be replaced by a new purchase, in which case repairs shall be completed within 3 months.
- (d) *Cleaning and washoff solvent accounting system.* A solvent accounting form shall be developed to account for solvents used in cleaning and washoff operations. The information recorded on the form shall include the following:
  - (1) The total number of pieces processed through washoff operations each month and the reason for the washoff operations.
  - (2) The name and total quantity of each solvent used each month for:
    - (i) Cleaning activities.
    - (ii) Washoff operations.
  - (3) The name and total quantity of each solvent evaporated to the atmosphere each month from:
    - (i) Cleaning activities.
    - (ii) Washoff operations.
- (e) *Spray booth cleaning.* An owner or operator of a facility may not use compounds containing more than 8.0% by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is, the spray booth coating or other material used to cover the booth is being replaced, the facility shall use no more than 1.0 gallon of solvent to prepare the booth prior to applying the booth coating.
- (f) *Storage requirements.* An owner or operator of a facility shall use normally closed containers for storing coating, cleaning and washoff materials.
- (g) *Application equipment requirements.* An owner or operator of a facility may not use conventional air spray guns to apply coatings except under any of the following circumstances:
  - (1) To apply coatings that have a VOC content no greater than 1.0 lb VOC/lb solids (1.0 kg VOC/kg solids), as applied.
  - (2) For touch-up and repair coatings under one of the following circumstances:
    - (i) The coatings are applied after completion of the wood furniture manufacturing operation.

- (ii) The coatings are applied after the stain and before any other type of coating is applied, and the coatings are applied from a container that has a volume of no more than 2.0 gallons.
- (3) The spray is automated, that is, the spray gun is aimed and triggered automatically, not manually.
- (4) The emissions from the surface coating process are directed to a VOC control system.
- (5) The conventional air spray gun is used to apply coatings and the cumulative total usage of those coatings is no more than 5.0% of the total gallons of coating used during each semiannual reporting period.
- (6) The conventional air spray gun is used to apply stain on a part for which the Department notifies the operator, in writing, of its determination that it is technically or economically infeasible to use any other spray application technology. To support the facility's claim of technical or economic infeasibility, a videotape, a technical report or other documentation shall be submitted to the Department showing either independently or in combination, the following:
  - (i) The production speed is too high or the part shape is too complex for one operator to coat the part, and the application station is not large enough to accommodate an additional operator.
  - (ii) The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.
- (h) *Line cleaning*. The solvent used for line cleaning shall be pumped or drained into a normally closed container.
- (i) *Spray gun cleaning*. The solvent used to clean spray guns shall be collected into a normally closed container.
- (j) *Washoff operations*. The emissions from washoff operations shall be controlled by the following:
  - (1) Using normally closed containers for washoff operations.
  - (2) Minimizing dripping by tilting or rotating the part to drain as much solvent as possible.

#### Authority

The provisions of this § 129.103 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.103 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.101 (relating to general provisions and applicability); 25 Pa. Code § 129.102 (relating to emission standards); 25 Pa. Code § 129.104 (relating to compliance proce-

dures and monitoring requirements); 25 Pa. Code § 129.105 (relating to recordkeeping requirements); 25 Pa. Code § 129.107 (relating to special provisions for facilities using an emissions averaging approach); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.104. Compliance procedures and monitoring requirements.**

(a) *Compliance methods.* An owner or operator of a facility subject to the emission standards in § 129.102 (relating to emission standards) shall demonstrate compliance with those provisions by using one or more of the following methods:

(1) To support that each sealer, topcoat and strippable spray booth coating meets the requirements of § 129.102(1) (relating to emission standards):

(i) Maintain CPDSs for each of the coatings.

(ii) Maintain documentation showing the VOC content of the as applied coating in lbs VOC/lb solids, if solvent or other VOC is added to the coating before application.

(iii) Perform sampling and testing in accordance with the procedures and test methods in Chapter 139 (relating to sampling and testing).

(2) To comply through the use of a control system as described in § 129.102(3):

(i) Calculate the required overall control efficiency needed to demonstrate compliance using the following equation:

$$O = (1 - E/C) \times 100$$

Where:

C = the VOC content of the as applied coating, lbs VOC/lb solids

E = the Table IV emission limit which shall be achieved by the affected emission point(s), lbs VOC/lb solids

O = the overall control efficiency of the control system, expressed as a percentage

(ii) Document that the value of C in the equation in subparagraph (i) is obtained from the VOC and solids content of the as applied coating.

(iii) Determine the overall control efficiency of the control system using the procedures and test methods in Chapter 139 and demonstrate that the value of O calculated by the following equation is equal to or greater than the value of O calculated by the equation in subparagraph (i):

$$O = (F \times N) (100)$$

Where:

F = the control device efficiency, expressed as a fraction

N = the capture device efficiency, expressed as a fraction

(b) *Initial compliance.*

(1) *Compliant coatings.* An owner or operator of a facility subject to § 129.102(1) that is complying through the procedures in subsection (a)(1) shall submit an initial compliance status report as required by § 129.106(a)

(relating to reporting requirements), stating that compliant sealers, topcoats and strippable spray booth coatings are being used by the facility.

(2) *Continuous coaters.* An owner or operator of a facility subject to § 129.102(1) that is complying through the procedures in subsection (a)(1) and is applying sealers, topcoats, or both, using continuous coaters shall demonstrate initial compliance by either:

(i) Submitting an initial compliance status report as required by § 129.106(a) stating that compliant sealers, topcoats, or both, as determined by the VOC content of the coating in the reservoir and as calculated from records, are being used.

(ii) Submitting an initial compliance status report as required by § 129.106(a) stating that compliant sealers, topcoats, or both, as determined by the VOC content of the coating in the reservoir, are being used and the viscosity of the coating in the reservoir is being monitored. The facility shall also provide data that demonstrates the correlation between the viscosity and the VOC content of the coating in the reservoir.

(3) *Control systems.* An owner or operator of a facility using a control system to comply with this section and §§ 129.101—129.103 and 129.105—129.107 shall demonstrate initial compliance by submitting a report to the Department that:

(i) Identifies the operating parameter value to be monitored for the capture device and discusses why the parameter is appropriate for demonstrating ongoing compliance.

(ii) Includes the results of the initial performance testing using the procedures and test methods specified in Chapter 139.

(iii) Includes calculations of the overall control efficiency (O) using the equation in subsection (a)(2)(iii).

(iv) Defines those operating conditions of the control system critical to determining compliance and establishes operating parameter values that will ensure compliance with the standard:

(A) For compliance with a thermal incinerator, minimum combustion temperature shall be the operating parameter value.

(B) For compliance with another control system, the operating parameter value shall be established using the procedures identified in subsection (c)(3)(iv).

(v) An owner or operator of a facility complying with this paragraph shall calculate the site-specific operating parameter value as the arithmetic average of the maximum or minimum operating parameter values, as appropriate, that demonstrate compliance with the standards, using the procedures in Chapter 139.

(4) *Work practice implementation plan.* An owner or operator of a facility subject to the work practice standards of § 129.103 (relating to work practice standards) shall submit an initial compliance status report as required by

§ 129.106(a), stating that the work practice implementation plan has been developed and procedures have been established for implementing the provisions of the plan.

(c) *Continuous compliance demonstrations.* An owner or operator of a facility subject to the requirements of this section and §§ 129.101—129.103 and 129.105—129.107 shall submit, in writing, to the Department a compliance certification with the semiannual report required by § 129.106(b).

(1) *Compliant coatings.* An owner or operator of a facility subject to § 129.102 that is complying through the procedures specified in subsection (a)(1) shall demonstrate continuous compliance by the following:

- (i) Using compliant coatings.
- (ii) Maintaining records that demonstrate the coatings are compliant.
- (iii) Submitting a compliance certification which states that compliant sealers, topcoats, or both, and strippable spray booth coatings have been used each day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(2) *Continuous coaters.* An owner or operator of a facility subject to § 129.102 that is complying through the procedures specified in subsection (a)(1) and is applying sealers, topcoats, or both, using continuous coaters shall demonstrate continuous compliance by either:

(i) Using compliant coatings as determined by the VOC content of the coating in the reservoir and as calculated from records, and submitting a compliance certification which states that compliant sealers, topcoats, or both, have been used each day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(ii) Using compliant coatings, as determined by the VOC content of the coating in the reservoir, maintaining a viscosity of the coating in the reservoir that is no less than the viscosity of the initial coating by monitoring the viscosity with a viscosity meter or by testing the viscosity of the initial coating and retesting the viscosity of the coating in the reservoir each time solvent is added, maintaining records of solvent additions and submitting a compliance certification which states that compliant sealers, topcoats, or both, as determined by the VOC content of the coating in the reservoir, have been used each day in the semiannual reporting period. Additionally, the certification shall state that the viscosity of the coating in the reservoir has not been less than the viscosity of the initial coating, that is, the coating that is initially mixed and placed in the reservoir, for any day in the semiannual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(3) *Control systems.* An owner or operator of a facility subject to § 129.102 that is complying through the use of a control system shall demonstrate continuous compliance by the following:

(i) Installing, calibrating, maintaining and operating monitoring equipment approved, in writing, by the Department.

(ii) Using a device to monitor the site-specific operating parameter value established in accordance with subsection (b)(3)(i).

(iii) When a thermal incinerator is used, a temperature monitoring device equipped with a continuous recorder is required and shall be installed in the firebox or in the ductwork immediately downstream of the firebox at a location before any substantial heat exchange occurs.

(iv) An owner or operator using a control system not listed in this section shall submit, in writing, to the Department a description of the system, test data verifying the performance of the system, the appropriate operating parameter values that will be monitored and the monitoring device that will be used to demonstrate continuous compliance with the standard and receive, in writing, the Department's approval prior to use.

(v) An owner or operator of a facility may not operate the control system at a daily average value greater than or less than (as appropriate) the operating parameter value. The daily average value shall be calculated as the average of all values for a monitored parameter recorded during the operating day.

(vi) Submitting a compliance certification which states that the control system has not been operated at a daily average value greater than or less than (as appropriate) the operating parameter value for each day in the semi-annual reporting period or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(4) *Work practice implementation plan.* An owner or operator of a facility subject to the work practice standards of § 129.103 shall demonstrate continuous compliance by following the work practice implementation plan and submitting a compliance certification which states that the work practice implementation plan is being followed, or should otherwise identify the periods of noncompliance with the work practice standards and the reasons for noncompliance.

(d) *Compliance certification requirements.* The compliance certification shall be signed by a responsible official of the company that owns or operates the facility. In addition to the certification requirements of this section, the certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the documents are true, accurate and complete.

#### Authority

The provisions of this § 129.104 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).



**Source**

The provisions of this § 129.104 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.101 (relating to general provisions and applicability); 25 Pa. Code § 129.102 (relating to emission standards); 25 Pa. Code § 129.103 (relating to work practice standards); 25 Pa. Code § 129.105 (relating to recordkeeping requirements); 25 Pa. Code § 129.106 (relating to reporting requirements); 25 Pa. Code § 129.107 (relating to special provisions for facilities using an emissions averaging approach); and 25 Pa. Code § 129.111 (relating to applicability).

**§ 129.105. Recordkeeping requirements.**

(a) *Requirement.* The owner or operator of a wood furniture manufacturing operation shall keep records to demonstrate compliance with this section and §§ 129.101—129.104, 129.106 and 129.107. The records shall be maintained for at least 5 years.

(b) *Compliant coatings.* The following records shall be maintained to demonstrate compliance with § 129.102 (relating to emission standards).

(1) A certified product data sheet for each coating and strippable spray booth coating subject to the emission limits of § 129.102.

(2) The VOC content as applied, lbs VOC/lb solids (kg VOC/kg solids), of each coating and strippable spray booth coating subject to the emission limits of § 129.102, and copies of data sheets documenting how the as applied values were determined.

(c) *Continuous coaters.* The owner or operator of a facility subject to the emission limits of § 129.102 that is complying through the procedures specified in § 129.104(a)(1) (relating to compliance procedures and monitoring requirements) and is applying sealers, topcoats, or both, using continuous coaters shall maintain the records required by subsections (a) and (b) and records of the following:

(1) Solvent and coating additions to the continuous coater reservoir.

(2) Viscosity measurements.

(d) *Control systems.* The owner or operator of a facility complying through the procedures in § 129.104(a)(2) by using a control system shall maintain the following records:

(1) Copies of the calculations to support the equivalency of using a control system, as well as the data that are necessary to support the calculation of C and E in § 129.104(a)(2)(i) and O in § 129.104(a)(2)(iii).

(2) Records of the daily average value of each continuously monitored parameter for each operating day. If all recorded values for a monitored parameter are within the range established during the initial performance test, the owner or operator may record that all values were within the range rather than calculating and recording an average for that day.

(e) *Work practice implementation plan.* The owner or operator of a facility subject to the work practice standards of § 129.103 (relating to work practice standards) shall maintain onsite copies of the work practice implementation plan and all records associated with fulfilling the requirements of that plan, including:



- (1) Records demonstrating that the operator training program is in place.
- (2) Records maintained in accordance with the leak inspection and maintenance plan.
- (3) Records associated with the cleaning and washoff solvent accounting system.
- (4) Records associated with the limitation on the use of conventional air spray guns showing total coating usage and the percentage of coatings applied with conventional air spray guns for each semiannual reporting period.
- (5) Records showing the VOC content of compounds used for cleaning booth components, except for solvent used to clean conveyors, continuous coaters and their enclosures or metal filters.
- (6) Copies of logs and other documentation developed to demonstrate that the other provisions of the work practice implementation plan are followed.
- (f) In addition to the recordkeeping requirements of subsection (a), the owner or operator of a facility that complies with § 129.103 or § 129.104(a)(1) shall maintain a copy of the compliance certifications submitted in accordance with § 129.106(b) (relating to reporting requirements) for each semiannual period following the compliance date.
- (g) The owner or operator of a facility shall maintain a copy of the other information submitted with the initial status report required by § 129.106(a) and the semiannual reports required by § 129.106(b).

#### Authority

The provisions of this § 129.105 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.105 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.101 (relating to general provisions and applicability); 25 Pa. Code § 129.102 (relating to emission standards); 25 Pa. Code § 129.103 (relating to work practice standards); 25 Pa. Code § 129.104 (relating to compliance procedures and monitoring requirements); 25 Pa. Code § 129.107 (relating to special provisions for facilities using an emissions averaging approach); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.106. Reporting requirements.

- (a) *Initial compliance report date.* The initial compliance report shall be submitted to the Department within 60 days after the compliance date specified in § 129.101(b) and (c) (relating to general provisions and applicability). The report shall include the items required by § 129.104(b) (relating to compliance procedures and monitoring requirements).

(b) *Semiannual compliance report dates.* When demonstrating compliance in accordance with § 129.104(a)(1) or (2), a semiannual report covering the previous 6 months of wood furniture manufacturing operations shall be submitted to the Department according to the following schedule:

(1) The first report shall be submitted within 30 calendar days after the end of the first 6-month period following the compliance date specified in § 129.101(b) and (c).

(2) Subsequent reports shall be submitted within 30 calendar days after the end of each 6-month period following the first report.

(3) Each semiannual report shall include the information required by § 129.104(c) and (d), a statement of whether the facility was in compliance or noncompliance and, if the facility was in noncompliance, the measures taken to bring the facility into compliance.

#### Authority

The provisions of this § 129.106 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.106 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.101 (relating to general provisions and applicability); 25 Pa. Code § 129.102 (relating to emission standards); 25 Pa. Code § 129.103 (relating to work practice standards); 25 Pa. Code § 129.104 (relating to compliance procedures and monitoring requirements); 25 Pa. Code § 129.105 (relating to recordkeeping requirements); 25 Pa. Code § 129.106 (relating to reporting requirements); and 25 Pa. Code § 129.111 (relating to applicability).

### § 129.107. Special provisions for facilities using an emissions averaging approach.

(a) *Emissions averaging approach.* An owner or operator of a facility subject to the emission limitations in § 129.102 (relating to emission standards) may use an emissions averaging approach which meets the equivalency requirements in § 129.51(a) (relating to general) to achieve compliance with § 129.52 (relating to surface coating processes) or this section and §§ 129.101—129.106.

(b) *Additional requirement.* When complying with the requirements of § 129.52 or this section and §§ 129.101—129.106 through emissions averaging, an additional 10% reduction in emissions shall be achieved when compared to a facility using a compliant coatings approach to meet the requirements of this section and §§ 129.101—129.106.

(c) *Program goals and rationale.* When using an emissions averaging program, the following shall be submitted to the Department in writing:

(1) A summary of the reasons why the facility would like to comply with the emission limitations through an equivalency determination using emissions averaging procedures.

(2) A summary of how averaging can be used to meet the emission limitations.

(d) *Program scope.* A description of the types of coatings that will be included in the facility's emissions averaging program shall also be submitted to the Department in writing:

(1) Stains, basecoats, washcoats, sealers and topcoats may all be used in the emissions averaging program.

(2) The owner or operator of the facility may choose other coatings for its emissions averaging program, if the program meets the equivalency requirements in § 129.51(a).

(3) Coatings that are applied using continuous coaters may only be used in an emissions averaging program if the owner or operator of the facility can determine the amount of coating used each day.

(4) A daily averaging period shall be used, except under the following conditions:

(i) A longer averaging period may be used if the owner or operator of the facility demonstrates in writing to the satisfaction of the Department that the emissions do not fluctuate significantly on a day-to-day basis.

(ii) The owner or operator of the facility requests in writing and the Department approves in writing the longer averaging period.

(e) *Program baseline.* The baseline for each coating included in the emissions averaging program shall be the lower of the actual or allowable emission rate as of June 10, 2000. The facility baseline emission rate may not be higher than what was presumed in the 1990 emissions inventory for the facility unless the Department has accounted for the increase in emissions as growth.

(f) *Quantification procedures.* The emissions averaging program shall specify methods and procedures for quantifying emissions. Quantification procedures for VOC content are included in Chapter 139 (relating to sampling and testing). The quantification procedures shall also include methods to determine the usage of each coating and shall be accurate enough to ensure that the facility's actual emissions are less than the allowable emissions.

(g) *Monitoring, recordkeeping and reporting.* A written summary of the monitoring, recordkeeping and reporting procedures that will be used to demonstrate compliance on a daily basis, when using an emissions averaging approach, shall be submitted to the Department.

(1) The monitoring, recordkeeping and reporting procedures shall be structured so that inspectors and facility owners or operators can determine a facility's compliance status for any day.

(2) The monitoring, recordkeeping and reporting procedures shall include methods for determining required data when monitoring, recordkeeping and reporting violations result in missing, inadequate or erroneous monitoring and recordkeeping.

**Authority**

The provisions of this § 129.107 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**

The provisions of this § 129.107 adopted June 9, 2000, effective June 10, 2000, 30 Pa.B. 2995.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.52c (relating to control of VOC emissions from flat wood paneling surface coating processes); 25 Pa. Code § 129.91 (relating to control of major sources of NO<sub>x</sub> and VOCs); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.101 (relating to general provisions and applicability); 25 Pa. Code § 129.102 (relating to emission standards); 25 Pa. Code § 129.103 (relating to work practice standards); 25 Pa. Code § 129.104 (relating to compliance procedures and monitoring requirements); 25 Pa. Code § 129.105 (relating to recordkeeping requirements); and 25 Pa. Code § 129.111 (relating to applicability).

**ADDITIONAL RACT REQUIREMENTS FOR MAJOR SOURCES OF  
NO<sub>x</sub> AND VOCs FOR THE 2015 OZONE NAAQS****§ 129.111. Applicability.**

(a) Except as specified in subsection (c), the NO<sub>x</sub> requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a major NO<sub>x</sub> emitting facility that commenced operation on or before August 3, 2018, and the VOC requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a major VOC emitting facility that commenced operation on or before August 3, 2018, for which a requirement or emission limitation, or both, has not been established in §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107. The owner or operator shall identify and list the sources and facilities subject to this subsection in the written notification required under § 129.115(a) (relating to written notification, compliance demonstration and recordkeeping and reporting requirements) as follows:

(1) The sources and facilities that commenced operation on or before August 3, 2018, for which a requirement or emission limitation has not been established in §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.

(2) The sources and facilities that commenced operation on or before August 3, 2018, and are subject to §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.

(b) Except as specified in subsection (c), the NO<sub>x</sub> requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a

NO<sub>x</sub> emitting facility that commenced operation on or before August 3, 2018, and the VOC requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a VOC emitting facility that commenced operation on or before August 3, 2018, when the installation and operation of a new source after August 3, 2018, or a modification or change in operation after August 3, 2018, of a source that commenced operation on or before August 3, 2018, results in the source or facility meeting the definition of a major NO<sub>x</sub> emitting facility or a major VOC emitting facility and for which a requirement or an emission limitation, or both, has not been established in §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107. The owner or operator shall identify and list the sources and facilities subject to this subsection in the written notification required under § 129.115(a) as follows:

- (1) The sources and facilities for which a requirement or emission limitation has not been established in §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.
- (2) The sources and facilities subject to §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.
- (c) Sections 129.112—129.114 do not apply to the owner and operator of a NO<sub>x</sub> air contamination source that has the potential to emit less than 1 TPY of NO<sub>x</sub> located at a major NO<sub>x</sub> emitting facility subject to subsection (a) or (b) or a VOC air contamination source that has the potential to emit less than 1 TPY of VOC located at a major VOC emitting facility subject to subsection (a) or (b). The owner or operator shall identify and list these sources in the written notification required under § 129.115(a).
- (d) Except as specified in subsection (e), this section and §§ 129.112—129.115 do not apply to the owner and operator of a facility that commenced operation on or before August 3, 2018, that is not a major NO<sub>x</sub> emitting facility or a major VOC emitting facility on or before December 31, 2022.
- (e) If the owner and operator of a facility that complied with subsection (d) meets the definition of a major NO<sub>x</sub> emitting facility or a major VOC emitting facility after December 31, 2022, then the owner and operator shall comply with subsection (b).

#### Authority

The provisions of this § 129.111 added under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. §§ 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.111 added November 11, 2022, effective November 12, 2022, 52 Pa.B. 6960.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.113 (relating to facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements); 25 Pa. Code § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule); and 25 Pa. Code § 129.115 (relating to written notification, compliance demonstration and recordkeeping and reporting requirements).

**§ 129.112. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule.**

(a) The owner and operator of a source listed in one or more of subsections (b)—(k) located at a major NO<sub>x</sub> emitting facility or major VOC emitting facility subject to § 129.111 (relating to applicability) shall comply with the applicable presumptive RACT requirement or RACT emission limitation, or both, beginning with the specified compliance date as follows, unless an alternative compliance schedule is submitted and approved under subsections (n)—(p) or § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule):

(1) January 1, 2023, for a source subject to § 129.111(a).

(2) January 1, 2023, or 1 year after the date the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.111(b).

(b) The owner and operator of a source listed in this subsection that is located at a major NO<sub>x</sub> emitting facility or major VOC emitting facility subject to § 129.111 shall comply with the applicable presumptive RACT requirements in paragraph (1) and recordkeeping and reporting requirements in paragraph (2).

(1) The owner or operator of a:

(i) Combustion unit or process heater with a rated heat input equal to or greater than 20 million Btu/hour and less than 50 million Btu/hour shall conduct a biennial tune-up in accordance with the procedures in 40 CFR 63.11223 (relating to how do I demonstrate continuous compliance with the work practice and management practice standards?).

(A) Each biennial tune-up shall occur not less than 3 months and not more than 24 months after the date of the previous tune-up.

(B) The biennial tune-up must include, at a minimum, the following:

(I) Inspection and cleaning or replacement of fuel-burning equipment, including the burners and components, as necessary, for proper operation as specified by the manufacturer.

(II) Inspection of the flame pattern and adjustment of the burner, as necessary, to optimize the flame pattern to minimize total emissions of NO<sub>x</sub> and, to the extent possible, emissions of CO.

(III) Inspection and adjustment, as necessary, of the air-to-fuel ratio control system to ensure proper calibration and operation as specified by the manufacturer.

(ii) Combustion unit or process heater with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up shall conduct a tune-up of the boiler one time in each 5-year calendar period in accordance with the following:

(A) Each tune-up shall occur not less than 3 months and not more than 60 months after the date of the previous tune-up.

(B) The tune-up must include, at a minimum, the following:

(I) Inspection and cleaning or replacement of fuel-burning equipment, including the burners and components, as necessary, for proper operation as specified by the manufacturer.

(II) Inspection of the flame pattern and adjustment of the burner, as necessary, to optimize the flame pattern to minimize total emissions of NO<sub>x</sub> and, to the extent possible, emissions of CO.

(III) Inspection and adjustment, as necessary, of the air-to-fuel ratio control system to ensure proper calibration and operation as specified by the manufacturer.

(2) The applicable recordkeeping and reporting requirements of § 129.115(f) and (i) (relating to written notification, compliance demonstration and recordkeeping and reporting requirements).

(3) Compliance with the applicable presumptive RACT requirements in paragraph (1) and recordkeeping and reporting requirements in paragraph (2) assures compliance with the provisions in §§ 129.93(b)(2), (3), (4) and (5) and 129.97(b)(1), (2) and (3) (relating to presumptive RACT emissions limitations; and presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule).

(c) The owner and operator of a source listed in this subsection that is located at a major NO<sub>x</sub> emitting facility or major VOC emitting facility subject to § 129.111 shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices:

(1) A NO<sub>x</sub> air contamination source that has the potential to emit less than 5 TPY of NO<sub>x</sub>.

(2) A VOC air contamination source that has the potential to emit less than 2.7 TPY of VOC.

(3) A natural gas compression and transmission facility fugitive VOC air contamination source that has the potential to emit less than 2.7 TPY of VOC.

(4) A boiler or other combustion source with an individual rated gross heat input less than 20 million Btu/ hour.

(5) A combustion turbine with a rated output less than 1,000 bhp.

(6) A lean burn stationary internal combustion engine rated at less than 500 bhp (gross).

(7) A rich burn stationary internal combustion engine rated at less than 100 bhp (gross).



- (8) An incinerator, thermal oxidizer, catalytic oxidizer or flare used primarily for air pollution control.
- (9) A fuel-burning unit with an annual capacity factor of less than 5%.
  - (i) For a combustion unit, the annual capacity factor is the ratio of the unit's heat input (in million Btu or equivalent units of measure) to the unit's maximum rated hourly heat input rate (in million Btu/hour or equivalent units of measure) multiplied by 8,760 hours during a period of 12 consecutive calendar months.
  - (ii) For an electric generating unit, the annual capacity factor is the ratio of the unit's actual electric output (expressed in MWe/hr) to the unit's nameplate capacity (or maximum observed hourly gross load (in MWe/hr) if greater than the nameplate capacity) multiplied by 8,760 hours during a period of 12 consecutive calendar months.
  - (iii) For any other unit, the annual capacity factor is the ratio of the unit's actual operating level to the unit's potential operating level during a period of 12 consecutive calendar months.
- (10) An emergency standby engine operating less than 500 hours in a 12-month rolling period.
- (11) An electric arc furnace.
- (d) Except as specified in subsection (c), the owner and operator of a combustion unit, brick kiln, cement kiln, lime kiln, glass melting furnace or combustion source located at a major VOC emitting facility subject to § 129.111 shall install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices for the control of the VOC emissions from the combustion unit, brick kiln, cement kiln, lime kiln, glass melting furnace or combustion source.
- (e) The owner and operator of a municipal solid waste landfill subject to § 129.111 shall comply with the following applicable presumptive RACT requirements. The owner or operator of a:
  - (1) Municipal solid waste landfill constructed, reconstructed or modified on or before July 17, 2014, that has not been modified or reconstructed since July 17, 2014, shall comply with the Federal plan for municipal solid waste landfills in 40 CFR Part 62, Subpart OOO (relating to federal plan requirements for municipal solid waste landfills that commenced construction on or before July 17, 2014 and have not been modified or reconstructed since July 17, 2014).
  - (2) Municipal solid waste landfill constructed, reconstructed or modified on or after July 18, 2014, shall comply with the New Source Performance Standards in 40 CFR Part 60, Subpart XXX (relating to standards of performance for municipal solid waste landfills that commenced construction, reconstruction, or modification after July 17, 2014), which are adopted and incorporated by reference in § 122.3 (relating to adoption of standards).



(f) The owner and operator of a municipal waste combustor subject to § 129.111 shall comply with the presumptive RACT emission limitation of 110 ppmvd NO<sub>x</sub> @ 7% oxygen.

(g) Except as specified in subsection (c), the owner and operator of a NO<sub>x</sub> air contamination source listed in this subsection that is located at a major NO<sub>x</sub> emitting facility or a VOC air contamination source listed in this subsection that is located at a major VOC emitting facility subject to § 129.111 may not cause, allow or permit NO<sub>x</sub> or VOCs to be emitted from the air contamination source in excess of the applicable presumptive RACT emission limitation specified in the following paragraphs:

(1) The owner or operator of:

(i) A natural gas-fired, propane-fired or liquid petroleum gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour shall comply with 0.10 lb NO<sub>x</sub>/million Btu heat input.

(ii) A distillate oil-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour shall comply with 0.12 lb NO<sub>x</sub>/million Btu heat input.

(iii) A residual oil-fired or other liquid fuel-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour shall comply with 0.20 lb NO<sub>x</sub>/million Btu heat input.

(iv) A refinery gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour shall comply with 0.25 lb NO<sub>x</sub>/million Btu heat input.

(v) A coal-fired combustion unit with a rated heat input equal to or greater than 50 million Btu/hour and less than 250 million Btu/hour shall comply with 0.45 lb NO<sub>x</sub>/million Btu heat input.

(vi) A circulating fluidized bed combustion unit firing waste products of coal mining, physical coal cleaning and coal preparation operations that contain coal, matrix material, clay and other organic and inorganic material with a rated heat input equal to or greater than 250 million Btu/hour shall comply with the following presumptive RACT requirements and RACT emission limitations as applicable:

(A) 0.16 lb NO<sub>x</sub>/million Btu heat input when firing primarily bituminous waste such as gob.

(B) 0.16 lb NO<sub>x</sub>/million Btu heat input when firing primarily anthracite waste such as culm.

(C) Control the NO<sub>x</sub> emissions each operating day by operating the installed air pollution control technology and combustion controls at all times consistent with the technological limitations, manufacturer's specifications, good engineering and maintenance practices and good air pollution control practices for controlling emissions.

(vii) A solid fuel-fired combustion unit that is not a coal-fired combustion unit with a rated heat input equal to or greater than 50 million Btu/hour shall comply with 0.25 lb NO<sub>x</sub>/million Btu heat input.

(2) The owner or operator of a:

(i) Combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 4,100 bhp shall comply with the following presumptive RACT emission limitations as applicable:

(A) 120 ppmvd NO<sub>x</sub> @ 15% oxygen when firing natural gas or a non-commercial gaseous fuel.

(B) 5 ppmvd VOC (as propane) @ 15% oxygen when firing natural gas or a noncommercial gaseous fuel.

(C) 150 ppmvd NO<sub>x</sub> @ 15% oxygen when firing fuel oil.

(D) 9 ppmvd VOC (as propane) @ 15% oxygen when firing fuel oil.

(ii) Combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 4,100 bhp and less than 180 MW shall comply with the following presumptive RACT emission limitations as applicable:

(A) 42 ppmvd NO<sub>x</sub> @ 15% oxygen when firing natural gas or a non-commercial gaseous fuel.

(B) 5 ppmvd VOC (as propane) @ 15% oxygen when firing natural gas or a noncommercial gaseous fuel.

(C) 96 ppmvd NO<sub>x</sub> @ 15% oxygen when firing fuel oil.

(D) 9 ppmvd VOC (as propane) @ 15% oxygen when firing fuel oil.

(iii) Combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 180 MW shall comply with the following presumptive RACT emission limitations as applicable:

(A) 4 ppmvd NO<sub>x</sub> @ 15% oxygen when firing natural gas or a non-commercial gaseous fuel.

(B) 2 ppmvd VOC (as propane) @ 15% oxygen when firing natural gas or a noncommercial gaseous fuel.

(C) 8 ppmvd NO<sub>x</sub> @ 15% oxygen when firing fuel oil.

(D) 2 ppmvd VOC (as propane) @ 15% oxygen when firing fuel oil.

(iv) Simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 4,100 bhp shall comply with the following presumptive RACT emission limitations as applicable:

(A) 120 ppmvd NO<sub>x</sub> @ 15% oxygen when firing natural gas or a non-commercial gaseous fuel.

(B) 9 ppmvd VOC (as propane) @ 15% oxygen when firing natural gas or a noncommercial gaseous fuel.

(C) 150 ppmvd NO<sub>x</sub> @ 15% oxygen when firing fuel oil.

(D) 9 ppmvd VOC (as propane) @ 15% oxygen when firing fuel oil.

(v) Simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 4,100 bhp and less than 60,000 bhp shall comply with the following presumptive RACT emission limitations as applicable:

(A) 42 ppmvd NO<sub>x</sub> @ 15% oxygen when firing natural gas or a non-commercial gaseous fuel.

(B) 9 ppmvd VOC (as propane) @ 15% oxygen when firing natural gas or a noncommercial gaseous fuel.

(C) 96 ppmvd NO<sub>x</sub> @ 15% oxygen when firing fuel oil.

(D) 9 ppmvd VOC (as propane) @ 15% oxygen when firing fuel oil.

(3) The owner or operator of a:

(i) Lean burn stationary internal combustion engine with a rating equal to or greater than 500 bhp and less than 3,500 bhp shall comply with the following presumptive RACT emission limitations as applicable:

(A) 3.0 grams NO<sub>x</sub>/bhp-hr when firing natural gas or a noncommercial gaseous fuel.

(B) 0.5 gram VOC/bhp-hr excluding formaldehyde when firing natural gas or a noncommercial gaseous fuel, liquid fuel or dual-fuel.

(ii) Lean burn stationary internal combustion engine with a rating equal to or greater than 3,500 bhp shall comply with the following presumptive RACT emission limitations as applicable:

(A) 0.6 gram NO<sub>x</sub>/bhp-hr when firing natural gas or a noncommercial gaseous fuel.

(B) 0.5 gram VOC/bhp-hr excluding formaldehyde when firing natural gas or a noncommercial gaseous fuel, liquid fuel or dual-fuel.

(iii) Stationary internal combustion engine with a rating equal to or greater than 500 bhp shall comply with 1.6 grams NO<sub>x</sub>/bhp-hr when firing liquid fuel or dual-fuel.

(iv) Rich burn stationary internal combustion engine with a rating equal to or greater than 100 bhp shall comply with the following presumptive RACT emission limitations as applicable:

(A) 2.0 gram NO<sub>x</sub>/bhp-hr when firing natural gas or a noncommercial gaseous fuel.

(B) 0.5 gram VOC/bhp-hr when firing natural gas or a noncommercial gaseous fuel.

(4) Except as specified in subparagraph (ii), the owner or operator of a unit firing multiple fuels shall comply with:

(i) The applicable RACT multiple fuel emission limit determined on a total heat input fuel weighted basis in accordance with the following:

(A) Using the following equation:

$$E_{HI\text{weighted}} = \frac{\sum_{i=1}^n E_i HI_i}{\sum_{i=1}^n HI_i}$$

Where:

$E_{HI\text{weighted}}$  = The heat input fuel weighted multiple fuel emission rate or emission limitation for the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

$E_i$  = The emission rate or emission limit for fuel  $i$  during the compliance period, expressed in units of measure consistent with the units of measure for the emission limitation.

$HI_i$  = The total heat input for fuel  $i$  during the compliance period.

$n$  = The number of different fuels used during the compliance period.

(B) Excluding a fuel representing less than 2% of the unit's annual fuel consumption on a heat input basis when determining the applicable RACT multiple fuel emission limit calculated in accordance with clause (A).

(ii) The determination in subparagraph (i) does not apply to a stationary internal combustion engine that is subject to the RACT emission limits in paragraph (3).

(h) The owner and operator of a Portland cement kiln subject to § 129.111 shall comply with the following presumptive RACT emission limitations as applicable:

(1) 3.88 pounds of  $\text{NO}_x$  per ton of clinker produced for a long wet-process cement kiln as defined in § 145.142 (relating to definitions).

(2) 3.0 pounds of  $\text{NO}_x$  per ton of clinker produced for a long dry-process cement kiln as defined in § 145.142.

(3) 2.30 pounds of  $\text{NO}_x$  per ton of clinker produced for:

(i) A preheater cement kiln as defined in § 145.142.

(ii) A precalciner cement kiln as defined in § 145.142.

(i) The owner and operator of a glass melting furnace subject to § 129.111 shall comply with the following presumptive RACT emission limitations as applicable:

(1) 4.0 pounds of  $\text{NO}_x$  per ton of glass pulled for container glass furnaces.

(2) 7.0 pounds of  $\text{NO}_x$  per ton of glass pulled for pressed or blown glass furnaces.

(3) 4.0 pounds of  $\text{NO}_x$  per ton of glass pulled for fiberglass furnaces.

(4) 7.0 pounds of  $\text{NO}_x$  per ton of glass pulled for flat glass furnaces.

(5) 6.0 pounds of  $\text{NO}_x$  per ton of glass pulled for all other glass melting furnaces.

(j) The owner and operator of a lime kiln subject to § 129.111 shall comply with the presumptive RACT emission limitation of 4.6 pounds of NO<sub>x</sub> per ton of lime produced.

(k) The owner and operator of a direct-fired heater, furnace, oven or other combustion source with a rated heat input equal to or greater than 20 million Btu/hour subject to § 129.111 shall comply with the presumptive RACT emission limitation of 0.10 lb NO<sub>x</sub>/million Btu heat input.

(l) The requirements and emission limitations of this section supersede the requirements and emission limitations of a RACT permit issued to the owner or operator of an air contamination source subject to one or more of subsections (b)—(k) prior to November 12, 2022, under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) or under §§ 129.96—129.100 (relating to additional RACT requirements for major sources of NO<sub>x</sub> and VOCs) to control, reduce or minimize NO<sub>x</sub> emissions or VOC emissions, or both, from the air contamination source unless the permit contains more stringent requirements or emission limitations, or both.

(m) The requirements and emission limitations of this section supersede the requirements and emission limitations of §§ 129.201—129.205, 129.301—129.310, 145.111—145.113 and 145.141—145.146 unless the requirements or emission limitations of §§ 129.201—129.205, §§ 129.301—129.310, §§ 145.111—145.113 or §§ 145.141—145.146 are more stringent.

(n) The owner or operator of a major NO<sub>x</sub> emitting facility or a major VOC emitting facility subject to § 129.111 that includes an air contamination source subject to one or more of subsections (b)—(k) that cannot meet the applicable presumptive RACT requirement or RACT emission limitation without installation of an air cleaning device may submit a petition, in writing or electronically, requesting an alternative compliance schedule in accordance with the following:

(1) The petition shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) December 31, 2022, for a source subject to § 129.111(a).

(ii) December 31, 2022, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or a major VOC emitting facility, whichever is later, for a source subject to § 129.111(b).

(2) The petition must include:

(i) A description, including make, model and location, of each affected source subject to a RACT requirement or a RACT emission limitation in one or more of subsections (b)—(k).

(ii) A description of the proposed air cleaning device to be installed.

(iii) A schedule containing proposed interim dates for completing each phase of the required work to install the air cleaning device described in subparagraph (ii).

(iv) A proposed interim emission limitation that will be imposed on the affected source until compliance is achieved with the applicable RACT requirement or RACT emission limitation.

(v) A proposed final compliance date that is as soon as possible but not later than 3 years after the written approval of the petition by the Department or the appropriate approved local air pollution control agency. The approved petition shall be incorporated in an applicable operating permit or plan approval.

(o) The Department or appropriate approved local air pollution control agency will review the timely and complete written petition requesting an alternative compliance schedule submitted in accordance with subsection (n) and approve or deny the petition in writing.

(p) Approval or denial under subsection (o) of the timely and complete petition for an alternative compliance schedule submitted under subsection (n) will be effective on the date the letter of approval or denial of the petition is signed by the authorized representative of the Department or appropriate approved local air pollution control agency.

(q) The Department will submit each petition for an alternative compliance schedule approved under subsection (o) to the Administrator of the EPA for approval as a revision to the Commonwealth's SIP. The owner and operator of the facility shall bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal.

#### Authority

The provisions of this § 129.112 added under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. §§ 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.112 added November 11, 2022, effective November 12, 2022, 52 Pa.B. 6960.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.111 (relating to applicability); 25 Pa. Code § 129.113 (relating to facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements); 25 Pa. Code § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule); and 25 Pa. Code § 129.115 (relating to written notification, compliance demonstration and recordkeeping and reporting requirements).

### **§ 129.113. Facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements.**

(a) The owner or operator of a major NO<sub>x</sub> emitting facility subject to § 129.111 (relating to applicability) that includes at least one air contamination source subject to a NO<sub>x</sub> RACT emission limitation in § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) that cannot meet the applicable NO<sub>x</sub> RACT emission

limitation may elect to meet the applicable NO<sub>x</sub> RACT emission limitation in § 129.112 by averaging NO<sub>x</sub> emissions on either a facility-wide or system-wide basis. System-wide emissions averaging must be among sources under common control of the same owner or operator within the same ozone nonattainment area in this Commonwealth.

(b) The owner or operator of each facility that elects to comply with subsection (a) shall submit a NO<sub>x</sub> emissions averaging plan in writing or electronically to the Department or appropriate approved local air pollution control agency as part of an application for an operating permit modification or a plan approval, if otherwise required. The application incorporating the requirements of this section shall be submitted by the applicable date as follows:

(1) December 31, 2022, for a source subject to § 129.111(a).

(2) December 31, 2022, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility, whichever is later, for a source subject to § 129.111(b).

(c) Each NO<sub>x</sub> air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NO<sub>x</sub> emissions on either a facility-wide or system-wide basis submitted under subsection (b) must be an air contamination source subject to a NO<sub>x</sub> RACT emission limitation in § 129.112.

(d) The application for the operating permit modification or the plan approval, if otherwise required, for averaging NO<sub>x</sub> emissions on either a facility-wide or system-wide basis submitted under subsection (b) must demonstrate that the aggregate NO<sub>x</sub> emissions emitted by the air contamination sources included in the facility-wide or system-wide NO<sub>x</sub> emissions averaging plan are not greater than the NO<sub>x</sub> emissions that would be emitted by the group of included sources if each source complied with the applicable NO<sub>x</sub> RACT emission limitation in § 129.112 on a source-specific basis.

(e) The application for the operating permit modification or a plan approval, if otherwise required, specified in subsections (b)—(d) may include facility-wide or system-wide NO<sub>x</sub> emissions averaging only for NO<sub>x</sub> emitting sources or NO<sub>x</sub> emitting facilities that are owned or operated by the applicant.

(f) The application for the operating permit modification or a plan approval, if otherwise required, specified in subsections (b)—(e) must include the following information:

(1) Identification of each air contamination source included in the NO<sub>x</sub> emissions averaging plan.

(2) Each air contamination source's applicable emission limitation in § 129.112.

(3) Methods for demonstrating compliance and recordkeeping and reporting requirements in accordance with § 129.115 (relating to written notification,



compliance demonstration and recordkeeping and reporting requirements) for each source included in the NO<sub>x</sub> emissions averaging plan submitted under subsection (b).

(g) An air contamination source or facility included in the facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted in accordance with subsections (b)—(f) may be included in only one facility-wide or system-wide NO<sub>x</sub> emissions averaging plan.

(h) The Department or appropriate approved local air pollution control agency will:

(1) Review the timely and complete NO<sub>x</sub> emissions averaging plan submitted in accordance with subsections (b)—(g).

(2) Approve the NO<sub>x</sub> emissions averaging plan submitted under subsection (b), in writing, if the Department or appropriate approved local air pollution control agency is satisfied that the NO<sub>x</sub> emissions averaging plan complies with the requirements of subsections (b)—(g) and that the proposed NO<sub>x</sub> emissions averaging plan is RACT for the air contamination sources.

(3) Deny or modify the NO<sub>x</sub> emissions averaging plan submitted under subsection (b), in writing, if the proposal does not comply with the requirements of subsections (b)—(g).

(i) The proposed NO<sub>x</sub> emissions averaging plan submitted under subsection (b) will be approved, denied or modified under subsection (h) by the Department or appropriate approved local air pollution control agency in accordance with Chapter 127 (relating to construction, modification, reactivation and operation of sources) prior to the owner or operator implementing the NO<sub>x</sub> emissions averaging plan.

(j) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted in accordance with subsections (b)—(g) shall submit the reports and records specified in subsection (f)(3) to the Department or appropriate approved local air pollution control agency to demonstrate compliance with § 129.115.

(k) The owner or operator of an air contamination source or facility included in a facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted in accordance with subsections (b)—(g) that achieves emission reductions in accordance with other emission limitations required under the act or the Clean Air Act, or regulations adopted under the act or the Clean Air Act, that are not NO<sub>x</sub> RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted to the Department or appropriate approved local air pollution control agency under subsection (b).

(l) The owner or operator of an air contamination source subject to a NO<sub>x</sub> RACT emission limitation in § 129.112 that is not included in a facility-wide or



system-wide NO<sub>x</sub> emissions averaging plan submitted under subsection (b) shall operate the source in compliance with the applicable NO<sub>x</sub> RACT emission limitation in § 129.112.

(m) The owner and operator of the air contamination sources included in a facility-wide or system-wide NO<sub>x</sub> emissions averaging plan submitted under subsection (b) shall be liable for a violation of an applicable NO<sub>x</sub> RACT emission limitation at each source included in the NO<sub>x</sub> emissions averaging plan regardless of each individual facility's NO<sub>x</sub> emission rate.

(n) The Department will submit each NO<sub>x</sub> emissions averaging plan approved under subsection (i) to the Administrator of the EPA for approval as a revision to the SIP. The owner and operator of the facility shall bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal.

#### Authority

The provisions of this § 129.113 added under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. §§ 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.113 added November 11, 2022, effective November 12, 2022, 52 Pa.B. 6960.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.111 (relating to applicability); 25 Pa. Code § 129.115 (relating to written notification, compliance demonstration and recordkeeping and reporting requirements).

### **§ 129.114. Alternative RACT proposal and petition for alternative compliance schedule.**

(a) The owner or operator of an air contamination source subject to § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) located at a major NO<sub>x</sub> emitting facility or major VOC emitting facility subject to § 129.111 (relating to applicability) that cannot meet the applicable presumptive RACT requirement or RACT emission limitation of § 129.112 may propose an alternative RACT requirement or RACT emission limitation in accordance with subsection (d).

(b) The owner or operator of a NO<sub>x</sub> air contamination source with a potential emission rate equal to or greater than 5.0 tons of NO<sub>x</sub> per year that is not subject to § 129.112 or §§ 129.201—129.205 (relating to additional NO<sub>x</sub> requirements) located at a major NO<sub>x</sub> emitting facility subject to § 129.111 shall propose a NO<sub>x</sub> RACT requirement or RACT emission limitation in accordance with subsection (d).

(c) The owner or operator of a VOC air contamination source with a potential emission rate equal to or greater than 2.7 tons of VOC per year that is not

subject to § 129.112 located at a major VOC emitting facility subject to § 129.111 shall propose a VOC RACT requirement or RACT emission limitation in accordance with subsection (d).

(d) The owner or operator proposing an alternative RACT requirement or RACT emission limitation under subsection (a), (b) or (c) shall:

(1) Submit a RACT proposal in writing or electronically in accordance with the procedures in § 129.92(a)(1)—(5), (7)—(10) and (b) (relating to RACT proposal requirements) to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) December 31, 2022, for a source subject to § 129.111(a).

(ii) December 31, 2022, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.111(b).

(2) Be in receipt of an approval issued by the Department or appropriate approved local air pollution control agency in writing through a plan approval or operating permit modification for a RACT proposal submitted under paragraph (1)(ii) prior to the installation, modification or change in the operation of the existing air contamination source that will result in the source or facility meeting the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility.

(3) Include in the RACT proposal the proposed alternative NO<sub>x</sub> RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation developed in accordance with the procedures in § 129.92(a)(1)—(5) and (b).

(4) Include in the RACT proposal a schedule for completing implementation of the RACT requirement or RACT emission limitation as soon as possible but not later than:

(i) November 12, 2023, for a source subject to § 129.111(a).

(ii) November 12, 2023, or 1 year after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.111(b).

(5) Include interim dates in the schedule required under paragraph (4) for the:

(i) Issuance of purchase orders.

(ii) Start and completion of process, technology and control technology changes.

(iii) Completion of compliance testing.

(6) Include in the RACT proposal methods for demonstrating compliance and recordkeeping and reporting requirements in accordance with § 129.115 (relating to written notification, compliance demonstration and recordkeeping and reporting requirements) for each air contamination source included in the RACT proposal.

- (7) Demonstrate to the satisfaction of the Department or the appropriate approved local air pollution control agency that the proposed requirement or RACT emission limitation is RACT for the air contamination source.
- (e) The Department or appropriate approved local air pollution control agency will:
- (1) Review the timely and complete alternative RACT proposal submitted in accordance with subsection (d).
  - (2) Approve the alternative RACT proposal submitted under subsection (d), in writing, if the Department or appropriate approved local air pollution control agency is satisfied that the alternative RACT proposal complies with the requirements of subsection (d) and that the proposed alternative requirement or RACT emission limitation is RACT for the air contamination source.
  - (3) Deny or modify the alternative RACT proposal submitted under subsection (d), in writing, if the proposal does not comply with the requirements of subsection (d).
  - (f) The proposed alternative RACT requirement or RACT emission limitation and the implementation schedule submitted under subsection (d) will be approved, denied or modified under subsection (e) by the Department or appropriate approved local air pollution control agency in accordance with Chapter 127 (relating to construction, modification, reactivation and operation of sources) prior to the owner or operator implementing the alternative RACT requirement or RACT emission limitation.
  - (g) The emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to November 12, 2022, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (f), except to the extent the existing plan approval or operating permit contains more stringent requirements.
  - (h) The Department will submit each alternative RACT requirement or RACT emission limitation approved under subsection (f) to the Administrator of the EPA for approval as a revision to the SIP. The owner and operator of the facility shall bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal.
  - (i) An owner or operator subject to subsection (a), (b) or (c) and § 129.99 that has not modified or changed a source that commenced operation on or before October 24, 2016, and has not installed and commenced operation of a new source after October 24, 2016, may, in place of the alternative RACT requirement or RACT emission limitation required under subsection (d), submit an analysis, certified by the responsible official, in writing or electronically to the Department or appropriate approved local air pollution control agency on or before December

31, 2022, that demonstrates that compliance with the alternative RACT requirement or RACT emission limitation approved by the Department or appropriate approved local air pollution control agency under § 129.99(e) (relating to alternative RACT proposal and petition for alternative compliance schedule) assures compliance with the provisions in subsections (a)—(c) and (e)—(h), except for sources subject to § 129.112(c)(11) or (i)—(k).

(1) The owner or operator of a subject source or facility that evaluates and determines that there is no new pollutant specific air cleaning device, air pollution control technology or technique available at the time of submittal of the analysis and that each technically feasible air cleaning device, air pollution control technology or technique evaluated for the alternative RACT requirement or RACT emission limitation approved by the Department or appropriate approved local air pollution control agency under § 129.99(e) had a cost effectiveness:

(i) Equal to or greater than \$7,500 per ton of NO<sub>x</sub> emissions reduced or \$12,000 per ton of VOC emissions reduced shall include the following information in the analysis:

(A) A statement that explains how the owner or operator determined that there is no new pollutant specific air cleaning device, air pollution control technology or technique available.

(B) A list of the technically feasible air cleaning devices, air pollution control technologies or techniques previously identified and evaluated under § 129.92(b)(1)—(3) included in the written RACT proposal submitted under § 129.99(d) and approved by the Department or appropriate approved local air pollution control agency under § 129.99(e).

(C) A summary of the economic feasibility analysis performed for each technically feasible air cleaning device, air pollution control technology or technique listed in clause (B) and the cost effectiveness of each technically feasible air cleaning device, air pollution control technology or technique as submitted previously under § 129.99(d) or as calculated consistent with the “EPA Air Pollution Control Cost Manual” (6th Edition), EPA/452/B-02-001, January 2002, as amended.

(D) A statement that an evaluation of each economic feasibility analysis summarized in clause (C) demonstrates that the cost effectiveness remains equal to or greater than \$7,500 per ton of NO<sub>x</sub> emissions reduced or \$12,000 per ton of VOC emissions reduced.

(E) Additional information requested by the Department or appropriate approved local air pollution control agency that may be necessary for the evaluation of the analysis.

(ii) Less than \$7,500 per ton of NO<sub>x</sub> emissions reduced or \$12,000 per ton of VOC emissions reduced shall include the following information in the analysis:

(A) A statement that explains how the owner or operator determined that there is no new pollutant specific air cleaning device, air pollution control technology or technique available.

(B) A list of the technically feasible air cleaning devices, air pollution control technologies or techniques previously identified and evaluated under § 129.92(b)(1)—(3) in the written RACT proposal submitted under § 129.99(d) and approved by the Department or appropriate approved local air pollution control agency under § 129.99(e).

(C) A summary of the economic feasibility analysis performed for each technically feasible air cleaning device, air pollution control technology or technique listed in clause (B) and the cost effectiveness of each technically feasible air cleaning device, air pollution control technology or technique as submitted previously under § 129.99(d) or as calculated consistent with the “EPA Air Pollution Control Cost Manual” (6th Edition), EPA/452/B-02-001, January 2002, as amended.

(D) A statement that an evaluation of each economic feasibility analysis summarized in clause (C) demonstrates that the cost effectiveness remains less than \$7,500 per ton of NO<sub>x</sub> emissions reduced or \$12,000 per ton of VOC emissions reduced.

(E) A new economic feasibility analysis for each technically feasible air cleaning device, air pollution control technology or technique listed in clause (B) in accordance with § 129.92(b)(4).

(F) Additional information requested by the Department or appropriate approved local air pollution control agency that may be necessary for the evaluation of the analysis.

(2) The owner or operator of a subject source or facility that evaluates and determines that there is a new or upgraded pollutant specific air cleaning device, air pollution control technology or technique available at the time of submittal of the analysis shall:

(i) Perform a technical feasibility analysis and an economic feasibility analysis in accordance with § 129.92(b).

(ii) Submit the analyses performed under subparagraph (i) to the Department or appropriate approved local air pollution control agency for review.

(iii) Provide additional information requested by the Department or appropriate approved local air pollution control agency that may be necessary for the evaluation of the analysis.

(j) The Department or appropriate approved local air pollution control agency will:

(1) Review the analyses submitted in accordance with subsection (i).

(2) Publish notice in the *Pennsylvania Bulletin* and newspapers of general circulation for a minimum 30-day public comment period and an opportunity for a public hearing for the analyses submitted under subsection (i) and supporting documentation.

(3) Prepare a summary of the public comments received on the analyses and responses to the comments.

(4) As appropriate, issue the necessary plan approvals and operating permit modifications in conformance with Chapter 127 for the analyses reviewed under paragraph (1).

(k) The Department will submit the following information to the Administrator of the EPA for approval as a revision to the Commonwealth's SIP.

(1) The analyses, supporting documentation and summary of public comments and responses described in subsection (j)(2) and (3).

(2) The plan approvals and operating permit modifications issued under subsection (j)(4).

(l) The owner and operator of a facility proposing to comply with the applicable RACT requirement or RACT emission limitation under subsection (a), (b) or (c) through the installation of an air cleaning device may submit a petition, in writing or electronically, requesting an alternative compliance schedule in accordance with the following:

(1) The petition requesting an alternative compliance schedule shall be submitted to the Department or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) December 31, 2022, for a source subject to § 129.111(a).

(ii) December 31, 2022, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.111(b).

(2) The petition must include:

(i) A description, including make, model and location, of each air contamination source subject to a RACT requirement or RACT emission limitation in one or more of subsections (a)—(c).

(ii) A description of the proposed air cleaning device to be installed.

(iii) A schedule containing proposed interim dates for completing each phase of the required work to install the air cleaning device described in subparagraph (ii).

(iv) A proposed interim emission limitation that will be imposed on the affected air contamination source until compliance is achieved with the applicable RACT requirement or RACT emission limitation.

(v) A proposed final compliance date that is as soon as possible but not later than 3 years after the approval of the petition by the Department or the appropriate approved local air pollution control agency. If the petition is for the replacement of an existing source, the final compliance date will be

determined on a case-by-case basis. The approved petition shall be incorporated in an applicable operating permit or plan approval.

(m) The Department or appropriate approved local air pollution control agency will review the timely and complete petition requesting an alternative compliance schedule submitted in accordance with subsection (l) and approve or deny the petition in writing.

(n) The emission limit and requirements specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (m) supersede the emission limit and requirements in the existing plan approval or operating permit issued to the owner or operator of the source prior to November 12, 2022, on the date specified in the plan approval or operating permit issued by the Department or appropriate approved local air pollution control agency under subsection (m), except to the extent the existing plan approval or operating permit contains more stringent requirements.

(o) Approval or denial under subsection (m) of the timely and complete petition for an alternative compliance schedule submitted under subsection (l) will be effective on the date the letter of approval or denial of the petition is signed by the authorized representative of the Department or appropriate approved local air pollution control agency.

(p) The Department will submit each petition for an alternative compliance schedule approved under subsection (m) to the Administrator of the EPA for approval as a revision to the Commonwealth's SIP. The owner and operator of the facility shall bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal.

#### Authority

The provisions of this § 129.114 added under section 5(a)(1) and (8) of the Air Pollution Control Act (35 P.S. §§ 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.114 added November 11, 2022, effective November 12, 2022, 52 Pa.B. 6960.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.111 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.115 (relating to written notification, compliance demonstration and recordkeeping and reporting requirements).

### **§ 129.115. Written notification, compliance demonstration and recordkeeping and reporting requirements.**

(a) The owner and operator of an air contamination source subject to this section and § 129.111 (relating to applicability) shall submit a notification, in



writing or electronically, to the appropriate Regional Manager or the appropriate approved local air pollution control agency that proposes how the owner and operator intend to comply with the requirements of this section and §§ 129.111—129.114.

(1) The notification shall be submitted to the appropriate Regional Manager or appropriate approved local air pollution control agency as soon as possible but not later than:

(i) December 31, 2022, for a source subject to § 129.111(a).

(ii) December 31, 2022, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.111(b).

(2) This notification shall identify the air contamination sources in § 129.111(a) as one of the following:

(i) Subject to a RACT requirement or RACT emission limitation in §§ 129.112—129.114.

(ii) Exempted from §§ 129.112—129.114.

(3) The air contamination sources identified in § 129.111(b) as one of the following:

(i) Subject to a RACT requirement or RACT emission limitation in §§ 129.112—129.114.

(ii) Exempted from §§ 129.112—129.114.

(4) The air contamination sources identified in § 129.111(c) that have a potential to emit less than 1 TPY of NO<sub>x</sub> located at a major NO<sub>x</sub> emitting facility subject to § 129.111(a) or (b) or a VOC air contamination source that has the potential to emit less than 1 TPY of VOC located at a major VOC emitting facility subject to § 129.111(a) or (b).

(5) The following information for each air contamination source listed in paragraph (2):

(i) A description, including make, model and location, of each source.

(ii) The applicable RACT requirement or RACT emission limitation, or both, in §§ 129.112—129.114 for each source listed in accordance with paragraph (2)(i).

(iii) How the owner or operator shall comply with subparagraph (ii) for each source listed in subparagraph (i).

(iv) The reason why the source is exempt from the RACT requirements and RACT emission limitations in §§ 129.112—129.114 for each source listed in accordance with paragraph (2)(ii).

(6) The following information for each air contamination source listed in paragraph (3):

(i) A description, including make, model and location, of each source.

(ii) The applicable RACT requirement or RACT emission limitation, or both, in §§ 129.112—129.114 for each source listed in paragraph (3)(i).



(iii) How the owner or operator shall comply with subparagraph (ii) for each source listed in subparagraph (i).

(iv) The reason why the source is exempt from the RACT requirements and RACT emission limitations in §§ 129.112—129.114 for each source listed in accordance with paragraph (3)(ii).

(7) The following information for each air contamination source listed in paragraph (4):

(i) A description, including make, model and location, of each source.

(ii) Information sufficient to demonstrate that the source has a potential to emit less than 1 TPY of NO<sub>x</sub> or 1 TPY of VOC, as applicable.

(b) Except as specified in subsection (d), the owner and operator of an air contamination source subject to a NO<sub>x</sub> RACT requirement or RACT emission limitation or VOC RACT requirement or RACT emission limitation, or both, listed in § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the following monitoring or testing procedures:

(1) For an air contamination source with a CEMS, monitoring and testing in accordance with the requirements of Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) using a 30-operating day rolling average, except for municipal waste combustors subject to § 129.112(f), combustion units or process heaters subject to § 129.112(g)(1) and direct-fired heaters, furnaces, ovens or other combustion sources subject to § 129.112(k).

(i) A 30-operating day rolling average emission rate for each applicable RACT emission limitation shall be calculated for an affected air contamination source for each consecutive operating day.

(ii) Each 30-operating day rolling average emission rate for an affected air contamination source must include the emissions that occur during the entire operating day, including emissions from start-ups, shutdowns and malfunctions.

(2) For a Portland cement kiln with a CEMS, monitoring of clinker production rates in accordance with 40 CFR 63.1350(d) (relating to monitoring requirements).

(3) For a municipal waste combustor with a CEMS, monitoring and testing in accordance with the requirements in Chapter 139, Subchapter C, using a daily average. The daily average will be considered valid if it contains at least 18 valid hourly averages reported at any time during the calendar day as required in the quality assurance section of the continuous source monitoring manual.

(4) For a combustion unit or process heater subject to § 129.112(g)(1) with a CEMS, monitoring and testing in accordance with the requirements in Chapter 139, Subchapter C, using a daily average.

(i) The daily average shall be calculated by summing the total pounds of pollutant emitted for the calendar day and dividing that value by the total heat input to the source for the same calendar day.

(ii) The daily average for the source shall include all emissions that occur during the entire day.

(5) For a direct-fired heater, furnace, oven or other combustion source subject to § 129.112(k) with a CEMS, monitoring and testing in accordance with the requirements in Chapter 139, Subchapter C, using a daily average.

(6) For an air contamination source without a CEMS, monitoring and testing in accordance with an emissions source test approved by the Department or appropriate approved local air pollution control agency that meets the requirements of Chapter 139, Subchapter A (relating to sampling and testing methods and procedures). The source test shall be conducted to demonstrate initial compliance and subsequently on a schedule set forth in the applicable permit.

(c) The owner or operator of a combined cycle combustion turbine may comply with the requirements in § 129.112(g)(2)(iii) on a mass-equivalent basis. The actual emissions during the compliance period must be less than the allowable emissions during the compliance period. The allowable emissions are calculated by multiplying actual heat input in million Btu during the compliance period by the following:

- (1) 0.015 lb NO<sub>x</sub>/million Btu for sources subject to § 129.112(g)(2)(iii)(A).
- (2) 0.031 lb NO<sub>x</sub>/million Btu for sources subject to § 129.112(g)(2)(iii)(B).
- (3) 0.014 lb VOC/million Btu for sources subject to § 129.112(g)(2)(iii)(C).
- (4) 0.030 lb VOC/million Btu for sources subject to § 129.112(g)(2)(iii)(D).

(d) Except as specified in § 129.112(n) and § 129.114(l) (relating to alternative RACT proposal and petition for alternative compliance schedule), the owner and operator of an air contamination source subject to subsection (b) shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation in accordance with the procedures in subsection (a) not later than:

(1) January 1, 2023, for a source subject to § 129.111(a) (relating to applicability).

(2) January 1, 2023, or 1 year after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.111(b).

(e) An owner or operator of an air contamination source subject to this section and §§ 129.111, 129.112 and 129.113 (relating to facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements) may request a waiver from the requirement to demonstrate compliance with the applicable emission limitation listed in § 129.112 if the following requirements are met:

(1) The request for a waiver is submitted, in writing or electronically, to the Department or appropriate approved local air pollution control agency not later than:

- (i) December 31, 2022, for a source subject to § 129.111(a).
  - (ii) December 31, 2022, or 6 months after the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.111(b).
- (2) The request for a waiver demonstrates that a Department-approved emissions source test was performed in accordance with the requirements of Chapter 139, Subchapter A on or after:
- (i) November 12, 2021, for a source subject to § 129.111(a).
  - (ii) November 12, 2021, or within 12 months prior to the date that the source meets the definition of a major NO<sub>x</sub> emitting facility or major VOC emitting facility, whichever is later, for a source subject to § 129.111(b).
- (3) The request for a waiver demonstrates to the satisfaction of the Department or appropriate approved local air pollution control agency that the test results show that the source's rate of emissions is in compliance with the source's applicable NO<sub>x</sub> emission limitation or VOC emission limitation.
- (4) The Department or appropriate approved local air pollution control agency approves, in writing, the request for a waiver.
- (f) The owner and operator of an air contamination source subject to this section and §§ 129.111—129.114 shall keep records to demonstrate compliance with §§ 129.111—129.114 and submit reports to the Department or appropriate approved local air pollution control agency in accordance with the applicable regulations in 25 Pa. Code, Part I, Subpart C, Article III (relating to air resources) and as specified in the operating permit or plan approval for the air contamination source as follows:
- (1) The records shall include sufficient data and calculations to demonstrate that the requirements of §§ 129.111—129.114 are met.
  - (2) Data or information required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.
  - (3) The records necessary to determine compliance shall be reported to the Department or appropriate approved local air pollution control agency on a schedule specified in the applicable regulation or as otherwise specified in the operating permit or plan approval for the air contamination source.
- (g) Beginning with the compliance date specified in § 129.112(a), the owner or operator of an air contamination source claiming that the air contamination source is exempt from the applicable NO<sub>x</sub> emission rate threshold specified in § 129.114(b) and the requirements of § 129.112 based on the air contamination source's potential to emit shall maintain records that demonstrate to the Depart-

ment or appropriate approved local air pollution control agency that the air contamination source is not subject to the specified emission rate threshold.

(h) Beginning with the compliance date specified in § 129.112(a), the owner or operator of an air contamination source claiming that the air contamination source is exempt from the applicable VOC emission rate threshold specified in § 129.114(c) and the requirements of § 129.112 based on the air contamination source's potential to emit shall maintain records that demonstrate to the Department or appropriate approved local air pollution control agency that the air contamination source is not subject to the specified emission rate threshold.

(i) The owner or operator of a combustion unit or process heater subject to § 129.112(b) shall record each adjustment conducted under the procedures in § 129.112(b). This record must contain, at a minimum:

- (1) The date of the tuning procedure.
- (2) The name of the service company and the technician performing the procedure.
- (3) The final operating rate or load.
- (4) The final NO<sub>x</sub> and CO emission rates.
- (5) The final excess oxygen rate.
- (6) Other information required by the applicable operating permit.

(j) The owner or operator of a Portland cement kiln subject to § 129.112(h) shall maintain a daily operating log for each Portland cement kiln. The record for each kiln must include:

- (1) The total hours of operation.
- (2) The type and quantity of fuel used.
- (3) The quantity of clinker produced.
- (4) The date, time and duration of a start-up, shutdown or malfunction of a Portland cement kiln or emissions monitoring system.

(k) The records shall be retained by the owner or operator for 5 years and made available to the Department or appropriate approved local air pollution control agency upon receipt of a written request from the Department or appropriate approved local air pollution control agency.

## CONTROL OF VOC EMISSIONS FROM UNCONVENTIONAL OIL AND NATURAL GAS SOURCES

### § 129.121. General provisions and applicability.

(a) *Applicability.* Beginning December 10, 2022, this section and §§ 129.122—129.130 apply to an owner or operator of one or more of the fol-

lowing unconventional oil and natural gas sources of VOC emissions installed at an unconventional well site, a gathering and boosting station or a natural gas processing plant in this Commonwealth which were constructed on or before December 10, 2022:

- (1) Storage vessels at:
  - (i) An unconventional well site.
  - (ii) A gathering and boosting station.
  - (iii) A natural gas processing plant.
  - (iv) The natural gas transmission and storage segment.
- (2) Natural gas-driven continuous bleed pneumatic controllers.
- (3) Natural gas-driven diaphragm pumps.
- (4) Reciprocating compressors and centrifugal compressors.
- (5) Fugitive emissions components.

(b) *Existing RACT permit.* Compliance with the requirements of this section and §§ 129.122—129.130 assures compliance with the requirements of a permit issued under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) or §§ 129.96—129.100 (relating to additional RACT requirements for major sources of NO<sub>x</sub> and VOCs) to the owner or operator of a source subject to subsection (a) prior to December 10, 2022, to control, reduce or minimize VOC emissions from oil and natural gas sources listed in subsection (a), except to the extent the operating permit contains more stringent requirements.

#### Authority

The provisions of this § 129.121 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.121 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

#### Cross References

This section cited in 25 Pa. Code § 129.122 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.123 (relating to storage vessels); 25 Pa. Code § 129.124 (relating to natural gas-driven continuous bleed pneumatic controllers); 25 Pa. Code § 129.125 (relating to natural gas-driven diaphragm pumps); 25 Pa. Code § 129.126 (relating to compressors); 25 Pa. Code § 129.127 (relating to fugitive emissions components); 25 Pa. Code § 129.129 (relating to control devices); and 25 Pa. Code § 129.130 (relating to recordkeeping and reporting).

**§ 129.122. Definitions, acronyms and EPA methods.**

(a) *Definitions and acronyms.* The following words and terms, when used in this section, §§ 129.121 (relating to general provisions and applicability) and 129.123—129.130, have the following meanings, unless the context clearly indicates otherwise:

*AVO*—Audible, visual and olfactory.

*Bleed rate*—The rate in standard cubic feet per hour at which natural gas is continuously vented from a natural gas-driven continuous bleed pneumatic controller.

*Centrifugal compressor*—

(i) A machine for raising the pressure of natural gas by drawing in low-pressure natural gas and discharging significantly higher-pressure natural gas by means of mechanical rotating vanes or impellers.

(ii) The term does not include a screw compressor, sliding vane compressor or liquid ring compressor.

*Closed vent system*—A system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

*Condensate*—Hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature, pressure, or both, and remains liquid at standard conditions.

*Connector*—

(i) A flanged fitting, screwed fitting or other joined fitting used to connect two pipes or a pipe and a piece of process equipment or that closes an opening in a pipe that could be connected to another pipe.

(ii) The term does not include a joined fitting welded completely around the circumference of the interface.

*Control device*—An enclosed combustion device, vapor recovery system or flare.

*Custody transfer*—The transfer of natural gas after processing or treatment, or both, in the producing operation or from a storage vessel or an automatic transfer facility or other equipment, including a product loading rack, to a pipeline or another form of transportation.

*Deviation*—An instance in which the owner or operator of a source subject to this section, §§ 129.121 and 129.123—129.130 fails to meet one or more of the following:

(i) A requirement or an obligation established in this section, § 129.121 or §§ 129.123—129.130, including an emission limit, operating limit or work practice standard.

(ii) A term or condition that is adopted to implement an applicable requirement in this section, § 129.121 or §§ 129.123—129.130 and which is included in the operating permit for the affected source.

(iii) An emission limit, operating limit or work practice standard in this section, § 129.121 or §§ 129.123—129.130 during startup, shutdown or malfunction, regardless of whether a failure is permitted by this section, § 129.121 or §§ 129.123—129.130.

*FID*—Flame ionization detector.

*First attempt at repair*—For purposes of § 129.127 (relating to fugitive emissions components):

(i) An action using best practices taken to stop or reduce fugitive emissions to the atmosphere.

(ii) The term includes:

- (A) Tightening bonnet bolts.
- (B) Replacing bonnet bolts.
- (C) Tightening packing gland nuts.
- (D) Injecting lubricant into lubricated packing.

*Flare*—

(i) A thermal oxidation system using an open flame without an enclosure.

(ii) The term does not include a horizontally or vertically installed ignition device or pit flare used to combust otherwise vented emissions from completions.

*Flow line*—A pipeline used to transport oil or gas, or both, to processing equipment, compression equipment, storage vessel or other collection system for further handling or to a mainline pipeline.

*Fugitive emissions component*—

(i) A piece of equipment that has the potential to emit fugitive emissions of VOC at a well site, a gathering and boosting station or a natural gas processing plant, including the following:

- (A) A valve.
- (B) A connector.
- (C) A pressure relief device.
- (D) An open-ended line.
- (E) A flange.
- (F) A compressor.
- (G) An instrument.
- (H) A meter.
- (I) A cover or closed vent system not subject to § 129.128 (relating to covers and closed vent systems).

(J) A thief hatch or other opening on a controlled storage vessel not subject to § 129.123 (relating to storage vessels).

(ii) The term does not include a device, such as a natural gas-driven continuous bleed pneumatic controller or a natural gas-driven diaphragm pump, that vents as part of normal operations if the gas is discharged from the device's vent.

*GOR—gas-to-oil ratio*—The ratio of the volume of gas at standard temperature and pressure that is produced from a volume of oil when depressurized to standard temperature and pressure.

*Gathering and boosting station*—

(i) A permanent combination of one or more compressors that collects natural gas from one or more well sites and moves the natural gas at increased pressure into a gathering pipeline to the natural gas processing plant or into the pipeline.

(ii) The term does not include the combination of one or more compressors located at a well site or located at an onshore natural gas processing plant.

*Hard-piping*—Pipe or tubing that is manufactured and properly installed using good engineering judgment and standards.

*Hydraulic fracturing*—The process of directing pressurized fluids containing a combination of water, proppant and added chemicals to penetrate tight formations, such as shale or coal formations, that subsequently require high rate, extended flowback to expel fracture fluids and solids during a completion.

*Hydraulic refracturing*—Conducting a subsequent hydraulic fracturing operation at a well that has previously undergone a hydraulic fracturing operation.

*In-house engineer*—An individual who is both of the following:

(i) Employed by the same owner or operator as the responsible official that signs the certification required under § 129.130(k) (relating to record-keeping and reporting).

(ii) Qualified by education, technical knowledge and expertise in the design and operation of a natural gas-driven diaphragm pump or closed vent system to make the technical certification required under § 129.125(c)(3)(ii) (relating to natural gas-driven diaphragm pumps) or § 129.128(c)(3), or both, as applicable.

*Intermediate hydrocarbon liquid*—A naturally occurring, unrefined petroleum liquid.

*LDAR*—Leak detection and repair.

*Leak*—An emission detected using one or more of the following methods:

(i) Through audible, visual or odorous evidence during an AVO inspection.



(ii) By OGI equipment calibrated according to § 129.127(h) (relating to fugitive emissions components).

(iii) With a concentration of 500 ppm or greater as methane or equivalent by a gas leak detector calibrated according to § 129.127(i).

(iv) Using an alternative leak detection method approved by the Department in § 129.127(c)(2)(ii)(C), (c)(3)(ii)(C) or (e)(2)(iii).

*Maximum average daily throughput*—The single highest daily average throughput during the 30-day potential to emit evaluation period employing generally accepted methods.

*Monitoring system malfunction*—

(i) A sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data.

(ii) The term does not include a system failure caused by poor maintenance or careless operation.

*Natural gas distribution segment*—The delivery of natural gas to the end user by a distribution company after the distribution company receives the natural gas from the natural gas transmission and storage segment.

*Natural gas-driven diaphragm pump*—

(i) A positive displacement pump powered by pressurized natural gas that uses the reciprocating action of flexible diaphragms in conjunction with check valves to pump a fluid.

(ii) The term does not include either of the following:

(A) A pump in which a fluid is displaced by a piston driven by a diaphragm.

(B) A lean glycol circulation pump that relies on energy exchange with the rich glycol from the contactor.

*Natural gas-driven continuous bleed pneumatic controller*—An automated instrument used for maintaining a process condition such as liquid level, pressure, delta-pressure or temperature powered by a continuous flow of pressurized natural gas.

*Natural gas liquids*—The hydrocarbons, such as ethane, propane, butane and pentane, that are extracted from field gas.

*Natural gas processing plant*—

(i) A processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.

(ii) The term does not include a Joule-Thompson valve, a dew point depression valve or an isolated or standalone Joule-Thompson skid.

*Natural gas transmission and storage segment*—The term includes the following:

- (i) The pipelines used for the long-distance transport of natural gas, excluding processing.
- (ii) The natural gas transmission stations which include the following:
  - (A) The land, mains, valves, meters, boosters, regulators, storage vessels, dehydrators and compressors.
  - (B) The driving units and appurtenances associated with the items listed in clause (A).
  - (C) The equipment used for transporting gas from a production plant, delivery point of purchased gas, gathering system, storage area or other wholesale source of gas to one or more distribution areas.
- (iii) The aboveground storage facilities and underground storage facilities that transport and store natural gas between the natural gas processing plant and natural gas distribution segment.

*OGI*—Optical gas imaging.

*Open-ended valve or line*—A valve, except a safety relief valve, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

*Produced water*—Water that is extracted from the earth from an oil or natural gas production well or that is separated from crude oil, condensate or natural gas after extraction.

*Qualified professional engineer*—

- (i) An individual who is licensed by a state as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the required specific technical certification.
- (ii) The individual making this certification must be currently licensed in this Commonwealth or another state in which the responsible official, as defined in § 121.1 (relating to definitions), is located and with which the Commonwealth offers reciprocity.

*Quality assurance or quality control activity*—An activity such as a system accuracy audit and a zero and span adjustment that ensures the proper calibration and operation of monitoring equipment.

*Reciprocating compressor*—A piece of equipment that employs linear movement of a driveshaft to increase the pressure of a process gas by positive displacement.

*Reciprocating compressor rod packing*—

- (i) A series of flexible rings in machined metal cups that fit around the reciprocating compressor piston rod to create a seal limiting the amount of compressed natural gas that escapes to the atmosphere.
- (ii) Another mechanism that provides the same function.

*Removed from service*—A storage vessel that has been physically isolated and disconnected from the process for a purpose other than maintenance.

*Repaired*—A piece of equipment that is adjusted or otherwise altered to eliminate a leak and is remonitored to verify that emissions from the equipment are at or below the applicable leak limitation.

*Returned to service*—A storage vessel that was removed from service which has been:

- (i) Reconnected to the original source of liquids or has been used to replace another storage vessel.
- (ii) Installed in another location and introduced with crude oil, condensate, intermediate hydrocarbon liquids or produced water.

*Routed to a process or route to a process*—The emissions are conveyed by means of a closed vent system to an enclosed portion of a process that is operational where the emissions are controlled in one or more of the following ways:

- (i) Predominantly recycled or consumed, or both, in the same manner as a material that fulfills the same function in the process.
- (ii) Transformed by chemical reaction into materials that are not regulated.
- (iii) Incorporated into a product.
- (iv) Recovered for beneficial use.

*Sensor*—A device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH or liquid level.

*Storage vessel*—

- (i) A container used to collect crude oil, condensate, intermediate hydrocarbon liquids or produced water that is constructed primarily of non-earthen materials which provide structural support.
- (ii) The term includes a container described in subparagraph (i) that is skid-mounted or permanently attached to something that is mobile which has been located at a site for 180 or more consecutive days.
- (iii) The term does not include the following:
  - (A) A process vessel such as a surge control vessel, bottoms receiver or knockout vessel.
  - (B) A pressure vessel used to store a liquid or a gas and is designed to operate in excess of 204.9 kilopascals (29.7 pounds per square inch, absolute) and to not vent to the atmosphere as a result of compression of the vapor headspace during filling of the vessel.
  - (C) A container described in subparagraph (i) with a capacity greater than 100,000 gallons used to recycle water that has been passed through two-stage separation.

*Surface site*—A combination of one or more graded pad sites, gravel pad sites, foundations, platforms or the immediate physical location upon which equipment is physically affixed.

*TOC—total organic compounds*—The results of EPA Method 25A.

*UIC*—Underground injection control.

*UIC Class I oilfield disposal well*—A well with a UIC Class I permit that meets the definition in 40 CFR 144.6(a)(2) (relating to classification of wells) and receives eligible fluids from oil and natural gas exploration and production operations.

*UIC Class II oilfield disposal well*—A well with a UIC Class II permit where wastewater resulting from oil and natural gas production operations is injected into underground porous rock formations not productive of oil or gas and sealed above and below by unbroken, impermeable strata.

*Unconventional formation*—A geological shale formation existing below the base of the Elk Sandstone or its geologic equivalent stratigraphic interval where natural gas generally cannot be produced at economic flow rates or in economic volumes except by vertical or horizontal well bores stimulated by hydraulic fracture treatments or by using multilateral well bores or other techniques to expose more of the formation to the well bore.

*Unconventional well*—A bore hole drilled or being drilled for the purpose of or to be used for the production of natural gas from an unconventional formation.

*Unconventional well site*—A location with one or more unconventional wells.

*VRU—vapor recovery unit*—A device used to recover vapor and route it to a process, flow line or other equipment.

*Well*—A hole drilled for producing oil or natural gas or into which a fluid is injected.

*Wellhead*—

(i) The piping, casing, tubing and connected valves protruding above the earth's surface for an oil or natural gas well.

(ii) The wellhead ends where the flow line connects to a wellhead valve.

(iii) The term does not include other equipment at the well site except for a conveyance through which gas is vented to the atmosphere.

*Well site*—

(i) One or more surface sites that are constructed for the drilling and subsequent operation of an unconventional well or injection well.

(ii) For purposes of the fugitive emissions standards in § 129.127, the term also means a separate tank battery surface site collecting crude oil, condensate, intermediate hydrocarbon liquids or produced water from a well not located at the well site, for example, a centralized tank battery.

(iii) For purposes of the fugitive emissions standards in § 129.127, the term does not include:

- (A) A UIC Class I oilfield disposal well.
- (B) A UIC Class II oilfield disposal well and disposal facility.
- (C) The flange immediately upstream of the custody meter assembly.
- (D) Equipment, including fugitive emissions components, located downstream of the flange in clause (C).

(b) *EPA methods.* The EPA methods referenced in this section and §§ 129.123—129.130 are those listed as follows, unless the context clearly indicates otherwise:

*EPA Method 1*—EPA Method 1, 40 CFR Part 60, Appendix A-1 (relating to test methods 1 through 2F), regarding sample and velocity traverses for stationary sources.

*EPA Method 1A*—EPA Method 1A, 40 CFR Part 60, Appendix A-1, regarding sample and velocity traverses for stationary sources with small stacks or ducts.

*EPA Method 2*—EPA Method 2, 40 CFR Part 60, Appendix A-1, regarding determination of stack gas velocity and volumetric flow rate (Type S pitot tube).

*EPA Method 2A*—EPA Method 2A, 40 CFR Part 60, Appendix A-1, regarding direct measurement of gas volume through pipes and small ducts.

*EPA Method 2C*—EPA Method 2C, 40 CFR Part 60, Appendix A-1, regarding determination of gas velocity and volumetric flow rate in small stacks or ducts (standard pitot tube).

*EPA Method 2D*—EPA Method 2D, 40 CFR Part 60, Appendix A-1, regarding measurement of gas volume flow rates in small pipes and ducts.

*EPA Method 3A*—EPA Method 3A, 40 CFR Part 60, Appendix A-2 (relating to test methods 2G through 3C), regarding determination of oxygen and carbon dioxide concentrations in emissions from stationary sources (instrumental analyzer procedure).

*EPA Method 3B*—EPA Method 3B, 40 CFR Part 60, Appendix A-2, regarding gas analysis for the determination of emission rate correction factor or excess air.

*EPA Method 4*—EPA Method 4, 40 CFR Part 60, Appendix A-3 (relating to test methods 4 through 5I), regarding determination of moisture content in stack gases.

*EPA Method 18*—EPA Method 18, 40 CFR Part 60, Appendix A-6 (relating to test methods 16 through 18), regarding measurement of gaseous organic compound emissions by gas chromatography.

*EPA Method 21*—EPA Method 21, 40 CFR Part 60, Appendix A-7 (relating to test methods 19 through 25E), regarding determination of volatile organic compound leaks.

*EPA Method 22*—EPA Method 22, 40 CFR Part 60, Appendix A-7, regarding visual determination of fugitive emissions from material sources and smoke emissions from flares.

*EPA Method 25A*—EPA Method 25A, 40 CFR Part 60, Appendix A-7, regarding determination of total gaseous organic concentration using a flame ionization analyzer.

#### Authority

The provisions of this § 129.122 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.122 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

#### Cross References

This section cited in 25 Pa. Code § 129.121 (relating to general provisions and applicability); 25 Pa. Code § 129.123 (relating to storage vessels); 25 Pa. Code § 129.127 (relating to fugitive emissions components); 25 Pa. Code § 129.128 (relating to covers and closed vent systems); and 25 Pa. Code § 129.130 (relating to recordkeeping and reporting).

### § 129.123. Storage vessels.

#### (a) *Applicability.*

(1) *Potential VOC emissions.* Except as specified in subsections (c) and (d), this section applies to the owner or operator of a storage vessel subject to § 129.121(a)(1) (relating to general provisions and applicability) that has the potential to emit 2.7 TPY or greater VOC emissions.

#### (2) *Calculation of potential VOC emissions.*

(i) The potential VOC emissions in paragraph (1) must be calculated using a generally accepted model or calculation methodology, based on the maximum average daily throughput as defined in § 129.122 (relating to definitions, acronyms and EPA methods) prior to February 8, 2023, for an existing storage vessel.

(ii) The determination of potential VOC emissions may consider requirements under a legally and practically enforceable limit established in an operating permit or plan approval approved by the Department.

(iii) Vapor from the storage vessel that is recovered and routed to a process through a VRU is not required to be included in the determination of potential VOC emissions for purposes of determining applicability, if the owner or operator meets the following:

(A) The cover requirements in § 129.128(a) (relating to covers and closed vent systems).

(B) The closed vent system requirements in § 129.128(b).

(iv) If the apparatus that recovers and routes vapor to a process is removed from operation or is operated inconsistently with § 129.128, the owner or operator shall determine the storage vessel's potential VOC emissions under this paragraph within 30 calendar days of the date of apparatus removal or inconsistent operation.

(b) *VOC emissions limitations and control requirements.* Except as specified in subsections (c) and (d), beginning December 10, 2023, the owner or operator of a storage vessel subject to this section shall reduce VOC emissions by 95.0% by weight or greater. The owner or operator shall comply with paragraph (1) or paragraph (2) as applicable.

(1) *Route the VOC emissions to a control device.* The owner or operator shall do the following:

(i) Equip the storage vessel with a cover that meets the requirements of § 129.128(a).

(ii) Connect the storage vessel to a control device or process through a closed vent system that meets the requirements of § 129.128(b).

(iii) Route the emissions from the storage vessel to a control device or a process that meets the applicable requirements of § 129.129 (relating to control devices).

(iv) Demonstrate that the VOC emissions are reduced as specified in § 129.129(k).

(2) *Equip the storage vessel with a floating roof.* The owner or operator shall install a floating roof that meets the requirements of 40 CFR 60.112b(a)(1) or (2) (relating to standard for volatile organic compounds (VOC)) and the relevant monitoring, inspection, recordkeeping and reporting requirements in 40 CFR Part 60, Subpart Kb (relating to standards of performance for volatile organic liquid storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after July 23, 1984).

(c) *Exceptions.*

(1) The emissions limitations and control requirements in subsection (b) do not apply to the owner or operator of a storage vessel that maintains actual VOC emissions less than 2.7 TPY determined as a 12-month rolling sum. An owner or operator claiming this exception shall perform the compliance demonstration requirements under paragraph (2) and maintain the records under subsection (g), as applicable.

- (2) The owner or operator of a storage vessel claiming exception under this subsection shall perform the following:
- (i) Beginning on or before January 9, 2023, calculate the actual VOC emissions once per calendar month using a generally accepted model or calculation methodology. The monthly calculations must meet the following:
    - (A) Be separated by at least 15 calendar days but not more than 45 calendar days.
    - (B) Be based on the monthly average throughput for the previous 30 calendar days.
  - (ii) Comply with subsection (b) within 1 year of the date of the monthly calculation showing that actual VOC emissions from the storage vessel have increased to 2.7 TPY VOC or greater.
- (d) *Exemptions.* The emissions limitations and control requirements in subsection (b) do not apply to the owner or operator of a storage vessel that meets one or more of the following:
- (1) Is skid-mounted or permanently attached to something that is mobile for which records are available to document that it has been located at a site for less than 180 consecutive days. An owner or operator claiming this exemption shall maintain the records under subsection (g), as applicable.
  - (2) Is used in the natural gas distribution segment.
  - (3) Is controlled under 40 CFR Part 60, Subpart Kb or 40 CFR Part 63, Subpart G, Subpart CC, Subpart HH or Subpart WW.
- (e) *Requirements for a storage vessel removed from service.* A storage vessel subject to this section that is removed from service is not an affected source for the period that it is removed from service if the owner or operator performs the following:
- (1) Completely empties and degasses the storage vessel so that the storage vessel no longer contains crude oil, condensate, produced water or intermediate hydrocarbon liquids. A storage vessel where liquid is left on walls, as bottom clingage or in pools due to floor irregularity is considered to be completely empty.
  - (2) Submits a notification in the next annual report required under § 129.130(k)(1) (relating to recordkeeping and reporting) identifying each storage vessel removed from service during the reporting period and the date of its removal from service.
- (f) *Requirements for a storage vessel returned to service.* The owner or operator of a storage vessel identified in subsection (e) that is returned to service shall submit a notification in the next annual report required under § 129.130(k)(1) identifying each storage vessel that has been returned to service during the reporting period and the date of its return to service.
- (g) *Recordkeeping and reporting requirements.* The owner or operator of a storage vessel subject to this section shall maintain the records under § 129.130(b) and submit the reports under § 129.130(k)(3)(i).



**Authority**

The provisions of this § 129.123 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

**Source**

The provisions of this § 129.123 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

**Cross References**

This section cited in 25 Pa. Code § 129.121 (relating to general provisions and applicability); 25 Pa. Code § 129.122 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.127 (relating to fugitive emissions components); 25 Pa. Code § 129.128 (relating to covers and closed vent systems); 25 Pa. Code § 129.129 (relating to control devices); and 25 Pa. Code § 129.130 (relating to recordkeeping and reporting).

**§ 129.124. Natural gas-driven continuous bleed pneumatic controllers.**

(a) *Applicability.* This section applies to the owner or operator of a natural gas-driven continuous bleed pneumatic controller subject to § 129.121(a)(2) (relating to general provisions and applicability) located prior to the point of custody transfer of oil to an oil pipeline or of natural gas to the natural gas transmission and storage segment.

(b) *Exception.* An owner or operator may use a natural gas-driven continuous bleed pneumatic controller subject to this section with a bleed rate greater than the applicable requirements in subsection (c) based on functional requirements. An owner or operator claiming this exception shall perform the compliance demonstration requirements under subsection (d) and maintain the records under subsection (e), as applicable.

(c) *VOC emissions limitation requirements.* Except as specified in subsection (b), beginning December 10, 2023, the owner or operator of a natural gas-driven continuous bleed pneumatic controller subject to this section shall do the following:

(1) Ensure each natural gas-driven continuous bleed pneumatic controller with a natural gas bleed rate greater than 6.0 standard cubic feet per hour, at a location other than a natural gas processing plant, maintains a natural gas bleed rate of less than or equal to 6.0 standard cubic feet per hour.

(2) Ensure each natural gas-driven continuous bleed pneumatic controller maintains a natural gas bleed rate of zero standard cubic feet per hour, if located at a natural gas processing plant.

(3) Perform the compliance demonstration requirements under subsection (d).

(d) *Compliance demonstration requirements.* The owner or operator shall tag each natural gas-driven continuous bleed pneumatic controller affected under subsection (c) with the following:

- (1) The date the natural gas-driven continuous bleed pneumatic controller is required to comply with this section.
- (2) An identification number that ensures traceability to the records for that natural gas-driven continuous bleed pneumatic controller.
- (e) *Recordkeeping and reporting requirements.* The owner or operator of a natural gas-driven continuous bleed pneumatic controller affected under subsection (c) shall maintain the records under § 129.130(c) (relating to recordkeeping and reporting) and submit the reports under § 129.130(k)(3)(ii).

#### Authority

The provisions of this § 129.124 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.124 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

#### Cross References

This section cited in 25 Pa. Code § 129.121 (relating to general provisions and applicability); 25 Pa. Code § 129.122 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.127 (relating to fugitive emissions components); and 25 Pa. Code § 129.130 (relating to recordkeeping and reporting).

### § 129.125. Natural gas-driven diaphragm pumps.

- (a) *Applicability.* This section applies to the owner or operator of a natural gas-driven diaphragm pump subject to § 129.121(a)(3) (relating to general provisions and applicability) located at a well site or natural gas processing plant.
- (b) *VOC emissions limitation and control requirements.* Except as specified in subsections (c) and (d), beginning December 10, 2023, the owner or operator of a natural gas-driven diaphragm pump subject to this section shall comply with the following:
  - (1) *Unconventional well site.* The owner or operator of a natural gas-driven diaphragm pump located at a well site shall reduce the VOC emissions by 95.0% by weight or greater. The owner or operator shall do the following:
    - (i) Connect the natural gas-driven diaphragm pump to a control device or process through a closed vent system that meets the applicable requirements of § 129.128(b) (relating to covers and closed vent systems).
    - (ii) Route the emissions from the natural gas-driven diaphragm pump to a control device or a process that meets the applicable requirements of § 129.129 (relating to control devices).
    - (iii) Demonstrate that the VOC emissions are reduced as specified in § 129.129(k).

(2) *Natural gas processing plant.* The owner or operator of a natural gas-driven diaphragm pump located at a natural gas processing plant shall maintain an emission rate of zero standard cubic feet per hour.

(c) *Exceptions.* The emissions limitations and control requirements in subsection (b) do not apply to the owner or operator of a natural gas-driven diaphragm pump located at a well site which meets one or more of the following:

(1) Routes emissions to a control device which is unable to reduce VOC emissions by 95.0% by weight or greater and there is no ability to route VOC emissions to a process. An owner or operator that claims this exception shall do the following:

(i) Maintain the records under § 129.130(d)(4) (relating to recordkeeping and reporting).

(ii) Connect the natural gas-driven diaphragm pump to the control device through a closed vent system that meets the requirements of § 129.128(b).

(iii) Demonstrate the percentage by which the VOC emissions are reduced as specified in § 129.129(k).

(2) Has no available control device or process. An owner or operator that claims this exception shall do the following:

(i) Maintain the records under § 129.130(d)(5).

(ii) Certify that there is no available control device or process in the next annual report required by § 129.130(k)(1).

(iii) Route emissions from the natural gas-driven diaphragm pump within 30 days of the installation of a control device or process. Once the emissions are routed to a control device or process, the certification of subparagraph (ii) is no longer required and the applicable requirements of this section shall be met.

(3) Is technically infeasible of connecting to a control device or process. An owner or operator that claims this exception shall do the following:

(i) Maintain the records under § 129.130(d)(6).

(ii) Perform an assessment of technical infeasibility which must meet the following:

(A) Be prepared under the supervision of an in-house engineer or qualified professional engineer.

(B) Include a technical analysis of safety considerations, the distance from an existing control device, the pressure losses and differentials in the closed vent system and the ability of the control device to handle the increase in emissions routed to them.

(C) Be certified, signed and dated by the engineer supervising the assessment, including the statement: "I certify that the assessment of technical infeasibility was prepared under my supervision. I further certify that the assessment was conducted and this report was prepared under the requirements of 25 Pa. Code § 129.125(c)(3). Based on my professional

knowledge and experience, and inquiry of personnel involved in the assessment, the certification submitted herein is true, accurate, and complete. I am aware that there are penalties for knowingly submitting false information.”

(d) *Exemptions.* The emissions limitations and control requirements in subsection (b) do not apply to the owner or operator of a natural gas-driven diaphragm pump located at a well site which operates less than 90 days per calendar year. An owner or operator claiming this exemption shall maintain the records under § 129.130(d)(3).

(e) *Removal of control device or process.* The owner or operator of a natural gas-driven diaphragm pump located at a well site that routes emissions to a control device or process which is removed or is no longer available shall comply with one of the exceptions in subsection (c), as applicable.

(f) *Recordkeeping and reporting requirements.* The owner or operator of a natural gas-driven diaphragm pump subject to this section shall maintain the records under § 129.130(d) and submit the reports under § 129.130(k)(3)(iii).

#### Authority

The provisions of this § 129.125 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.125 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

#### Cross References

This section cited in 25 Pa. Code § 129.121 (relating to general provisions and applicability); 25 Pa. Code § 129.122 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.127 (relating to fugitive emissions components); 25 Pa. Code § 129.128 (relating to covers and closed vent systems); 25 Pa. Code § 129.129 (relating to control devices); and 25 Pa. Code § 129.130 (relating to recordkeeping and reporting).

### § 129.126. Compressors.

(a) *Applicability.* This section applies to the owner or operator of a reciprocating compressor or centrifugal compressor subject to § 129.121(a)(4) (relating to general provisions and applicability) that meets the following:

(1) *Reciprocating compressor.* Each reciprocating compressor located between the wellhead and point of custody transfer to the natural gas transmission and storage segment.

(2) *Centrifugal compressor.* Each centrifugal compressor using wet seals that is located between the wellhead and point of custody transfer to the natural gas transmission and storage segment.

(b) *VOC emissions control requirements for a reciprocating compressor.* Beginning December 10, 2023, the owner or operator of a reciprocating compressor subject to this section shall meet one of the following:

- (1) Replace the reciprocating compressor rod packing on or before one of the following:
  - (i) The reciprocating compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning on the later of:
    - (A) The date of the most recent reciprocating compressor rod packing replacement.
    - (B) December 10, 2022, for a reciprocating compressor rod packing that has not yet been replaced.
  - (ii) The reciprocating compressor has operated for 36 months. The number of months of operation must be continuously monitored beginning on the later of:
    - (A) The date of the most recent reciprocating compressor rod packing replacement.
    - (B) December 10, 2025, for a reciprocating compressor rod packing that has not yet been replaced.
- (2) Route the VOC emissions to a control device or a process that meets § 129.129 (relating to control devices) by using a reciprocating compressor rod packing emissions collection system that operates under negative pressure and meets the cover requirements of § 129.128(a) (relating to covers and closed vent systems) and the closed vent system requirements of § 129.128(b).
- (c) *VOC emissions limitation and control requirements for a centrifugal compressor.* Except as specified in subsection (d), the owner or operator of a centrifugal compressor subject to this section shall perform the following:
  - (1) Reduce the VOC emissions from each centrifugal compressor wet seal fluid degassing system by 95.0% by weight or greater.
  - (2) Equip the wet seal fluid degassing system with a cover that meets the requirements of § 129.128(a) through a closed vent system that meets the requirements of § 129.128(b) to a control device or a process that meets the applicable requirements of § 129.129.
  - (3) Demonstrate that the VOC emissions are reduced as specified in § 129.129(k).
- (d) *Exemptions.* Subsection (c) does not apply to the owner or operator of a centrifugal compressor that meets the following:
  - (1) Is located at a well site.
  - (2) Is located at an adjacent well site and services more than one well site.
- (e) *Recordkeeping and reporting requirements.* The owner or operator of a reciprocating compressor or centrifugal compressor subject to this section shall do the following, as applicable:
  - (1) For a reciprocating compressor, maintain the records under § 129.130(e) (relating to recordkeeping and reporting) and submit the reports under § 129.130(k)(3)(iv).

- (2) For a centrifugal compressor, maintain the records under § 129.130(f) and submit the reports under § 129.130(k)(3)(v).

#### Authority

The provisions of this § 129.126 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.126 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

#### Cross References

This section cited in 25 Pa. Code § 129.121 (relating to general provisions and applicability); 25 Pa. Code § 129.122 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.127 (relating to fugitive emissions components); 25 Pa. Code § 129.128 (relating to covers and closed vent systems); 25 Pa. Code § 129.129 (relating to control devices); and 25 Pa. Code § 129.130 (relating to recordkeeping and reporting).

### § 129.127. Fugitive emissions components.

(a) *Applicability.* This section applies to the owner or operator of a fugitive emissions component subject to § 129.121(a)(5) (relating to general provisions and applicability), located at one or more of the following:

- (1) An unconventional well site.
- (2) A natural gas gathering and boosting station.
- (3) A natural gas processing plant.

(b) *Average production calculation procedure for a well site.* Beginning on or before January 9, 2023:

(1) The owner or operator of a well site subject to subsection (a)(1) shall calculate the average production in barrels of oil equivalent per day of the well site using the previous 12 calendar months of operation as reported to the Department and thereafter as specified in subsection (c)(4) for the previous calendar year. The owner or operator shall do the following:

(i) For each well at the well site with production reported to the Department:

- (A) Record the barrels of oil produced for each active well.
- (B) Convert the natural gas production for each active well to equivalent barrels of oil by dividing the standard cubic feet of natural gas produced by 6,000 standard cubic feet per barrel of oil equivalent.
- (C) Convert the condensate production for each active well to equivalent barrels of oil by multiplying the barrels of condensate by 0.9 barrels of oil equivalent per barrel of condensate.

(ii) Calculate the total production for each active well, in barrels of oil equivalent, by adding the results of subparagraph (i)(A)—(C) for each active well.

- (iii) Sum the results of subparagraph (ii) for all active wells at the well site and divide by 365 or 366 days for the previous 12 calendar months or the previous calendar year, as applicable.
- (2) If the owner or operator does not know the production of an individual well at the well site, the owner or operator shall comply with subsection (c)(2).
- (c) *Requirements for an unconventional well site.*
  - (1) For a well site consisting of only oil wells, the owner or operator shall:
    - (i) Determine the GOR of the oil well site using generally accepted methods.
    - (ii) If the GOR of the oil well site is less than 300 standard cubic feet of gas per barrel of oil produced, maintain the records under § 129.130(g)(1) (relating to recordkeeping and reporting).
    - (iii) If the GOR of the oil well site is equal to or greater than 300 standard cubic feet of gas per barrel of oil produced, meet the requirements of paragraph (2) or paragraph (3) based on the results of subsection (b)(1).
  - (2) For a well site producing, on average, equal to or greater than 15 barrels of oil equivalent per day, with at least one well producing, on average, equal to or greater than 15 barrels of oil equivalent per day, the owner or operator shall:
    - (i) Conduct an initial AVO inspection on or before February 8, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days.
    - (ii) Conduct an initial LDAR inspection program on or before February 8, 2023, with quarterly inspections thereafter separated by at least 60 calendar days but not more than 120 calendar days using one or more of the following:
      - (A) OGI equipment.
      - (B) A gas leak detector that meets the requirements of EPA Method 21.
      - (C) Another leak detection method approved by the Department.
  - (3) For a well site producing, on average, equal to or greater than 15 barrels of oil equivalent per day, and at least one well producing, on average, equal to or greater than 5 barrels of oil equivalent per day but less than 15 barrels of oil equivalent per day, the owner or operator shall:
    - (i) Conduct an initial AVO inspection on or before February 8, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days.
    - (ii) Conduct an initial LDAR inspection program on or before May 9, 2023, with annual inspections thereafter separated by at least 335 calendar days but not more than 395 calendar days using one or more of the following:
      - (A) OGI equipment.
      - (B) A gas leak detector that meets the requirements of EPA Method 21.
      - (C) Another leak detection method approved by the Department.

(4) The owner or operator of a producing well site shall calculate the average production of the well site under subsection (b) for the previous calendar year not later than February 15 and may adjust the frequency of the required LDAR inspection as follows:

(i) If two consecutive calculations show reduced production, the owner or operator may adopt the requirements applicable to the reduced production level.

(ii) If a calculation shows higher production, the owner or operator shall adopt the requirements applicable to the higher production level immediately.

(5) The owner or operator of a well site subject to paragraph (3) may submit to the appropriate Department Regional Office a request, in writing, for an exemption from the requirements of paragraph (3)(ii).

(i) The written request must include the following:

(A) Name and location of the well site.

(B) A demonstration that the requirements of paragraph (3)(ii) are not technically or economically feasible for the well site.

(C) Sufficient methods for demonstrating compliance with all applicable standards or regulations promulgated under the Clean Air Act or the Act.

(D) Sufficient methods for demonstrating compliance with this section, §§ 129.121—129.126 and 129.128—129.130.

(ii) The Department will review the complete written request submitted in accordance with subparagraph (i) and approve or deny the request in writing.

(iii) The Department will submit each exemption determination approved under subparagraph (ii) to the Administrator of the EPA for approval as a revision to the SIP. The owner or operator shall bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal.

(iv) The owner or operator of the well site identified in subparagraph (i)(A) shall remain subject to the requirements of paragraphs (1), (3)(i) and (4).

(d) *Requirements for a shut-in unconventional well site.* The owner or operator of an unconventional well site that is temporarily shut-in is not required to perform an LDAR inspection of the well site until one of the following occurs, whichever is first:

(1) Sixty days after the unconventional well site is put into production.

(2) The date of the next required LDAR inspection after the unconventional well site is put into production.

(e) *Requirements for a natural gas gathering and boosting station or a natural gas processing plant.* The owner or operator of a natural gas gathering and boosting station or a natural gas processing plant shall conduct the following:



- (1) An initial AVO inspection on or before February 8, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days.
- (2) An initial LDAR inspection program on or before February 8, 2023, with quarterly inspections thereafter separated by at least 60 calendar days but not more than 120 calendar days using one or more of the following:
  - (i) OGI equipment.
  - (ii) A gas leak detector that meets the requirements of EPA Method 21.
  - (iii) Another leak detection method approved by the Department.
- (f) *Requirements for extension of the LDAR inspection interval.* The owner or operator of an affected facility may request, in writing, an extension of the LDAR inspection interval from the Air Program Manager of the appropriate Department Regional Office.
- (g) *Fugitive emissions monitoring plan.* The owner or operator shall develop, in writing, an emissions monitoring plan that covers the collection of fugitive emissions components at the subject facility within each company-defined area. The written plan must include the following elements:
  - (1) The technique used for determining fugitive emissions.
  - (2) A list of fugitive emissions detection equipment, including the manufacturer and model number, that may be used at the facility.
  - (3) A list of personnel that may conduct the monitoring surveys at the facility, including their training and experience.
  - (4) The procedure and timeframe for identifying and fixing a fugitive emissions component from which fugitive emissions are detected, including for a component that is unsafe-to-repair.
  - (5) The procedure and timeframe for verifying fugitive emissions component repairs.
  - (6) The procedure and schedule for verifying the fugitive emissions detection equipment is operating properly.
    - (i) For OGI equipment, the verification must be completed as specified in subsection (h).
    - (ii) For gas leak detection equipment using EPA Method 21, the verification must be completed as specified in subsection (i).
    - (iii) For a Department-approved method, a copy of the request for approval that shows the method's equivalence to subsection (h) or subsection (i).
  - (7) A sitemap.
  - (8) If using OGI, a defined observation path that meets the following:
    - (i) Ensures that all fugitive emissions components are within sight of the path.
    - (ii) Accounts for interferences.
  - (9) If using EPA Method 21, a list of the fugitive emissions components to be monitored and an identification method to locate them in the field.

- (10) A written plan for each fugitive emissions component designated as difficult-to-monitor or unsafe-to-monitor which includes the following:
- (i) A method to identify a difficult-to-monitor or unsafe-to-monitor component in the field.
  - (ii) The reason each component was identified as difficult-to-monitor or unsafe-to-monitor.
  - (iii) The monitoring schedule for each component identified as difficult-to-monitor or unsafe-to-monitor. The monitoring schedule for difficult-to-monitor components must include at least one survey per year no more than 13 months apart.
- (h) *Verification procedures for OGI equipment.* An owner or operator that identifies OGI equipment in the fugitive emissions monitoring plan in subsection (g)(6)(i) shall complete the verification by doing the following:
- (1) Demonstrating that the OGI equipment is capable of imaging a gas:
    - (i) In the spectral range for the compound of highest concentration in the potential fugitive emissions.
    - (ii) That is half methane, half propane at a concentration of 10,000 ppm at a flow rate of less than or equal to 60 grams per hour (2.115 ounces per hour) from a 1/4-inch diameter orifice.
  - (2) Performing a verification check each day prior to use.
  - (3) Determining the equipment operator's maximum viewing distance from the fugitive emissions component and how the equipment operator will ensure that this distance is maintained.
  - (4) Determining the maximum wind speed during which monitoring can be performed and how the equipment operator will ensure monitoring occurs only at wind speeds below this threshold.
  - (5) Conducting the survey by using the following procedures:
    - (i) Ensuring an adequate thermal background is present to view potential fugitive emissions.
    - (ii) Dealing with adverse monitoring conditions, such as wind.
    - (iii) Dealing with interferences, such as steam.
  - (6) Following the manufacturer's recommended calibration and maintenance procedures.
- (i) *Verification procedures for gas leak detection equipment using EPA Method 21.* An owner or operator that identifies gas leak detection equipment using EPA Method 21 in the fugitive emissions monitoring plan in subsection (g)(6)(ii) shall complete the verification by doing the following:
- (1) Verifying that the gas leak detection equipment meets:
    - (i) The requirements of Section 6.0 of EPA Method 21 with a fugitive emissions definition of 500 ppm or greater calibrated as methane using an FID-based instrument.

- (ii) A site-specific fugitive emission definition that would be equivalent to subparagraph (i) for other equipment approved for use in EPA Method 21 by the Department.
- (2) Using the average composition of the fluid, not the individual organic compounds in the stream, when performing the instrument response factor of Section 8.1.1 of EPA Method 21.
- (3) Calculating the average stream response factor on an inert-free basis for process streams that contain nitrogen, air or other inert gases that are not organic hazardous air pollutants or VOCs.
- (4) Calibrating the gas leak detection instrument in accordance with Section 10.1 of EPA Method 21 on each day of its use using zero air, defined as a calibration gas with less than 10 ppm by volume of hydrocarbon in air, and a mixture of methane in air at a concentration less than 10,000 ppm by volume as the calibration gases.
- (5) Conducting the surveys which, at a minimum, must comply with the relevant sections of EPA Method 21, including Section 8.3.1.
- (j) *Fugitive emissions detection devices.* Fugitive emissions detection devices must be operated and maintained in accordance with manufacturer-recommended procedures and as required by the test method or a Department-approved method.
- (k) *Background adjustment.* For LDAR inspections using a gas leak detector in accordance with EPA Method 21, the owner or operator may choose to adjust the gas leak detection instrument readings to account for the background organic concentration level as determined by the procedures of Section 8.3.2 of EPA Method 21.
- (l) *Repair and resurvey provisions.* The owner or operator shall repair a leak detected from a fugitive emissions component as follows:
  - (1) A first attempt at repair must be made within 5 calendar days of detection, and repair must be completed no later than 15 calendar days after the leak is detected unless:
    - (i) The purchase of a part is required. The repair must be completed no later than 10 calendar days after the receipt of the purchased part.
    - (ii) The repair is technically infeasible because of one of the following reasons:
      - (A) It requires vent blowdown.
      - (B) It requires facility shutdown.
      - (C) It requires a well shut-in.
      - (D) It is unsafe to repair during operation of the unit.
    - (iii) A repair that is technically infeasible under subparagraph (ii) must be completed at the earliest of the following:
      - (A) After a planned vent blowdown.
      - (B) The next facility shutdown.
      - (C) Within 2 years.

- (2) The owner or operator shall resurvey the fugitive emissions component no later than 30 calendar days after the leak is repaired.
- (3) For a repair that cannot be made during the monitoring survey when the leak is initially found, the owner or operator shall do one of the following:
  - (i) Take a digital photograph of the fugitive emissions component which includes:
    - (A) The date the photo was taken.
    - (B) Clear identification of the component by location, such as by latitude and longitude or other descriptive landmarks visible in the picture.
  - (ii) Tag the component for identification purposes.
- (4) A gas leak is considered repaired if:
  - (i) There is no visible leak image when using OGI equipment calibrated according to subsection (h).
  - (ii) A leak concentration of less than 500 ppm as methane is detected when the gas leak detector probe inlet is placed at the surface of the fugitive emissions component for a gas leak detector calibrated according to subsection (i).
  - (iii) There are no detectable emissions consistent with Section 8.3.2 of EPA Method 21.
  - (iv) There is no bubbling at the leak interface using the soap solution bubble test specified in Section 8.3.3 of EPA Method 21.
- (m) *Recordkeeping and reporting requirements.* The owner or operator of a fugitive emissions component subject to this section shall maintain the records under § 129.130(g) and submit the reports under § 129.130(k)(3)(vi).

#### Authority

The provisions of this § 129.127 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.127 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

#### Cross References

This section cited in 25 Pa. Code § 129.121 (relating to general provisions and applicability); 25 Pa. Code § 129.122 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.128 (relating to covers and closed vent systems); and 25 Pa. Code § 129.130 (relating to recordkeeping and reporting).

### § 129.128. Covers and closed vent systems.

- (a) *Requirements for a cover on a storage vessel, reciprocating compressor or centrifugal compressor.* The owner or operator shall perform the following for a cover of a source subject to § 129.123(b)(1)(i) or § 129.126(b)(2) or (c)(2) (relating to storage vessels; and compressors), as applicable:

(1) Ensure that the cover and all openings on the cover form a continuous impermeable barrier over each subject source as follows:

- (i) The entire surface area of the liquid in the storage vessel.
- (ii) The entire surface area of the liquid in the wet seal fluid degassing system of a centrifugal compressor.
- (iii) The rod packing emissions collection system of a reciprocating compressor.

(2) Ensure that each cover opening is covered by a gasketed lid or cap that is secured in a closed, sealed position except when it is necessary to use an opening for one or more of the following:

- (i) To inspect, maintain, repair or replace equipment.
- (ii) To route a liquid, gas, vapor or fume from the source to a control device or a process that meets the applicable requirements of § 129.129 (relating to control devices) through a closed vent system designed and operated in accordance with subsection (b).
- (iii) To inspect or sample the material in a storage vessel.
- (iv) To add material to or remove material from a storage vessel, including openings necessary to equalize or balance the internal pressure of the storage vessel following changes in the level of the material in the storage vessel.

(3) Ensure that each storage vessel thief hatch is equipped, maintained and operated with the following:

- (i) A mechanism to ensure that the lid remains properly seated and sealed under normal operating conditions, including when working, standing or breathing, or when flash emissions may be generated.
- (ii) A gasket made of a suitable material based on the composition of the fluid in the storage vessel and weather conditions.

(4) Conduct an initial AVO inspection on or before February 8, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days for defects that could result in air emissions. Defects include the following:

- (i) A visible crack, hole or gap in the cover.
- (ii) A visible crack, hole or gap between the cover and the separator wall.
- (iii) A broken, cracked or otherwise damaged seal or gasket on a closure device.
- (iv) A broken or missing hatch, access cover, cap or other closure device.

(5) Inspect only those portions of the cover that extend to or above the surface and the connections on those portions of the cover, including fill ports, access hatches and gauge wells that can be opened to the atmosphere for a storage vessel that is partially buried or entirely underground.

(6) Repair a detected leak or defect as specified in § 129.127(l) (relating to fugitive emissions components).

(7) Maintain the records under § 129.130(h) (relating to recordkeeping and reporting) and submit the report under § 129.130(k)(3)(vii).

(b) *Requirements for a closed vent system.* The owner or operator shall perform the following for each closed vent system installed on a source subject to § 129.123(b)(1)(ii), § 129.125(b)(1)(i) or (c)(1)(ii) (relating to natural gas-driven diaphragm pumps) or § 129.126(b)(2) or (c)(2):

(1) Design the closed vent system to route the liquid, gas, vapor or fume emitted from the source to a control device or process that meets the applicable requirements in § 129.129.

(2) Operate the closed vent system with no detectable emissions as determined by the following:

(i) Conduct an initial AVO inspection on or before February 8, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days for defects that could result in air emissions. Defects include the following:

- (A) A visible crack, hole or gap in piping.
- (B) A loose connection.
- (C) A liquid leak.
- (D) A broken or missing cap or other closure device.

(ii) Conducting a no detectable emissions inspection as specified in subsection (d) during the facility's scheduled LDAR inspection in accordance with § 129.127(c)(2)(ii), (c)(3)(ii) or (e)(2).

(3) Repair a detected leak or defect as specified in § 129.127(l).

(4) Except as specified in subparagraph (iii), if the closed vent system contains one or more bypass devices that could be used to divert the liquid, gas, vapor or fume from routing to the control device or to the process under paragraph (1), perform one or more of the following:

(i) Install, calibrate, operate and maintain a flow indicator at the inlet to the bypass device so when the bypass device is open it does one of the following:

- (A) Sounds an alarm.
- (B) Initiates a notification by means of a remote alarm to the nearest field office.

(ii) Secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using the following procedure:

(A) Installing either of the following:

- (I) A car-seal.
- (II) A lock-and-key configuration.

(B) Visually inspecting the mechanism in clause (A) to verify that the valve is maintained in the non-diverting position on or before February 8,

2023, with monthly inspections separated by at least 15 calendar days but not more than 45 calendar days.

(C) Maintaining the records under § 129.130(i)(4).

(iii) Subparagraphs (i) and (ii) do not apply to a low leg drain, high point bleed, analyzer vent, open-ended valve or line, or safety device.

(5) Conduct an assessment that meets the requirements of subsection (c).

(6) Maintain the records under § 129.130(i) and submit the reports under § 129.130(k)(3)(viii).

(c) *Requirements for closed vent system design and capacity assessment.* An owner or operator that installs a closed vent system under subsection (b) shall perform a design and capacity assessment which must include the following:

(1) Be prepared under the supervision of an in-house engineer or qualified professional engineer.

(2) Verify the following:

(i) That the closed vent system is of sufficient design and capacity to ensure that the emissions from the emission source are routed to the control device or process.

(ii) That the control device or process is of sufficient design and capacity to accommodate the emissions from the emission source.

(3) Be certified, signed and dated by the engineer supervising the assessment, including the statement: “I certify that the closed vent design and capacity assessment was prepared under my supervision. I further certify that the assessment was conducted and this report was prepared under the requirements of 25 Pa. Code § 129.128(c). Based on my professional knowledge and experience, and inquiry of personnel involved in the assessment, the certification submitted herein is true, accurate, and complete. I am aware that there are penalties for knowingly submitting false information.”

(d) *No detectable emissions procedures.* The owner or operator shall conduct the no detectable emissions inspection required under subsection (b)(2)(ii) by performing one of the following:

(1) Use OGI equipment that meets § 129.127(h).

(2) Use a gas leak detection instrument that meets § 129.127(i). The owner or operator may adjust the gas leak detection instrument readings as specified in § 129.127(k).

(3) Use another leak detection method approved by the Department.

(4) Determine if a potential leak interface operates with no detectable emissions, if the gas leak detection instrument reading is not a leak as defined in § 129.122(a) (relating to definitions, acronyms and EPA methods).

#### Authority

The provisions of this § 129.128 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

**Source**

The provisions of this § 129.128 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

**Cross References**

This section cited in 25 Pa. Code § 129.121 (relating to general provisions and applicability); 25 Pa. Code § 129.122 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.123 (relating to storage vessels); 25 Pa. Code § 129.125 (relating to natural gas-driven diaphragm pumps); 25 Pa. Code § 129.126 (relating to compressors); 25 Pa. Code § 129.127 (relating to fugitive emissions components); 25 Pa. Code § 129.128 (relating to covers and closed vent systems); and 25 Pa. Code § 129.130 (relating to recordkeeping and reporting).

**§ 129.129. Control devices.**

(a) *Applicability.* This section applies to the owner or operator of each control device that receives a liquid, gas, vapor or fume from a source subject to § 129.123(b)(1)(iii), § 129.125(b)(1)(ii) or (c)(1), or § 129.126(b)(2) or (c)(2) (relating to storage vessels; natural gas-driven diaphragm pumps; and compressors).

(1) The owner or operator shall perform the following:

(i) Operate each control device whenever a liquid, gas, vapor or fume is routed to the control device.

(ii) Maintain the records under § 129.130(j) (relating to recordkeeping and reporting) and submit the reports under § 129.130(k)(3)(ix).

(2) The owner or operator may route the liquid, gas, vapor or fume from more than one source subject to § 129.123(b)(1)(iii), § 129.125(b)(1)(ii) or (c)(1), or § 129.126(b)(2) or (c)(2) to a control device installed and operated under this section.

(b) *General requirements for a control device.* The owner or operator of a control device subject to this section shall install and operate one or more control devices listed in subsections (c)—(i). The owner or operator shall meet the following requirements, as applicable:

(1) Operate the control device following the manufacturer's written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing VOC emissions.

(2) Ensure that the control device is maintained in a leak-free condition by conducting a physical integrity check according to the manufacturer's instructions, with monthly inspections separated by at least 15 calendar days but not more than 45 calendar days.

(3) Maintain a pilot flame while operating the control device and monitor the pilot flame by installing a heat sensing CPMS as specified under subsection (m)(3). If the heat sensing CPMS indicates the absence of the pilot flame or if the control device is smoking or shows other signs of improper equipment operation, ensure the control device is returned to proper operation by performing the following procedures:



- (i) Checking the air vent for obstruction and clearing an observed obstruction.
- (ii) Checking for liquid reaching the combustor.
- (4) Operate the control device with no visible emissions, except for periods not to exceed a total of 1 minute during a 15-minute period as determined by conducting a visible emissions test according to Section 11 of EPA Method 22.
  - (i) Each monthly visible emissions test shall be separated by at least 15 calendar days but not more than 45 calendar days.
  - (ii) The observation period for the test in subparagraph (i) shall be 15 minutes.
- (5) Repair the control device if it fails the visible emissions test of paragraph (4) as specified in subparagraph (i) or subparagraph (ii) and return the control device to compliant operation.
  - (i) The manufacturer's repair instructions, if available.
  - (ii) The best combustion engineering practice applicable to the control device if the manufacturer's repair instructions are not available.
- (6) Ensure the control device passes the EPA Method 22 visual emissions test described in paragraph (4) following return to operation from a maintenance or repair activity.
- (7) Record the inspection, repair and maintenance activities for the control device in a maintenance and repair log.
- (c) *Compliance requirements for a manufacturer-tested combustion device.* The owner or operator of a control device subject to this section that installs a control device tested under 40 CFR 60.5413a(d) (relating to what are the performance testing procedures for control devices used to demonstrate compliance at my centrifugal compressor and storage vessel affected facilities?) shall meet subsection (b)(1)—(7) and the following:
  - (1) Maintain the inlet gas flow rate at less than or equal to the maximum flow rate specified by the manufacturer. This is confirmed by one of the following:
    - (i) Installing, operating and maintaining a flow CPMS that meets subsection (m)(1) and (2)(i) to measure gas flow rate at the inlet to the control device.
    - (ii) Conducting a periodic performance test under subsection (k) instead of installing a flow CPMS to demonstrate that the mass content of VOC in the gases vented to the device is reduced by 95.0% by weight or greater.
  - (2) Submit an electronic copy of the performance test results to the EPA as required by 40 CFR 60.5413a(d) in accordance with 40 CFR 60.5413a(e)(6).
- (d) *Compliance requirements for an enclosed combustion device.* The owner or operator of a control device subject to this section that installs an enclosed combustion device, such as a thermal vapor incinerator, catalytic vapor incinerator, boiler or process heater, shall meet subsection (b)(1)—(7) and the following:

(1) Ensure the enclosed combustion control device is designed and operated to meet one of the following performance requirements:

(i) To reduce the mass content of VOC in the gases vented to the device by 95.0% by weight or greater, as determined under subsection (k).

(ii) To reduce the concentration of TOC in the exhaust gases at the outlet to the device to a level less than or equal to 275 ppmvd as propane corrected to 3% oxygen as determined under subsection (l).

(iii) To operate at a minimum temperature of 760 °Celsius (1,400 °Fahrenheit), if it is demonstrated during the performance test conducted under subsection (k) that combustion zone temperature is an indicator of destruction efficiency.

(iv) To introduce the vent stream into the flame zone of the boiler or process heater if a boiler or process heater is used as the control device.

(2) Install, calibrate, operate and maintain a CPMS according to the manufacturer's specifications and subsection (m) to measure the values of the operating parameters appropriate to the control device as follows:

(i) For a thermal vapor incinerator that demonstrates under subsection (m)(6)(i) that combustion zone temperature is an accurate indicator of performance, a temperature CPMS that meets subsection (m)(1) and (4) with the temperature sensor installed at a location representative of the combustion zone temperature.

(ii) For a catalytic vapor incinerator, a temperature CPMS capable of monitoring temperature at two locations and that meets subsection (m)(1) and (4) with one temperature sensor installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a boiler or process heater that demonstrates under subsection (m)(6)(i) that combustion zone temperature is an accurate indicator of performance, a temperature CPMS that meets subsection (m)(1) and (4) with the temperature sensor installed at a location representative of the combustion zone temperature. The monitoring requirements do not apply if the boiler or process heater meets either of the following:

(A) Has a design heat input capacity of 44 megawatts (150 MMBtu per hour) or greater.

(B) Introduces the vent stream with the primary fuel or uses the vent stream as the primary fuel.

(iv) For a control device complying with paragraph (1)(ii), an organic concentration CPMS that meets subsection (m)(1) and (5) that measures the concentration level of organic compounds in the exhaust vent stream from the control device.

(3) Operate the control device in compliance with the operating parameter value established under subsection (m)(6).

- (4) Calculate the daily average of the monitored operating parameter for each operating day, using the valid data recorded by the monitoring system under subsection (m)(7).
- (5) Ensure that the daily average of the monitoring parameter value calculated under paragraph (4) complies with the parameter value established under paragraph (3) as specified in subsection (m)(9).
- (6) Operate the CPMS installed under paragraph (2) whenever the source is operating, except during the times specified in subsection (m)(8)(iii).
- (e) *Compliance requirements for a flare.* The owner or operator of a control device subject to this section that installs a flare designed and operated in accordance with 40 CFR 60.18(b) (relating to general control device and work practice requirements) shall meet subsection (b)(3)—(7).
- (f) *Compliance requirements for a carbon adsorption system.* The owner or operator of a control device subject to this section that installs a carbon adsorption system shall meet subsection (b)(1) and (2) and the following:
  - (1) Design and operate the carbon adsorption system to reduce the mass content of VOC in the gases vented to the device as demonstrated by one of the following:
    - (i) Determining the VOC emission reduction is 95.0% by weight or greater as specified in subsection (k).
    - (ii) Reducing the concentration of TOC in the exhaust gases at the outlet to the device to a level less than or equal to 275 ppmvd as propane corrected to 3% oxygen as determined under subsection (l).
    - (iii) Conducting a design analysis in accordance with subsection (g)(6) or subsection (h)(2) as applicable.
  - (2) Include a carbon replacement schedule in the design of the carbon adsorption system.
  - (3) Replace the carbon in the control device with fresh carbon on a regular schedule that is no longer than the carbon service life established according to the design analysis in subsection (g)(6) or subsection (h)(2) or according to the replacement schedule in paragraph (2).
  - (4) Manage the spent carbon removed from the carbon adsorption system in paragraph (3) by one of the following:
    - (i) Regenerating or reactivating the spent carbon in one of the following:
      - (A) A thermal treatment unit for which the owner or operator has been issued a permit under 40 CFR Part 270 (relating to EPA administered permit programs: the hazardous waste permit program) that implements the requirements of 40 CFR Part 264, Subpart X (relating to miscellaneous units).
      - (B) A unit equipped with operating organic air emission controls in accordance with an emissions standard for VOC under a subpart in 40 CFR Part 60 (relating to standards of performance for new stationary sources)

or 40 CFR Part 63 (relating to National emission standards for hazardous air pollutants for source categories).

(ii) Burning the spent carbon in one of the following:

(A) A hazardous waste incinerator, boiler or industrial furnace for which the owner or operator complies with the requirements of 40 CFR Part 63, Subpart EEE (relating to National emission standards for hazardous air pollutants from hazardous waste combustors) and has submitted a Notification of Compliance under 40 CFR 63.1207(j) (relating to what are the performance testing requirements?).

(B) An industrial furnace for which the owner or operator has been issued a permit under 40 CFR Part 270 that implements the requirements of 40 CFR Part 266, Subpart H (relating to hazardous waste burned in boilers and industrial furnaces).

(C) An industrial furnace designed and operated in accordance with the interim status requirements of 40 CFR Part 266, Subpart H.

(g) *Additional compliance requirements for a regenerative carbon adsorption system.* The owner or operator of a control device subject to this section that installs a regenerative carbon adsorption system shall meet subsection (f) and the following:

(1) Install, calibrate, operate and maintain a CPMS according to the manufacturer's specifications and the applicable requirements of subsection (m) to measure the values of the operating parameters appropriate to the control device as follows:

(i) For a source complying with subsection (f)(1)(i), a flow CPMS system that meets the requirements of subsection (m)(1) and (2)(ii) to measure and record the average total regeneration steam mass flow or volumetric flow during each carbon bed regeneration cycle. The owner or operator shall inspect the following:

(A) The mechanical connections for leakage with monthly inspections separated by at least 15 calendar days but not more than 45 calendar days.

(B) The components of the flow CPMS for physical and operational integrity if the flow CPMS is not equipped with a redundant flow sensor with quarterly inspections separated by at least 60 calendar days but not more than 120 calendar days.

(C) The electrical connections of the flow CPMS for oxidation and galvanic corrosion if the flow CPMS is not equipped with a redundant flow sensor with quarterly inspections separated by at least 60 calendar days but not more than 120 calendar days.

(ii) For a source complying with subsection (f)(1)(i), a temperature CPMS that meets the requirements of subsection (m)(1) and (4) to measure and record the average carbon bed temperature for the duration of the carbon bed steaming cycle and measure the actual carbon bed temperature after regeneration and within 15 minutes of completing the cooling cycle.

- (iii) For a source complying with subsection (f)(1)(ii), an organic concentration CPMS that meets subsection (m)(1) and (5) that measures the concentration level of organic compounds in the exhaust vent stream from the control device.
- (2) Operate the control device in compliance with the operating parameter value established under subsection (m)(6).
- (3) Calculate the daily average of the applicable monitored operating parameter for each operating day, using the valid data recorded by the CPMS as specified in subsection (m)(7).
- (4) Ensure that the daily average of the monitoring parameter value calculated under paragraph (3) complies with the parameter value established under paragraph (2) as specified in subsection (m)(9).
- (5) Operate the CPMS installed in paragraph (1) whenever the source is operating, except during the times specified in subsection (m)(8)(iii).
- (6) Ensure that the design analysis to meet subsection (f)(1)(iii) and (2) for the regenerable carbon adsorption system meets the following:
  - (i) Includes an analysis of the vent stream, including the following information:
    - (A) Composition.
    - (B) Constituent concentrations.
    - (C) Flowrate.
    - (D) Relative humidity.
    - (E) Temperature.
  - (ii) Establishes the following parameters for the regenerable carbon adsorption system:
    - (A) Design exhaust vent stream organic compound concentration level.
    - (B) Adsorption cycle time.
    - (C) Number and capacity of carbon beds.
    - (D) Type and working capacity of activated carbon used for the carbon beds.
    - (E) Design total regeneration stream flow over the period of each complete carbon bed regeneration cycle.
    - (F) Design carbon bed temperature after regeneration.
    - (G) Design carbon bed regeneration time.
    - (H) Design service life of the carbon.
- (h) *Additional compliance requirements for a non-regenerative carbon adsorption system.* The owner or operator of a control device subject to this section that installs a non-regenerative carbon adsorption system shall meet subsection (f) and the following:
  - (1) Monitor the design carbon replacement interval established in subsection (f)(2) or paragraph (2). The design carbon replacement interval must be based on the total carbon working capacity of the control device and the source operating schedule.

(2) Ensure that the design analysis to meet subsection (f)(1)(iii) and (2) for a non-regenerable carbon adsorption system, such as a carbon canister, meets the following:

(i) Includes an analysis of the vent stream including the following information:

- (A) Composition.
- (B) Constituent concentrations.
- (C) Flowrate.
- (D) Relative humidity.
- (E) Temperature.

(ii) Establishes the following parameters for the non-regenerable carbon adsorption system:

- (A) Design exhaust vent stream organic compound concentration level.
- (B) Capacity of the carbon bed.
- (C) Type and working capacity of activated carbon used for the carbon bed.
- (D) Design carbon replacement interval based on the total carbon working capacity of the control device and the source operating schedule.

(iii) Incorporates dual carbon canisters in case of emission breakthrough occurring in one canister.

(i) *Compliance requirements for a condenser or non-destructive control device.* The owner or operator of a control device subject to this section that installs a condenser or other non-destructive control device shall meet subsection (b)(1) and (2) and the following:

(1) Design and operate the condenser or other non-destructive control device to reduce the mass content of VOC in the gases vented to the device as demonstrated by one of the following:

- (i) Determining the VOC emissions reduction is 95.0% by weight or greater under subsection (k).
- (ii) Reducing the concentration of TOC in the exhaust gases at the outlet to the device to a level less than or equal to 275 ppmvd as propane corrected to 3% oxygen as determined under subsection (l).
- (iii) Conducting a design analysis in accordance with paragraph (7).

(2) Prepare a site-specific monitoring plan that addresses the following CPMS design, data collection, and quality assurance and quality control elements:

(i) The performance criteria and design specifications for the CPMS equipment, including the following:

- (A) The location of the sampling interface that allows the CPMS to provide representative measurements. For a temperature CPMS that meets the requirements of subsection (m)(1) and (4) the sensor must be installed in the exhaust vent stream as detailed in the procedures of the site-specific monitoring plan.

(B) Equipment performance checks, system accuracy audits or other audit procedures.

(I) Performance evaluations of each CPMS shall be conducted in accordance with the site-specific monitoring plan.

(II) CPMS performance checks, system accuracy audits or other audit procedures specified in the site-specific monitoring plan shall be conducted at least once every 12 months.

(ii) Ongoing operation and maintenance procedures in accordance with 40 CFR 60.13(b) (relating to monitoring requirements).

(iii) Ongoing reporting and recordkeeping procedures in accordance with 40 CFR 60.7(c), (d) and (f) (relating to notification and record keeping).

(3) Install, calibrate, operate and maintain a CPMS according to the site-specific monitoring plan described in paragraph (2) and the applicable requirements of subsection (m) to measure the values of the operating parameters appropriate to the control device as follows:

(i) For a source complying with paragraph (1)(i), a temperature CPMS that meets subsection (m)(1) and (4) to measure and record the average condenser outlet temperature.

(ii) For a source complying with paragraph (1)(ii), an organic concentration CPMS that meets subsection (m)(1) and (5) that measures the concentration level of organic compounds in the exhaust vent stream from the control device.

(4) Operate the control device in compliance with the operating parameter value established under subsection (m)(6).

(5) Calculate the daily average of the applicable monitored operating parameter for each operating day, using the valid data recorded by the CPMS as follows:

(i) For a source complying with paragraph (1)(i), use the calculated daily average condenser outlet temperature as specified in subsection (m)(7) and the condenser performance curve established under subsection (m)(6)(iii) to determine the condenser efficiency for the current operating day. Calculate the 365-day rolling average TOC emission reduction, as appropriate, from the condenser efficiencies as follows:

(A) If there is less than 120 days of data for determining average TOC emission reduction, calculate the average TOC emission reduction for the first 120 days of operation. Compliance is demonstrated with paragraph (1)(i) if the 120-day average TOC emission reduction is equal to or greater than 95.0% by weight.

(B) After 120 days and no more than 364 days of operation, calculate the average TOC emission reduction as the TOC emission reduction averaged over the number of days of operation for which there is data. Compliance is demonstrated with paragraph (1)(i) if the average TOC emission reduction is equal to or greater than 95.0% by weight.



- (C) If there is data for 365 days or more of operation, compliance is demonstrated with the TOC emission reduction if the rolling 365-day average TOC emission reduction calculated in subparagraph (i) is equal to or greater than 95.0% by weight.
- (ii) For a source complying with paragraph (1)(ii), calculate the daily average concentration for each operating day, using the data recorded by the CPMS as specified in subsection (m)(7). Compliance is demonstrated with paragraph (1)(ii) if the daily average concentration is less than the operating parameter under paragraph (4) as specified in subsection (m)(9).
- (6) Operate the CPMS installed in accordance with paragraph (3) whenever the source is operating, except during the times specified in subsection (m)(8)(iii).
- (7) Ensure that the design analysis to meet paragraph (1)(iii) for a condenser or other non-destructive control device meets the following:
  - (i) Includes an analysis of the vent stream including the following information:
    - (A) Composition.
    - (B) Constituent concentrations.
    - (C) Flowrate.
    - (D) Relative humidity.
    - (E) Temperature.
  - (ii) Establishes the following parameters for the condenser or other non-destructive control device:
    - (A) Design outlet organic compound concentration level.
    - (B) Design average temperature of the condenser exhaust vent stream.
    - (C) Design average temperatures of the coolant fluid at the condenser inlet and outlet.
- (j) *General performance test requirements.* The owner or operator shall meet the following performance test requirements:
  - (1) The owner or operator shall do the following, as applicable:
    - (i) Except as specified in subparagraph (iii), conduct an initial performance test within 180 days after installation of a control device.
    - (ii) Except as specified in subparagraph (iii), conduct a performance test of an existing control device on or before August 7, 2023, unless the owner or operator of the control device is complying with an established performance test interval, in which case the current schedule should be maintained.
    - (iii) The performance test in subparagraph (i) or subparagraph (ii) is not required if the owner or operator meets one or more of the following:
      - (A) Installs a manufacturer-tested combustion device that meets the requirements of subsection (c).
      - (B) Installs a flare that meets the requirements of subsection (e).
      - (C) Installs a boiler or process heater with a design heat input capacity of 44 megawatts (150 MMBtu per hour) or greater.



- (D) Installs a boiler or process heater which introduces the vent stream with the primary fuel or uses the vent stream as the primary fuel.
- (E) Installs a boiler or process heater which burns hazardous waste that meets one or more of the following:
  - (I) For which an operating permit was issued under 40 CFR Part 270 (relating to EPA administered permit programs: the hazardous waste permit program) and complies with the requirements of 40 CFR Part 266, Subpart H.
  - (II) For which compliance with the interim status requirements of 40 CFR Part 266, Subpart H has been certified.
  - (III) Which complies with 40 CFR Part 63, Subpart EEE and for which a Notification of Compliance under 40 CFR 63.1207(j) was submitted to the Department.
  - (IV) Which complies with 40 CFR Part 63, Subpart EEE and for which a Notification of Compliance under 40 CFR 63.1207(j) will be submitted to the Department within 90 days of the completion of the initial performance test report unless a written request for an extension is submitted to the Department.
- (F) Installs a hazardous waste incinerator which meets the requirements of 40 CFR Part 63, Subpart EEE and for which the Notification of Compliance under 40 CFR 63.1207(j):
  - (I) Was submitted to the Department.
  - (II) Will be submitted to the Department within 90 days of the completion of the initial performance test report unless a written request for an extension is submitted to the Department.
- (G) Requests the performance test be waived under 40 CFR 60.8(b) (relating to performance tests).
- (2) Conduct a periodic performance test no more than 60 months after the most recent performance test unless the owner or operator:
  - (i) Monitors the inlet gas flow for a manufacturer-tested combustion device under subsection (c)(1)(i).
  - (ii) Installs a control device exempt from testing requirements under paragraph (1)(iii)(A)—(G).
  - (iii) Establishes a correlation between firebox or combustion chamber temperature and the VOC performance level for an enclosed combustion device under subsection (d)(2)(iii).
- (3) Conduct a performance test when establishing a new operating limit.
- (k) *Performance test method for demonstrating compliance with a control device weight-percent VOC emission reduction requirement.* Demonstrate compliance with the control device weight-percent VOC emission reduction requirements of subsections (c)(1)(ii), (d)(1)(i), (f)(1)(i) and (i)(1)(i) by meeting subsection (j) and the following:
  - (1) Conducting a minimum of three test runs of at least 1-hour duration.

(2) Using EPA Method 1 or EPA Method 1A, as appropriate, to select the sampling sites which must be located at the inlet of the first control device and at the outlet of the final control device. References to particulate mentioned in EPA Method 1 or EPA Method 1A do not apply to this paragraph.

(3) Using EPA Method 2, EPA Method 2A, EPA Method 2C or EPA Method 2D, as appropriate, to determine the gas volumetric flowrate.

(4) Using EPA Method 25A to determine compliance with the control device percent VOC emission reduction performance requirement using the following procedure:

(i) Convert the EPA Method 25A results to a dry basis, using EPA Method 4.

(ii) Compute the mass rate of TOC using the following equations:

$$E_i = K_2 C_i M_p Q_i$$

$$E_o = K_2 C_o M_p Q_o$$

Where:

$E_i$  = Mass rate of TOC at the inlet of the control device on a dry basis, in kilograms per hour (pounds per hour).

$E_o$  = Mass rate of TOC at the outlet of the control device on a dry basis, in kilograms per hour (pounds per hour).

$K_2$  = Constant,  $2.494 \times 10^{-6}$  (ppm) (mole per standard cubic meter) (kilogram per gram) (minute per hour) where standard temperature (mole per standard cubic meter) is 20 °Celsius.

Or

$K_2$  = Constant,  $1.554 \times 10^{-7}$  (ppm) (lb-mole per standard cubic feet) (minute per hour), where standard temperature (lb-mole per standard cubic feet) is 68 °Fahrenheit.

$C_i$  = Concentration of TOC, as propane, of the gas stream as measured by EPA Method 25A at the inlet of the control device, ppmvd.

$C_o$  = Concentration of TOC, as propane, of the gas stream as measured by EPA Method 25A at the outlet of the control device, ppmvd.

$M_p$  = Molecular weight of propane, 44.1 gram per mole (pounds per lb-mole).

$Q_i$  = Flowrate of gas stream at the inlet of the control device in dry standard cubic meter per minute (dry standard cubic feet per minute).

$Q_o$  = Flowrate of gas stream at the outlet of the control device in dry standard cubic meter per minute (dry standard cubic feet per minute).

(iii) Calculate the percent reduction in TOC as follows:

$$R_{cd} = \frac{E_i - E_o}{E_i} * 100\%$$

Where:

$R_{cd}$  = Control efficiency of control device, percent.

$E_i$  = Mass rate of TOC at the inlet to the control device as calculated in subparagraph (ii), kilograms per hour (pounds per hour).

$E_o$  = Mass rate of TOC at the outlet of the control device as calculated in subparagraph (ii), kilograms per hour (pounds per hour).

(iv) If the vent stream entering a boiler or process heater with a performance testing requirement is introduced with the combustion air or as a secondary fuel, the owner or operator shall:

(A) Calculate  $E_i$  in subparagraph (ii) by using the TOC concentration in all combusted vent streams, primary fuels and secondary fuels as  $C_i$ .

(B) Calculate  $E_o$  in subparagraph (ii) by using the TOC concentration exiting the device as  $C_o$ .

(C) Determine the weight-percent reduction of TOC across the device in accordance with subparagraph (iii).

(5) The weight-percent reduction of TOC across the control device represents the VOC weight-percent reduction for demonstration of compliance with subsections (c)(1)(ii), (d)(1)(i), (f)(1)(i) and (i)(1)(i).

(1) *Performance test method for demonstrating compliance with an outlet concentration requirement.* Demonstrate compliance with the TOC concentration requirement of subsections (d)(1)(ii), (f)(1)(ii) and (i)(1)(ii) by meeting subsection (j) and the following:

(1) Conducting a minimum of three test runs of at least 1-hour duration.

(2) Using EPA Method 1 or EPA Method 1A, as appropriate, to select the sampling sites which must be located at the outlet of the control device. References to particulate mentioned in EPA Method 1 or EPA Method 1A do not apply to this paragraph.

(3) Using EPA Method 2, EPA Method 2A, EPA Method 2C, or EPA Method 2D, as appropriate, to determine the gas volumetric flowrate.

(4) Using EPA Method 25A to determine compliance with the TOC concentration requirement using the following procedures:

(i) Measure the TOC concentration, as propane.

(ii) For a control device subject to subsection (f) or subsection (i), the results of EPA Method 25A in subparagraph (i) may be adjusted by subtracting the concentration of methane and ethane measured using EPA Method 18 taking either:

(A) An integrated sample.

(B) A minimum of four grab samples per hour using the following procedures:

(I) Taking the samples at approximately equal intervals in time, such as 15-minute intervals during the run.

(II) Taking the samples during the same time as the EPA Method 25A sample.

(III) Determining the average methane and ethane concentration per run.

(iii) The TOC concentration must be adjusted to a dry basis, using EPA Method 4.

(iv) The TOC concentration must be corrected to 3% oxygen as follows:

(A) The oxygen concentration must be determined using the emission rate correction factor for excess air, integrated sampling and analysis procedures from one of the following methods:

- (I) EPA Method 3A.
- (II) EPA Method 3B.
- (III) ASTM D6522-00.
- (IV) ANSI/ASME PTC 19.10-1981, Part 10.

(B) The samples for clause (A) must be taken during the same time that the samples are taken for determining the TOC concentration.

(C) The TOC concentration for percent oxygen must be corrected as follows:

$$C_c = C_m \left( \frac{17.9}{20.9 - \%O_{2m}} \right)$$

Where:

$C_c$  = TOC concentration, as propane, corrected to 3% oxygen, ppmvd.

$C_m$  = TOC concentration, as propane, ppmvd.

$\%O_{2m}$  = Concentration of oxygen, percent by volume as measured, dry.

(m) *Continuous parameter monitoring system requirements.* The owner or operator of a source subject to § 129.121(a) (relating to general provisions and applicability) and controlled by a device listed in subsections (c)—(i) that is required to install a CPMS shall:

(1) Ensure the CPMS measures the applicable parameter at least once every hour and continuously records either:

- (i) The measured operating parameter value.
- (ii) The block average operating parameter value for each 1-hour period calculated using the following procedures:

(A) The block average from all measured data values during each period.

(B) If values are measured more frequently than once per minute, a single value for each minute may be used instead of all measured values.

(2) Ensure the flow CPMS has either:

- (i) An accuracy of  $\pm 2\%$  or better at the maximum expected flow rate.
- (ii) A measurement sensitivity of 5% of the flow rate or 10 standard cubic feet per minute, whichever is greater.

(3) Ensure the heat-sensing CPMS indicates the presence of the pilot flame while emissions are routed to the control device. Heat-sensing CPMS are exempt from the calibration, quality assurance and quality control requirements in this section.

(4) Ensure the temperature CPMS has a minimum accuracy of  $\pm 1\%$  of the temperature being monitored in  $^{\circ}\text{Celsius}$  ( $\pm 1.8\%$  in  $^{\circ}\text{Fahrenheit}$ ) or  $\pm 2.5^{\circ}\text{Celsius}$  ( $\pm 4.5^{\circ}\text{Fahrenheit}$ ), whichever value is greater.

(5) Ensure the organic concentration CPMS meets the requirements of Performance Specification 8 or 9 of 40 CFR Part 60, Appendix B (relating to performance specifications).

(6) Establish the operating parameter value to define the conditions at which the control device must be operated to continuously achieve the applicable performance requirement as follows:

(i) For a parameter value established while conducting a performance test under subsection (k) or subsection (l):

(A) Base each minimum operating parameter value on the value established while conducting the performance test and supplemented, as necessary, by the design analysis of subsection (g)(6), subsection (h)(2) or subsection (i)(7), the manufacturer's recommendations, or both.

(B) Base each maximum operating parameter value on the value established while conducting the performance test and supplemented, as necessary, by the design analysis of subsection (g)(6), subsection (h)(2) or subsection (i)(7), the manufacturer's recommendations, or both.

(ii) Except as specified in clause (C), for a parameter value established using a design analysis in subsection (g)(6), subsection (h)(2) or subsection (i)(7):

(A) Base each minimum operating parameter value on the value established in the design analysis and supplemented, as necessary, by the manufacturer's recommendations.

(B) Base each maximum operating parameter value on the value established in the design analysis and supplemented, as necessary, by the manufacturer's recommendations.

(C) If the owner or operator and the Department do not agree on a demonstration of control device performance using a design analysis as specified in clause (A) or (B), then the owner or operator shall perform a performance test under subsection (k) or subsection (l) to resolve the disagreement. The Department may choose to have an authorized representative observe the performance test.

(iii) For a condenser, establish a condenser performance curve showing the relationship between condenser outlet temperature and condenser control efficiency that demonstrates the condenser complies with the applicable performance requirements in subsection (i)(1) as follows:

(A) Based on the value measured while conducting a performance test under subsection (k) or subsection (l) and supplemented, as necessary, by a condenser design analysis performed under subsection (i)(7), the manufacturer's recommendations, or both.

(B) Based on the value from a condenser design analysis performed under subsection (i)(7) supplemented, as necessary, by the manufacturer's recommendations.

(7) Except for the CPMS in paragraphs (2) and (3), calculate the daily average for each monitored parameter for each operating day using the data recorded by the CPMS. Valid data points must be available for 75% of the operating hours in an operating day to compute the daily average where the operating day is:

(i) A 24-hour period if the control device operation is continuous.

(ii) The total number of hours of control device operation per 24-hour period.

(8) Except as specified in subparagraph (iii), do both of the following:

(i) Ensure the data recorded by the CPMS is used to assess the operation of the control device and associated control system.

(ii) Report the failure to collect the required data in paragraph (1) as a deviation of the monitoring requirements.

(iii) The requirements of subparagraphs (i) and (ii) do not apply during:

(A) A monitoring system malfunction.

(B) A repair associated with a monitoring system malfunction.

(C) A required monitoring system quality assurance or quality control activity.

(9) Determine compliance with the established parameter value by comparing the calculated daily average to the established operating parameter value as follows:

(i) For a minimum operating parameter established in paragraph (6)(i)(A) or paragraph (6)(ii)(A), the control device is in compliance if the calculated value is equal to or greater than the established value.

(ii) For a maximum operating parameter established in paragraph (6)(i)(B) or paragraph (6)(ii)(B), the control device is in compliance if the calculated value is less than or equal to the established value.

#### Authority

The provisions of this § 129.129 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.129 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

#### Cross References

This section cited in 25 Pa. Code § 129.121 (relating to general provisions and applicability); 25 Pa. Code § 129.122 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.123 (relating to storage vessels); 25 Pa. Code § 129.125 (relating to natural gas-driven diaphragm pumps); 25 Pa. Code § 129.126 (relating to compressors); 25 Pa. Code § 129.127 (relating to fugitive emis-

sions components); 25 Pa. Code § 129.128 (relating to covers and closed vent systems); and 25 Pa. Code § 129.130 (relating to recordkeeping and reporting).

### § 129.130. Recordkeeping and reporting.

(a) *Recordkeeping.* The owner or operator of a source subject to §§ 129.121—129.129 shall maintain the applicable records onsite or at the nearest local field office for 5 years. The records shall be made available to the Department upon request.

(b) *Storage vessels.* The records for each storage vessel must include the following, as applicable:

(1) The identification and location of each storage vessel subject to § 129.123 (relating to storage vessels). The location of the storage vessel shall be in latitude and longitude coordinates in decimal degrees to an accuracy and precision of 5 decimals of a degree using the North American Datum of 1983.

(2) Each deviation when the storage vessel was not operated in compliance with the requirements specified in § 129.123.

(3) The identity of each storage vessel removed from service under § 129.123(e) and the date on which it was removed from service.

(4) The identity of each storage vessel returned to service under § 129.123(f) and the date on which it was returned to service.

(5) The identity of each storage vessel and the VOC potential to emit calculation under § 129.123(a)(2).

(6) The identity of each storage vessel and the actual VOC emission calculation under § 129.123(c)(2)(i) including the following information:

(i) The date of each monthly calculation performed under § 129.123(c)(2)(i).

(ii) The calculation determining the actual VOC emissions each month.

(iii) The calculation demonstrating that the actual VOC emissions are less than 2.7 TPY determined as a 12-month rolling sum.

(7) The records documenting the time the skid-mounted or mobile storage vessel under § 129.123(d)(1) is located on site. If a skid-mounted or mobile storage vessel is removed from a site and either returned or replaced within 30 calendar days to serve the same or similar function, count the entire period since the original storage vessel was removed towards the number of consecutive days.

(8) The identity of each storage vessel required to reduce VOC emissions under § 129.123(b)(1) and the demonstration under § 129.123(b)(1)(iv).

(c) *Natural gas-driven continuous bleed pneumatic controllers.* The records for each natural gas-driven continuous bleed pneumatic controller must include the following, as applicable:

(1) The required compliance date, identification, location and manufacturer specifications for each natural gas-driven continuous bleed pneumatic controller subject to § 129.124(c) (relating to natural gas-driven continuous bleed pneumatic controllers).

(2) Each deviation when the natural gas-driven continuous bleed pneumatic controller was not operated in compliance with the requirements specified in § 129.124(c).

(3) If the natural gas-driven continuous bleed pneumatic controller is located at a natural gas processing plant, the documentation that the natural gas bleed rate is zero.

(4) For a natural gas-driven continuous bleed pneumatic controller under § 129.124(b), the determination based on a functional requirement for why a natural gas bleed rate greater than the applicable standard is required. A functional requirement includes one or more of the following:

- (i) Response time.
- (ii) Safety.
- (iii) Positive actuation.

(d) *Natural gas-driven diaphragm pumps.* The records for each natural gas-driven diaphragm pump must include the following, as applicable:

(1) The required compliance date, location and manufacturer specifications for each natural gas-driven diaphragm pump subject to § 129.125 (relating to natural gas-driven diaphragm pumps).

(2) Each deviation when the natural gas-driven diaphragm pump was not operated in compliance with the requirements specified in § 129.125.

(3) For a natural gas-driven diaphragm pump under § 129.125(d), the records of the days of operation each calendar year. Any period of operation during a calendar day counts toward the 90-calendar-day threshold.

(4) For a natural gas-driven diaphragm pump under § 129.125(c)(1), maintain the following records:

- (i) The records under subsection (j) for the control device type.
- (ii) One of the following:
  - (A) The results of a performance test under § 129.129(k) or (l) (relating to control devices).
  - (B) A design evaluation indicating the percentage of VOC emissions reduction the control device is designed to achieve.
  - (C) The manufacturer's specifications indicating the percentage of VOC emissions reduction the control device is designed to achieve.

(5) For a well site with no available control device or process under § 129.125(c)(2), maintain a copy of the certification submitted under subsection (k)(3)(iii)(B)(II).

(6) The engineering assessment substantiating a claim under § 129.125(c)(3), including the certification under § 129.125(c)(3)(ii)(C).



(7) For a natural gas-driven diaphragm pump required to reduce VOC emissions under § 129.125(b)(1), the demonstration under § 129.125(b)(1)(iii).

(e) *Reciprocating compressors*. The records for each reciprocating compressor must include the following, as applicable:

(1) For a reciprocating compressor under § 129.126(b)(1)(i) (relating to compressors), the following records:

- (i) The cumulative number of hours of operation.
- (ii) The date and time of each rod packing replacement.

(2) For a reciprocating compressor under § 129.126(b)(1)(ii), the following records:

- (i) The number of months since the previous replacement of the rod packing.
- (ii) The date of each rod packing replacement.

(3) For a reciprocating compressor under § 129.126(b)(2), the following records:

- (i) A statement that emissions from the rod packing are being routed to a control device or a process through a closed vent system under negative pressure.
- (ii) The date of installation of a rod packing emissions collection system and closed vent system as specified in § 129.126(b)(2).

(4) Each deviation when the reciprocating compressor was not operated in compliance with § 129.126(b).

(f) *Centrifugal compressors*. The records for each centrifugal compressor must include the following, as applicable:

(1) An identification of each existing centrifugal compressor using a wet seal system subject to § 129.126(c).

(2) Each deviation when the centrifugal compressor was not operated in compliance with § 129.126(c).

(3) For a centrifugal compressor required to reduce VOC emissions under § 129.126(c)(1), the demonstration under § 129.126(c)(3).

(g) *Fugitive emissions components*. The records for each fugitive emissions component must include the following, as applicable:

(1) For an oil well site subject to § 129.127(c)(1)(ii) (relating to fugitive emissions components):

- (i) The location of each well and its United States Well ID Number.
- (ii) The analysis documenting a GOR of less than 300 standard cubic feet of gas per barrel of oil produced, conducted using generally accepted methods. The analysis must be signed by and include a certification by the responsible official stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

- (2) For each well site, the average production calculations required under § 129.127(b)(1) and § 129.127(c)(4).
- (3) For a well site subject to § 129.127(c)(2) or (c)(3), a natural gas gathering and boosting station or a natural gas processing plant:
  - (i) The fugitive emissions monitoring plan under § 129.127(g).
  - (ii) The records of each monitoring survey conducted under § 129.127(c)(2)(ii), (c)(3)(ii) or (e)(2). The monitoring survey must include the following information:
    - (A) The facility name and location.
    - (B) The date, start time and end time of the survey.
    - (C) The name of the equipment operator performing the survey.
    - (D) The monitoring instrument used.
    - (E) The ambient temperature, sky conditions and maximum wind speed at the time of the survey.
    - (F) Each deviation from the monitoring plan or a statement that there were none.
    - (G) Documentation of each fugitive emission including:
      - (I) The identification of each component from which fugitive emissions were detected.
      - (II) The instrument reading of each fugitive emissions component that meets the definition of a leak under § 129.122(a) (relating to definitions, acronyms and EPA methods).
      - (III) The repair methods applied in each attempt to repair the component.
      - (IV) The tagging or digital photographing of each component not repaired during the monitoring survey in which the fugitive emissions were discovered.
      - (V) The reason a component was placed on delay of repair.
      - (VI) The date of successful repair of the component.
      - (VII) If repair of the component was not completed during the monitoring survey in which the fugitive emissions were discovered, the information on the instrumentation or the method used to resurvey the component after repair.
- (h) *Covers*. The records for each cover include the results of each cover inspection under § 129.128(a) (relating to covers and closed vent systems).
  - (i) *Closed vent systems*. The records for each closed vent system must include the following, as applicable:
    - (1) The results of each closed vent system inspection under § 129.128(b)(2).
    - (2) For the no detectable emissions inspections of § 129.128(d), a record of the monitoring survey as specified under subsection (g)(3)(ii).
    - (3) The engineering assessment under § 129.128(c), including the certification under § 129.128(c)(3).

- (4) If the closed vent system includes a bypass device subject to § 129.128(b)(4), a record of:
  - (i) Each time the alarm is activated.
  - (ii) Each time the key is checked out, as applicable.
  - (iii) Each inspection required under § 129.128(b)(4)(ii)(B).
- (j) *Control devices.* The records for each control device must include the following, as applicable:
  - (1) Make, model and serial number of the purchased device.
  - (2) Date of purchase.
  - (3) Copy of purchase order.
  - (4) Location of the control device in latitude and longitude coordinates in decimal degrees to an accuracy and precision of 5 decimals of a degree using the North American Datum of 1983.
  - (5) For the general requirements under § 129.129(b):
    - (i) The manufacturer's written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions under § 129.129(b)(1).
    - (ii) The results of each monthly physical integrity check performed under § 129.129(b)(2).
    - (iii) The CPMS data which indicates the presence of a pilot flame during the device's operation under § 129.129(b)(3).
    - (iv) The results of the visible emissions test under § 129.129(b)(4) using Figure 22-1 in EPA Method 22 or a form which includes the following:
      - (A) The name of the company that owns or operates the control device.
      - (B) The location of the control device.
      - (C) The name and affiliation of the person performing the observation.
      - (D) The sky conditions at the time of observation.
      - (E) Type of control device.
      - (F) The clock start time.
      - (G) The observation period duration, in minutes and seconds.
      - (H) The accumulated emission time, in minutes and seconds.
      - (I) The clock end time.
    - (v) The results of the visible emissions test required in § 129.129(b)(6) under subparagraph (iv) following a return to operation from a maintenance or repair activity performed under § 129.129(b)(5).
    - (vi) The maintenance and repair log under § 129.129(b)(7).
  - (6) For a manufacturer-tested combustion control device under § 129.129(c), maintain the following records:
    - (i) The records specified in paragraph (5)(i)—(vi).
    - (ii) The manufacturer's specified inlet gas flow rate.
    - (iii) The CPMS results under § 129.129(c)(1)(i).

- (iv) The results of each performance test conducted under § 129.129(c)(1)(ii) as performed under § 129.129(k).
- (7) For an enclosed combustion device in § 129.129(d):
  - (i) The records specified in paragraph (5)(i)—(vi).
  - (ii) The results of each performance test conducted under § 129.129(d)(1)(i) as performed under § 129.129(k).
  - (iii) The results of each performance test conducted under § 129.129(d)(1)(ii) as performed under § 129.129(l).
  - (iv) The data and calculations for the CPMS installed, operated or maintained under § 129.129(d)(2).
- (8) For a flare in § 129.129(e), the records specified in paragraph (5)(iii)—(vi).
- (9) For a regenerative carbon adsorption device in § 129.129(g):
  - (i) The records specified in paragraph (5)(i) and (ii).
  - (ii) The results of the performance test conducted under § 129.129(f)(1)(i) as performed under § 129.129(k).
  - (iii) The results of the performance test conducted under § 129.129(f)(1)(ii) as performed under § 129.129(l).
  - (iv) The control device design analysis, if one is performed under § 129.129(g)(6).
  - (v) The data and calculations for a CPMS installed, operated or maintained under § 129.129(g)(1)—(5).
  - (vi) The schedule for carbon replacement, as determined by § 129.129(f)(2) or the design analysis requirements of § 129.129(g)(6) and records of each carbon replacement under § 129.129(f)(3) and (4).
- (10) For a non-regenerative carbon adsorption device in § 129.129(h):
  - (i) The records specified in paragraph (5)(i) and (ii).
  - (ii) The results of the performance test conducted under § 129.129(f)(1)(i) as performed under § 129.129(k).
  - (iii) The results of the performance test conducted under § 129.129(f)(1)(ii) as performed under § 129.129(l).
  - (iv) The control device design analysis, if one is performed under § 129.129(h)(2).
  - (v) The schedule for carbon replacement, as determined by § 129.129(f)(2) or the design analysis requirements of § 129.129(h)(2) and records of each carbon replacement under § 129.129(f)(3) and (4).
- (11) For a condenser or other non-destructive control device in § 129.129(i):
  - (i) The records specified in paragraph (5)(i) and (ii).
  - (ii) The results of the performance test conducted under § 129.129(i)(1)(i) as performed under § 129.129(k).
  - (iii) The results of the performance test conducted under § 129.129(i)(1)(ii) as performed under § 129.129(l).

- (iv) The control device design analysis, if one is performed under § 129.129(i)(7).
- (v) The site-specific monitoring plan under § 129.129(i)(2).
- (vi) The data and calculations for a CPMS installed, operated or maintained under § 129.129(i)(3)—(5).
- (k) *Reporting.* The owner or operator of a source subject to § 129.121(a) (relating to general provisions and applicability) shall do the following:
  - (1) Submit an initial annual report to the Air Program Manager of the appropriate Department Regional Office by December 10, 2023, and annually thereafter on or before June 1.
    - (i) The responsible official must sign, date and certify compliance and include the certification in the initial report and each subsequent annual report.
    - (ii) The due date of the initial report may be extended with the written approval of the Air Program Manager of the appropriate Department Regional Office.
  - (2) Submit the reports under paragraph (3) in a manner prescribed by the Department.
  - (3) Submit the information specified in subparagraphs (i)—(ix) for each report as applicable:
    - (i) *Storage vessels.* The report for each storage vessel must include the information specified in subsection (b)(1)—(4) for the reporting period, as applicable.
    - (ii) *Natural gas-driven continuous bleed pneumatic controllers.* The initial report for each natural gas-driven continuous bleed pneumatic controller must include the information specified in subsection (c), as applicable. Subsequent reports must include the following:
      - (A) The information specified in subsection (c)(1) and (2) for each natural gas-driven continuous bleed pneumatic controller.
      - (B) The information specified in subsection (c)(3) and (4) for each natural gas-driven continuous bleed pneumatic controller installed during the reporting period.
    - (iii) *Natural gas-driven diaphragm pumps.* The report for each natural gas-driven diaphragm pump must include the following:
      - (A) The information specified in subsection (d)(1) and (2) for the reporting period, as applicable.
      - (B) A certification of the compliance status of each natural gas-driven diaphragm pump during the reporting period using one of the following:
        - (I) A certification that the emissions from the natural gas-driven diaphragm pump are routed to a control device or process under § 129.125(b)(1)(ii) or (c)(1). If the control device is installed during the reporting period under § 129.125(c)(2)(iii), include the information specified in subsection (d)(4).

(II) A certification under § 129.125(c)(2) that there is no control device or process available at the facility during the reporting period. This includes if a control device or process is removed from the facility during the reporting period.

(III) A certification according to § 129.125(c)(3)(ii)(C) that it is technically infeasible to capture and route emissions from:

(-a-) A natural gas-driven diaphragm pump installed during the reporting period to an existing control device or process.

(-b-) An existing natural gas-driven diaphragm pump to a control device or process installed during the reporting period.

(-c-) An existing natural gas-driven diaphragm pump to another control device or process located at the facility due to the removal of the original control device or process during the reporting period.

(iv) *Reciprocating compressors*. The report for each reciprocating compressor must include the information specified in subsection (e) for the reporting period, as applicable.

(v) *Centrifugal compressors*. The report for each centrifugal compressor must include the information specified in subsection (f) for the reporting period, as applicable.

(vi) *Fugitive emissions components*. The report for each fugitive emissions component must include the records of each monitoring survey conducted during the reporting period as specified in subsection (g)(3)(ii).

(vii) *Covers*. The report for each cover must include the information specified in subsection (h) for the reporting period, as applicable.

(viii) *Closed vent systems*. The report for each closed vent system must include the information specified in subsection (i)(1) and (2) for the reporting period, as applicable. The information specified in subsection (i)(3) is only required for the initial report or if the closed vent system was installed during the reporting period.

(ix) *Control devices*. The report for each control device must include the information specified in subsection (j), as applicable.

#### Authority

The provisions of this § 129.130 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.130 added December 9, 2022, effective December 10, 2022, 52 Pa.B. 7587.

#### Cross References

This section cited in 25 Pa. Code § 129.121 (relating to general provisions and applicability); 25 Pa. Code § 129.122 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.123 (relating to storage vessels); 25 Pa. Code § 129.124 (relating to natural gas-driven continuous bleed

pneumatic controllers); 25 Pa. Code § 129.125 (relating to natural gas-driven diaphragm pumps); 25 Pa. Code § 129.126 (relating to compressors); 25 Pa. Code § 129.127 (relating to fugitive emissions components); 25 Pa. Code § 129.128 (relating to covers and closed vent systems); and 25 Pa. Code § 129.129 (relating to control devices).

### CONTROL OF VOC EMISSIONS FROM CONVENTIONAL OIL AND NATURAL GAS SOURCES

(*Editor's Note:* Under section 6(d) of the Regulatory Review Act, §§ 129.131—129.140 took effect on the date of publication, which was December 10, 2022. See 52 Pa.B. 7635. Under section 6(d) of the Regulatory Review Act, §§ 129.131—129.140 expire on: the later of 120 days after publication, which was April 10, 2023, or final disapproval, which did not take place. Sections 129.131—129.140 are, therefore, not subject to expiration.)

#### § 129.131. General provisions and applicability.

(a) *Applicability.* Beginning December 2, 2022, this section and §§ 129.132—129.140 (relating to control of VOC emissions from conventional oil and natural gas sources) apply to an owner or operator of one or more of the following conventional oil and natural gas sources of VOC emissions installed at a conventional well site, a gathering and boosting station or a natural gas processing plant in this Commonwealth which were constructed on or before December 2, 2022:

- (1) Storage vessels at:
  - (i) A conventional well site.
  - (ii) A gathering and boosting station.
  - (iii) A natural gas processing plant.
  - (iv) The natural gas transmission and storage segment.
- (2) Natural gas-driven continuous bleed pneumatic controllers.
- (3) Natural gas-driven diaphragm pumps.
- (4) Reciprocating compressors and centrifugal compressors.
- (5) Fugitive emissions components.

(b) *Existing RACT permit.* Compliance with the requirements of this section and §§ 129.132—129.140 assures compliance with the requirements of a permit issued under §§ 129.91—129.95 (relating to stationary sources of NO<sub>x</sub> and VOCs) or §§ 129.96—129.100 (relating to additional RACT requirements for major sources of NO<sub>x</sub> and VOCs) to the owner or operator of a source subject to subsection (a) prior to December 2, 2022, to control, reduce or minimize VOC emissions from oil and natural gas sources listed in subsection (a), except to the extent the operating permit contains more stringent requirements.

#### Authority

The provisions of this § 129.131 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.131 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.

**Cross References**

This section cited in 25 Pa. Code § 129.132 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.133 (relating to storage vessels); 25 Pa. Code § 129.134 (relating to natural gas-driven continuous bleed pneumatic controllers); 25 Pa. Code § 129.135 (relating to natural gas-driven diaphragm pumps); 25 Pa. Code § 129.136 (relating to compressors); 25 Pa. Code § 129.137 (relating to fugitive emissions components); and 25 Pa. Code § 129.140 (relating to recordkeeping and reporting).

**§ 129.132. Definitions, acronyms and EPA methods.**

(a) *Definitions and acronyms.* The following words and terms, when used in this section, §§ 129.131 (relating to general provisions and applicability) and 129.133—129.140, have the following meanings, unless the context clearly indicates otherwise:

*AVO*—Audible, visual and olfactory.

*Bleed rate*—The rate in standard cubic feet per hour at which natural gas is continuously vented from a natural gas-driven continuous bleed pneumatic controller.

*Centrifugal compressor*—

(i) A machine for raising the pressure of natural gas by drawing in low-pressure natural gas and discharging significantly higher-pressure natural gas by means of mechanical rotating vanes or impellers.

(ii) The term does not include a screw compressor, sliding vane compressor or liquid ring compressor.

*Closed vent system*—A system that is not open to the atmosphere and that is composed of hard-piping, ductwork, connections and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device or back to a process.

*Condensate*—Hydrocarbon liquid separated from natural gas that condenses due to changes in the temperature or pressure, or both, and remains liquid at standard conditions.

*Connector*—

(i) A flanged fitting, screwed fitting or other joined fitting used to connect two pipes or a pipe and a piece of process equipment or that closes an opening in a pipe that could be connected to another pipe.

(ii) The term does not include a joined fitting welded completely around the circumference of the interface.

*Control device*—An enclosed combustion device, vapor recovery system or flare.

*Conventional well*—

(i) A bore hole drilled or being drilled for the purpose of or to be used for construction of a well regulated under 58 Pa.C.S. §§ 3201—3274 (relating to development) that is not an unconventional well, irrespective of technology or design.

(ii) The term includes, but is not limited to:



- (A) Wells drilled to produce oil.
- (B) Wells drilled to produce natural gas from formations other than shale formations.
- (C) Wells drilled to produce natural gas from shale formations located above the base of the Elk Group or its stratigraphic equivalent.
- (D) Wells drilled to produce natural gas from shale formations located below the base of the Elk Group where natural gas can be produced at economic flow rates or in economic volumes without the use of vertical or nonvertical well bores stimulated by hydraulic fracture treatments or multilateral well bores or other techniques to expose more of the formation to the well bore.
- (E) Irrespective of formation, wells drilled for collateral purposes, such as monitoring, geologic logging, secondary and tertiary recovery or disposal injection.

*Conventional well site*—A location with exclusively one or more conventional wells. A location with both unconventional and conventional wells is considered to be an unconventional well site.

*Custody transfer*—The transfer of natural gas after processing or treatment, or both, in the producing operation or from a storage vessel or an automatic transfer facility or other equipment, including a product loading rack, to a pipeline or another form of transportation.

*Deviation*—An instance in which the owner or operator of a source subject to this section, §§ 129.131 and 129.133—129.140 fails to meet one or more of the following:

- (i) A requirement or an obligation established in this section, § 129.131 or §§ 129.133—129.140, including an emission limit, operating limit or work practice standard.
- (ii) A term or condition that is adopted to implement an applicable requirement in this section, § 129.131 or §§ 129.133—129.140 and which is included in the operating permit for the affected source.
- (iii) An emission limit, operating limit or work practice standard in this section, § 129.131 or §§ 129.133—129.140 during startup, shutdown or malfunction, regardless of whether a failure is permitted by this section, § 129.131 or §§ 129.133—129.140.

*FID*—Flame ionization detector.

*First attempt at repair*—For purposes of § 129.137 (relating to fugitive emissions components):

- (i) An action using best practices taken to stop or reduce fugitive emissions to the atmosphere.
- (ii) The term includes:
  - (A) Tightening bonnet bolts.
  - (B) Replacing bonnet bolts.
  - (C) Tightening packing gland nuts.

- (D) Injecting lubricant into lubricated packing.

*Flare—*

- (i) A thermal oxidation system using an open flame without an enclosure.
- (ii) The term does not include a horizontally or vertically installed ignition device or pit flare used to combust otherwise vented emissions from completions.

*Flow line—*A pipeline used to transport oil or gas, or both, to processing equipment, compression equipment, storage vessel or other collection system for further handling or to a mainline pipeline.

*Fugitive emissions component—*

- (i) A piece of equipment that has the potential to emit fugitive emissions of VOC at a well site, including the following:

- (A) A valve.
- (B) A connector.
- (C) A pressure relief device.
- (D) An open-ended line.
- (E) A flange.
- (F) A compressor.
- (G) An instrument.
- (H) A meter.
- (I) A cover or closed vent system not subject to § 129.138 (relating to covers and closed vent systems).

- (J) A thief hatch or other opening on a controlled storage vessel not subject to § 129.133 (relating to storage vessels).

- (ii) The term does not include a device, such as a natural gas-driven continuous bleed pneumatic controller or a natural gas-driven diaphragm pump, that vents as part of normal operations if the gas is discharged from the device's vent.

*GOR—gas-to-oil ratio—*The ratio of the volume of gas at standard temperature and pressure that is produced from a volume of oil when depressurized to standard temperature and pressure.

*Gathering and boosting station—*

- (i) A permanent combination of one or more compressors that collects natural gas from one or more well sites and moves the natural gas at increased pressure into a gathering pipeline to the natural gas processing plant or into the pipeline.

- (ii) The term does not include the combination of one or more compressors located at a well site or located at an onshore natural gas processing plant.

*Hard-piping—*Pipe or tubing that is manufactured and properly installed using good engineering judgment and standards.

*Hydraulic fracturing*—The process of directing pressurized fluids containing a combination of water, proppant and added chemicals to penetrate tight formations, such as shale or coal formations, that subsequently require high rate, extended flowback to expel fracture fluids and solids during a completion.

*Hydraulic refracturing*—Conducting a subsequent hydraulic fracturing operation at a well that has previously undergone a hydraulic fracturing operation.

*In-house engineer*—An individual who is both of the following:

(i) Employed by the same owner or operator as the responsible official that signs the certification required under § 129.140(k) (relating to record-keeping and reporting).

(ii) Qualified by education, technical knowledge and expertise in the design and operation of a natural gas-driven diaphragm pump or closed vent system to make the technical certification required under § 129.135(c)(3)(ii) (relating to natural gas driven diaphragm pumps) or § 129.138(c)(3), or both, as applicable.

*Intermediate hydrocarbon liquid*—A naturally occurring, unrefined petroleum liquid.

*LDAR*—Leak detection and repair.

*Leak*—An emission detected using one or more of the following methods:

(i) Through audible, visual or odorous evidence during an AVO inspection.

(ii) By OGI equipment calibrated according to § 129.137(h).

(iii) With a concentration of 500 ppm or greater as methane or equivalent by a gas leak detector calibrated according to § 129.137(i).

(iv) Using an alternative leak detection method approved by the Department in § 129.137(c)(2)(ii)(C), (c)(3)(ii)(C) or (e)(2)(iii).

*Maximum average daily throughput*—The single highest daily average throughput during the 30-day potential to emit evaluation period employing generally accepted methods.

*Monitoring system malfunction*—

(i) A sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data.

(ii) The term does not include a system failure caused by poor maintenance or careless operation.

*Natural gas distribution segment*—The delivery of natural gas to the end user by a distribution company after the distribution company receives the natural gas from the natural gas transmission and storage segment.

*Natural gas-driven continuous bleed pneumatic controller*—An automated instrument used for maintaining a process condition such as liquid level, pressure, delta-pressure or temperature powered by a continuous flow of pressurized natural gas.

*Natural gas-driven diaphragm pump—*

(i) A positive displacement pump powered by pressurized natural gas that uses the reciprocating action of flexible diaphragms in conjunction with check valves to pump a fluid.

(ii) The term does not include either of the following:

(A) A pump in which a fluid is displaced by a piston driven by a diaphragm.

(B) A lean glycol circulation pump that relies on energy exchange with the rich glycol from the contactor.

*Natural gas liquids—*The hydrocarbons, such as ethane, propane, butane and pentane, that are extracted from field gas.

*Natural gas processing plant—*

(i) A processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.

(ii) The term does not include a Joule-Thompson valve, a dew point depression valve or an isolated or standalone Joule-Thompson skid.

*Natural gas transmission and storage segment—*The term includes the following:

(i) The pipelines used for the long-distance transport of natural gas, excluding processing.

(ii) The natural gas transmission stations which include the following:

(A) The land, mains, valves, meters, boosters, regulators, storage vessels, dehydrators and compressors.

(B) The driving units and appurtenances associated with the items listed in clause (A).

(C) The equipment used for transporting gas from a production plant, delivery point of purchased gas, gathering system, storage area or other wholesale source of gas to one or more distribution areas.

(iii) The aboveground storage facilities and underground storage facilities that transport and store natural gas between the natural gas processing plant and natural gas distribution segment.

*OGI—*Optical gas imaging.

*Open-ended valve or line—*A valve, except a safety relief valve, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

*Produced water—*Water that is extracted from the earth from an oil or natural gas production well or that is separated from crude oil, condensate or natural gas after extraction.

*Qualified professional engineer—*

(i) An individual who is licensed by a state as a Professional Engineer to practice one or more disciplines of engineering and who is qualified by education, technical knowledge and experience to make the required specific technical certification.

(ii) The individual making this certification must be currently licensed in this Commonwealth or another state in which the responsible official, as defined in § 121.1 (relating to definitions), is located and with which the Commonwealth offers reciprocity.

*Quality assurance or quality control activity*—An activity such as a system accuracy audit and a zero and span adjustment that ensures the proper calibration and operation of monitoring equipment.

*Reciprocating compressor*—A piece of equipment that employs linear movement of a driveshaft to increase the pressure of a process gas by positive displacement.

*Reciprocating compressor rod packing*—

(i) A series of flexible rings in machined metal cups that fit around the reciprocating compressor piston rod to create a seal limiting the amount of compressed natural gas that escapes to the atmosphere.

(ii) Another mechanism that provides the same function.

*Removed from service*—A storage vessel that has been physically isolated and disconnected from the process for a purpose other than maintenance.

*Repaired*—A piece of equipment that is adjusted or otherwise altered to eliminate a leak and is remonitored to verify that emissions from the equipment are at or below the applicable leak limitation.

*Returned to service*—A storage vessel that was removed from service which has been:

(i) Reconnected to the original source of liquids or has been used to replace another storage vessel.

(ii) Installed in another location and introduced with crude oil, condensate, intermediate hydrocarbon liquids or produced water.

*Routed to a process or route to a process*—The emissions are conveyed by means of a closed vent system to an enclosed portion of a process that is operational where the emissions are controlled in one or more of the following ways:

(i) Predominantly recycled or consumed, or both, in the same manner as a material that fulfills the same function in the process.

(ii) Transformed by chemical reaction into materials that are not regulated.

(iii) Incorporated into a product.

(iv) Recovered for beneficial use.

*Sensor*—A device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH or liquid level.

*Storage vessel*—

(i) A container used to collect crude oil, condensate, intermediate hydrocarbon liquids or produced water that is constructed primarily of non-earthen materials which provide structural support.

(ii) The term includes a container described in subparagraph (i) that is skid-mounted or permanently attached to something that is mobile which has been located at a site for 180 or more consecutive days.

(iii) The term does not include the following:

(A) A process vessel such as a surge control vessel, bottoms receiver or knockout vessel.

(B) A pressure vessel used to store a liquid or a gas and is designed to operate in excess of 204.9 kilopascals (29.7 pounds per square inch, absolute) and to not vent to the atmosphere as a result of compression of the vapor headspace during filling of the vessel.

(C) A container described in subparagraph (i) with a capacity greater than 100,000 gallons used to recycle water that has been passed through two-stage separation.

*Surface site*—A combination of one or more graded pad sites, gravel pad sites, foundations, platforms or the immediate physical location upon which equipment is physically affixed.

*TOC—total organic compounds*—The results of EPA Method 25A.

*UIC*—Underground injection control.

*UIC Class I oilfield disposal well*—A well with a UIC Class I permit that meets the definition in 40 CFR 144.6(a)(2) (relating to classification of wells) and receives eligible fluids from oil and natural gas exploration and production operations.

*UIC Class II oilfield disposal well*—A well with a UIC Class II permit where wastewater resulting from oil and natural gas production operations is injected into underground porous rock formations not productive of oil or gas and sealed above and below by unbroken, impermeable strata.

*Unconventional formation*—A geological shale formation existing below the base of the Elk Sandstone or its geologic equivalent stratigraphic interval where natural gas generally cannot be produced at economic flow rates or in economic volumes except by vertical or horizontal well bores stimulated by hydraulic fracture treatments or by using multilateral well bores or other techniques to expose more of the formation to the well bore.

*Unconventional well*—A bore hole drilled or being drilled for the purpose of or to be used for the production of natural gas from an unconventional formation.

*Unconventional well site*—A location with one or more unconventional wells.

*VRU—vapor recovery unit*—A device used to recover vapor and route it to a process, flow line or other equipment.

*Well*—A hole drilled for producing oil or natural gas or into which a fluid is injected.

- (i) The piping, casing, tubing and connected valves protruding above the earth's surface for an oil or natural gas well.
- (ii) The wellhead ends where the flow line connects to a wellhead valve.
- (iii) The term does not include other equipment at the well site except for a conveyance through which gas is vented to the atmosphere.

*Well site—*

- (i) One or more surface sites that are constructed for the drilling and subsequent operation of a conventional well or injection well.
- (ii) For purposes of the fugitive emissions standards in § 129.137, the term also means a separate tank battery surface site collecting crude oil, condensate, intermediate hydrocarbon liquids or produced water from a well not located at the well site, for example, a centralized tank battery.
- (iii) For purposes of the fugitive emissions standards in § 129.137, the term does not include:
  - (A) A UIC Class I oilfield disposal well.
  - (B) A UIC Class II oilfield disposal well and disposal facility.
  - (C) The flange immediately upstream of the custody meter assembly.
  - (D) Equipment, including fugitive emissions components, located downstream of the flange in clause (C).
- (b) *EPA methods.* The EPA methods referenced in this section and §§ 129.133—129.140 are those listed as follows, unless the context clearly indicates otherwise:

*EPA Method 1*—EPA Method 1, 40 CFR Part 60, Appendix A-1 (relating to test methods 1 through 2F), regarding sample and velocity traverses for stationary sources.

*EPA Method 1A*—EPA Method 1A, 40 CFR Part 60, Appendix A-1, regarding sample and velocity traverses for stationary sources with small stacks or ducts.

*EPA Method 2*—EPA Method 2, 40 CFR Part 60, Appendix A-1, regarding determination of stack gas velocity and volumetric flow rate (Type S pitot tube).

*EPA Method 2A*—EPA Method 2A, 40 CFR Part 60, Appendix A-1, regarding direct measurement of gas volume through pipes and small ducts.

*EPA Method 2C*—EPA Method 2C, 40 CFR Part 60, Appendix A-1, regarding determination of gas velocity and volumetric flow rate in small stacks or ducts (standard pitot tube).

*EPA Method 2D*—EPA Method 2D, 40 CFR Part 60, Appendix A-1, regarding measurement of gas volume flow rates in small pipes and ducts.

*EPA Method 3A*—EPA Method 3A, 40 CFR Part 60, Appendix A-2 (relating to test methods 2G through 3C), regarding determination of oxygen and carbon dioxide concentrations in emissions from stationary sources (instrumental analyzer procedure).

*EPA Method 3B*—EPA Method 3B, 40 CFR Part 60, Appendix A-2, regarding gas analysis for the determination of emission rate correction factor or excess air.

*EPA Method 4*—EPA Method 4, 40 CFR Part 60, Appendix A-3 (relating to test methods 4 through 5I), regarding determination of moisture content in stack gases.

*EPA Method 18*—EPA Method 18, 40 CFR Part 60, Appendix A-6 (relating to test methods 16 through 18), regarding measurement of gaseous organic compound emissions by gas chromatography.

*EPA Method 21*—EPA Method 21, 40 CFR Part 60, Appendix A-7 (relating to test methods 19 through 25E), regarding determination of volatile organic compound leaks.

*EPA Method 22*—EPA Method 22, 40 CFR Part 60, Appendix A-7, regarding visual determination of fugitive emissions from material sources and smoke emissions from flares.

*EPA Method 25A*—EPA Method 25A, 40 CFR Part 60, Appendix A-7, regarding determination of total gaseous organic concentration using a flame ionization analyzer.

#### Authority

The provisions of this § 129.132 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.132 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.

#### Cross References

This section cited in 25 Pa. Code § 129.131 (relating to general provisions and applicability); 25 Pa. Code § 129.133 (relating to storage vessels); 25 Pa. Code § 129.137 (relating to fugitive emissions components); 25 Pa. Code § 129.138 (relating to covers and closed vent systems); and 25 Pa. Code § 129.140 (relating to recordkeeping and reporting).

### § 129.133. Storage vessels.

#### (a) *Applicability.*

(1) *Potential VOC emissions.* Except as specified in subsections (c) and (d), this section applies to the owner or operator of a storage vessel subject to § 129.131(a)(1) (relating to general provisions and applicability) that has the potential to emit 2.7 TPY or greater VOC emissions.

#### (2) *Calculation of potential VOC emissions.*

(i) The potential VOC emissions in paragraph (1) must be calculated using a generally accepted model or calculation methodology, based on the



maximum average daily throughput as defined in § 129.132 (relating to definitions, acronyms and EPA methods) prior to January 31, 2023, for an existing storage vessel.

(ii) The determination of potential VOC emissions may consider requirements under a legally and practically enforceable limit established in an operating permit or plan approval approved by the Department.

(iii) Vapor from the storage vessel that is recovered and routed to a process through a VRU is not required to be included in the determination of potential VOC emissions for purposes of determining applicability, if the owner or operator meets the following:

(A) The cover requirements in § 129.138(a) (relating to covers and closed vent systems).

(B) The closed vent system requirements in § 129.138(b).

(iv) If the apparatus that recovers and routes vapor to a process is removed from operation or is operated inconsistently with § 129.138, the owner or operator shall determine the storage vessel's potential VOC emissions under this paragraph within 30 calendar days of the date of apparatus removal or inconsistent operation.

(b) *VOC emissions limitations and control requirements.* Except as specified in subsections (c) and (d), beginning December 2, 2023, the owner or operator of a storage vessel subject to this section shall reduce VOC emissions by 95.0% by weight or greater. The owner or operator shall comply with paragraph (1) or paragraph (2) as applicable.

(1) *Route the VOC emissions to a control device.* The owner or operator shall do the following:

(i) Equip the storage vessel with a cover that meets the requirements of § 129.138(a).

(ii) Connect the storage vessel to a control device or process through a closed vent system that meets the requirements of § 129.138(b).

(iii) Route the emissions from the storage vessel to a control device or a process that meets the applicable requirements of § 129.139 (relating to control devices).

(iv) Demonstrate that the VOC emissions are reduced as specified in § 129.139(k).

(2) *Equip the storage vessel with a floating roof.* The owner or operator shall install a floating roof that meets the requirements of 40 CFR 60.112b(a)(1) or (2) (relating to standard for volatile organic compounds (VOC)) and the relevant monitoring, inspection, recordkeeping and reporting requirements in 40 CFR Part 60, Subpart Kb (relating to standards of performance for volatile organic liquid storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after July 23, 1984).

(c) *Exceptions.*

- (1) The emissions limitations and control requirements in subsection (b) do not apply to the owner or operator of a storage vessel that maintains actual VOC emissions less than 2.7 TPY determined as a 12-month rolling sum. An owner or operator claiming this exception shall perform the compliance demonstration requirements under paragraph (2) and maintain the records under subsection (g), as applicable.
- (2) The owner or operator of a storage vessel claiming exception under this subsection shall perform the following:
- (i) Beginning on or before January 1, 2023, calculate the actual VOC emissions once per calendar month using a generally accepted model or calculation methodology. The monthly calculations must meet the following:
    - (A) Be separated by at least 15 calendar days but not more than 45 calendar days.
    - (B) Be based on the monthly average throughput for the previous 30 calendar days.
  - (ii) Comply with subsection (b) within 1 year of the date of the monthly calculation showing that actual VOC emissions from the storage vessel have increased to 2.7 TPY VOC or greater.
- (d) *Exemptions.* The emissions limitations and control requirements in subsection (b) do not apply to the owner or operator of a storage vessel that meets one or more of the following:
- (1) Is skid-mounted or permanently attached to something that is mobile for which records are available to document that it has been located at a site for less than 180 consecutive days. An owner or operator claiming this exemption shall maintain the records under subsection (g), as applicable.
  - (2) Is used in the natural gas distribution segment.
  - (3) Is controlled under 40 CFR Part 60, Subpart Kb or 40 CFR Part 63, Subpart G, Subpart CC, Subpart HH or Subpart WW.
- (e) *Requirements for a storage vessel removed from service.* A storage vessel subject to this section that is removed from service is not an affected source for the period that it is removed from service if the owner or operator performs the following:
- (1) Completely empties and degasses the storage vessel so that the storage vessel no longer contains crude oil, condensate, produced water or intermediate hydrocarbon liquids. A storage vessel where liquid is left on walls, as bottom clingage or in pools due to floor irregularity is considered to be completely empty.
  - (2) Submits a notification in the next annual report required under § 129.140(k)(1) (relating to recordkeeping and reporting) identifying each storage vessel removed from service during the reporting period and the date of its removal from service.
- (f) *Requirements for a storage vessel returned to service.* The owner or operator of a storage vessel identified in subsection (e) that is returned to service

shall submit a notification in the next annual report required under § 129.140(k)(1) identifying each storage vessel that has been returned to service during the reporting period and the date of its return to service.

(g) *Recordkeeping and reporting requirements.* The owner or operator of a storage vessel subject to this section shall maintain the records under § 129.140(b) and submit the reports under § 129.140(k)(3)(i).

#### Authority

The provisions of this § 129.133 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.133 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.

#### Cross References

This section cited in 25 Pa. Code § 129.131 (relating to general provisions and applicability); 25 Pa. Code § 129.132 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.137 (relating to fugitive emissions components); 25 Pa. Code § 129.138 (relating to covers and closed vent systems); 25 Pa. Code § 129.139 (relating to control devices); and 25 Pa. Code § 129.140 (relating to recordkeeping and reporting).

### § 129.134. Natural gas-driven continuous bleed pneumatic controllers.

(a) *Applicability.* This section applies to the owner or operator of a natural gas-driven continuous bleed pneumatic controller subject to § 129.131(a)(2) (relating to general provisions and applicability) located prior to the point of custody transfer of oil to an oil pipeline or of natural gas to the natural gas transmission and storage segment.

(b) *Exception.* An owner or operator may use a natural gas-driven continuous bleed pneumatic controller subject to this section with a bleed rate greater than the applicable requirements in subsection (c) based on functional requirements. An owner or operator claiming this exception shall perform the compliance demonstration requirements under subsection (d) and maintain the records under subsection (e), as applicable.

(c) *VOC emissions limitation requirements.* Except as specified in subsection (b), beginning December 2, 2023, the owner or operator of a natural gas-driven continuous bleed pneumatic controller subject to this section shall do the following:

- (1) Ensure each natural gas-driven continuous bleed pneumatic controller with a natural gas bleed rate greater than 6.0 standard cubic feet per hour, at a location other than a natural gas processing plant, maintains a natural gas bleed rate of less than or equal to 6.0 standard cubic feet per hour.
- (2) Ensure each natural gas-driven continuous bleed pneumatic controller maintains a natural gas bleed rate of zero standard cubic feet per hour, if located at a natural gas processing plant.

- (3) Perform the compliance demonstration requirements under subsection (d).
- (d) *Compliance demonstration requirements.* The owner or operator shall tag each natural gas-driven continuous bleed pneumatic controller affected under subsection (c) with the following:
- (1) The date the natural gas-driven continuous bleed pneumatic controller is required to comply with this section.
- (2) An identification number that ensures traceability to the records for that natural gas-driven continuous bleed pneumatic controller.
- (e) *Recordkeeping and reporting requirements.* The owner or operator of a natural gas-driven continuous bleed pneumatic controller affected under subsection (c) shall maintain the records under § 129.140(c) (relating to recordkeeping and reporting) and submit the reports under § 129.140(k)(3)(ii).

#### Authority

The provisions of this § 129.134 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.134 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.

#### Cross References

This section cited in 25 Pa. Code § 129.131 (relating to general provisions and applicability); 25 Pa. Code § 129.132 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.137 (relating to fugitive emissions components); and 25 Pa. Code § 129.140 (relating to recordkeeping and reporting).

### § 129.135. Natural gas-driven diaphragm pumps.

- (a) *Applicability.* This section applies to the owner or operator of a natural gas-driven diaphragm pump subject to § 129.131(a)(3) (relating to general provisions and applicability) located at a well site or natural gas processing plant.
- (b) *VOC emissions limitation and control requirements.* Except as specified in subsections (c) and (d), beginning December 2, 2023, the owner or operator of a natural gas-driven diaphragm pump subject to this section shall comply with the following:
- (1) *Conventional well site.* The owner or operator of a natural gas-driven diaphragm pump located at a conventional well site shall reduce the VOC emissions by 95.0% by weight or greater. The owner or operator shall do the following:
- (i) Connect the natural gas-driven diaphragm pump to a control device or process through a closed vent system that meets the applicable requirements of § 129.138(b) (relating to covers and closed vent systems).

- (ii) Route the emissions from the natural gas-driven diaphragm pump to a control device or a process that meets the applicable requirements of § 129.139 (relating to control devices).
- (iii) Demonstrate that the VOC emissions are reduced as specified in § 129.139(k).
- (2) *Natural gas processing plant.* The owner or operator of a natural gas-driven diaphragm pump located at a natural gas processing plant shall maintain an emission rate of zero standard cubic feet per hour.
- (c) *Exceptions.* The emissions limitations and control requirements in subsection (b) do not apply to the owner or operator of a natural gas-driven diaphragm pump located at a well site which meets one or more of the following:
  - (1) Routes emissions to a control device which is unable to reduce VOC emissions by 95.0% by weight or greater and there is no ability to route VOC emissions to a process. An owner or operator that claims this exception shall do the following:
    - (i) Maintain the records under § 129.140(d)(4) (relating to recordkeeping and reporting).
    - (ii) Connect the natural gas-driven diaphragm pump to the control device through a closed vent system that meets the requirements of § 129.138(b).
    - (iii) Demonstrate the percentage by which the VOC emissions are reduced as specified in § 129.139(k).
  - (2) Has no available control device or process. An owner or operator that claims this exception shall do the following:
    - (i) Maintain the records under § 129.140(d)(5).
    - (ii) Certify that there is no available control device or process in the next annual report required by § 129.140(k)(1).
    - (iii) Route emissions from the natural gas-driven diaphragm pump within 30 days of the installation of a control device or process. Once the emissions are routed to a control device or process, the certification of subparagraph (ii) is no longer required and the applicable requirements of this section shall be met.
  - (3) Is technically infeasible of connecting to a control device or process. An owner or operator that claims this exception shall do the following:
    - (i) Maintain the records under § 129.140(d)(6).
    - (ii) Perform an assessment of technical infeasibility which must meet the following:
      - (A) Be prepared under the supervision of an in-house engineer or qualified professional engineer.
      - (B) Include a technical analysis of safety considerations, the distance from an existing control device, the pressure losses and differentials in the closed vent system and the ability of the control device to handle the increase in emissions routed to them.

(C) Be certified, signed and dated by the engineer supervising the assessment, including the statement: “I certify that the assessment of technical infeasibility was prepared under my supervision. I further certify that the assessment was conducted and this report was prepared under the requirements of 25 Pa. Code § 129.135(c)(3). Based on my professional knowledge and experience, and inquiry of personnel involved in the assessment, the certification submitted herein is true, accurate, and complete. I am aware that there are penalties for knowingly submitting false information.”

(d) *Exemptions.* The emissions limitations and control requirements in subsection (b) do not apply to the owner or operator of a natural gas-driven diaphragm pump located at a well site which operates less than 90 days per calendar year. An owner or operator claiming this exemption shall maintain the records under § 129.140(d)(3).

(e) *Removal of control device or process.* The owner or operator of a natural gas-driven diaphragm pump located at a well site that routes emissions to a control device or process which is removed or is no longer available shall comply with one of the exceptions in subsection (c), as applicable.

(f) *Recordkeeping and reporting requirements.* The owner or operator of a natural gas-driven diaphragm pump subject to this section shall maintain the records under § 129.140(d) and submit the reports under § 129.140(k)(3)(iii).

#### Authority

The provisions of this § 129.135 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.135 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.

#### Cross References

This section cited in 25 Pa. Code § 129.131 (relating to general provisions and applicability); 25 Pa. Code § 129.132 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.137 (relating to fugitive emissions components); 25 Pa. Code § 129.138 (relating to covers and closed vent systems); 25 Pa. Code § 129.139 (relating to control devices); and 25 Pa. Code § 129.140 (relating to recordkeeping and reporting).

### § 129.136. Compressors.

(a) *Applicability.* This section applies to the owner or operator of a reciprocating compressor or centrifugal compressor subject to § 129.131(a)(4) (relating to general provisions and applicability) that meets the following:

(1) *Reciprocating compressor.* Each reciprocating compressor located between the wellhead and point of custody transfer to the natural gas transmission and storage segment.

(2) *Centrifugal compressor.* Each centrifugal compressor using wet seals that is located between the wellhead and point of custody transfer to the natural gas transmission and storage segment.

(b) *VOC emissions control requirements for a reciprocating compressor.* Beginning December 2, 2023, the owner or operator of a reciprocating compressor subject to this section shall meet one of the following:

(1) Replace the reciprocating compressor rod packing on or before one of the following:

(i) The reciprocating compressor has operated for 26,000 hours. The number of hours of operation must be continuously monitored beginning on the later of:

(A) The date of the most recent reciprocating compressor rod packing replacement.

(B) December 2, 2022, for a reciprocating compressor rod packing that has not yet been replaced.

(ii) The reciprocating compressor has operated for 36 months. The number of months of operation must be continuously monitored beginning on the later of:

(A) The date of the most recent reciprocating compressor rod packing replacement.

(B) December 2, 2025, for a reciprocating compressor rod packing that has not yet been replaced.

(2) Route the VOC emissions to a control device or a process that meets § 129.139 (relating to control devices) by using a reciprocating compressor rod packing emissions collection system that operates under negative pressure and meets the cover requirements of § 129.138(a) (relating to covers and closed vent systems) and the closed vent system requirements of § 129.138(b).

(c) *VOC emissions limitation and control requirements for a centrifugal compressor.* Except as specified in subsection (d), the owner or operator of a centrifugal compressor subject to this section shall perform the following:

(1) Reduce the VOC emissions from each centrifugal compressor wet seal fluid degassing system by 95.0% by weight or greater.

(2) Equip the wet seal fluid degassing system with a cover that meets the requirements of § 129.138(a) through a closed vent system that meets the requirements of § 129.138(b) to a control device or a process that meets the applicable requirements of § 129.139.

(3) Demonstrate that the VOC emissions are reduced as specified in § 129.139(k).

(d) *Exemptions.* Subsection (c) does not apply to the owner or operator of a centrifugal compressor that meets the following:

(1) Is located at a well site.

(2) Is located at an adjacent well site and services more than one well site.

(e) *Recordkeeping and reporting requirements.* The owner or operator of a reciprocating compressor or centrifugal compressor subject to this section shall do the following, as applicable:

(1) For a reciprocating compressor, maintain the records under § 129.140(e) (relating to recordkeeping and reporting) and submit the reports under § 129.140(k)(3)(iv).

(2) For a centrifugal compressor, maintain the records under § 129.140(f) and submit the reports under § 129.140(k)(3)(v).

#### Authority

The provisions of this § 129.136 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.136 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.

#### Cross References

This section cited in 25 Pa. Code § 129.131 (relating to general provisions and applicability); 25 Pa. Code § 129.132 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.137 (relating to fugitive emissions components); 25 Pa. Code § 129.138 (relating to covers and closed vent systems); 25 Pa. Code § 129.139 (relating to control devices); and 25 Pa. Code § 129.140 (relating to recordkeeping and reporting).

### § 129.137. Fugitive emissions components.

(a) *Applicability.* This section applies to the owner or operator of a fugitive emissions component subject to § 129.131(a)(5) (relating to general provisions and applicability), located at one or more of the following:

- (1) A conventional well site.
- (2) A natural gas gathering and boosting station.
- (3) A natural gas processing plant.

(b) *Average production calculation procedure for a well site.* Beginning on or before January 1, 2023:

(1) The owner or operator of a well site subject to subsection (a)(1) shall calculate the average production in barrels of oil equivalent per day of the well site using the previous 12 calendar months of operation as reported to the Department and thereafter as specified in subsection (c)(4) for the previous calendar year. The owner or operator shall do the following:

- (i) For each well at the well site with production reported to the Department:
  - (A) Record the barrels of oil produced for each active well.
  - (B) Convert the natural gas production for each active well to equivalent barrels of oil by dividing the standard cubic feet of natural gas produced by 6,000 standard cubic feet per barrel of oil equivalent.



- (C) Convert the condensate production for each active well to equivalent barrels of oil by multiplying the barrels of condensate by 0.9 barrels of oil equivalent per barrel of condensate.
  - (ii) Calculate the total production for each active well, in barrels of oil equivalent, by adding the results of subparagraph (i)(A)—(C) for each active well.
  - (iii) Sum the results of subparagraph (ii) for all active wells at the well site and divide by 365 or 366 days for the previous 12 calendar months or the previous calendar year, as applicable.
- (2) If the owner or operator does not know the production of an individual well at the well site, the owner or operator shall comply with subsection (c)(2).
- (c) *Requirements for a conventional well site.*
- (1) For a well site consisting of only oil wells, the owner or operator shall:
    - (i) Determine the GOR of the oil well site using generally accepted methods.
    - (ii) If the GOR of the oil well site is less than 300 standard cubic feet of gas per barrel of oil produced, maintain the records under § 129.140(g)(1) (relating to recordkeeping and reporting).
    - (iii) If the GOR of the oil well site is equal to or greater than 300 standard cubic feet of gas per barrel of oil produced, meet the requirements of paragraph (2) or paragraph (3) based on the results of subsection (b)(1).
  - (2) For a well site producing, on average, equal to or greater than 15 barrels of oil equivalent per day, with at least one well producing, on average, equal to or greater than 15 barrels of oil equivalent per day, the owner or operator shall:
    - (i) Conduct an initial AVO inspection on or before January 31, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days.
    - (ii) Conduct an initial LDAR inspection program on or before January 31, 2023, with quarterly inspections thereafter separated by at least 60 calendar days but not more than 120 calendar days using one or more of the following:
      - (A) OGI equipment.
      - (B) A gas leak detector that meets the requirements of EPA Method 21.
      - (C) Another leak detection method approved by the Department.
  - (3) For a well site producing, on average, equal to or greater than 15 barrels of oil equivalent per day, and at least one well producing, on average, equal to or greater than 5 barrels of oil equivalent per day but less than 15 barrels of oil equivalent per day, the owner or operator shall:
    - (i) Conduct an initial AVO inspection on or before January 31, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days.

- (ii) Conduct an initial LDAR inspection program on or before May 1, 2023, with annual inspections thereafter separated by at least 335 calendar days but not more than 395 calendar days using one or more of the following:
  - (A) OGI equipment.
  - (B) A gas leak detector that meets the requirements of EPA Method 21.
  - (C) Another leak detection method approved by the Department.
- (4) The owner or operator of a producing well site shall calculate the average production of the well site under subsection (b) for the previous calendar year not later than February 15 and may adjust the frequency of the required LDAR inspection as follows:
  - (i) If two consecutive calculations show reduced production, the owner or operator may adopt the requirements applicable to the reduced production level.
  - (ii) If a calculation shows higher production, the owner or operator shall adopt the requirements applicable to the higher production level immediately.
- (5) The owner or operator of a well site subject to paragraph (3) may submit to the appropriate Department Regional Office a request, in writing, for an exemption from the requirements of paragraph (3)(ii).
  - (i) The written request must include the following:
    - (A) Name and location of the well site.
    - (B) A demonstration that the requirements of paragraph (3)(ii) are not technically or economically feasible for the well site.
    - (C) Sufficient methods for demonstrating compliance with all applicable standards or regulations promulgated under the Clean Air Act or the Act.
    - (D) Sufficient methods for demonstrating compliance with this section, §§ 129.131—129.136 and 129.138—129.140.
  - (ii) The Department will review the complete written request submitted in accordance with subparagraph (i) and approve or deny the request in writing.
  - (iii) The Department will submit each exemption determination approved under subparagraph (ii) to the Administrator of the EPA for approval as a revision to the SIP. The owner or operator shall bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal.
  - (iv) The owner or operator of the well site identified in subparagraph (i)(A) shall remain subject to the requirements of paragraphs (1), (3)(i) and (4).
- (d) *Requirements for a shut-in conventional well site.* The owner or operator of a conventional well site that is temporarily shut-in is not required to perform an LDAR inspection of the well site until one of the following occurs, whichever is first:

- (1) Sixty days after the conventional well site is put into production.
- (2) The date of the next required LDAR inspection after the conventional well site is put into production.
- (e) *Requirements for a natural gas gathering and boosting station or a natural gas processing plant.* The owner or operator of a natural gas gathering and boosting station or a natural gas processing plant shall conduct the following:
  - (1) An initial AVO inspection on or before January 31, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days.
  - (2) An initial LDAR inspection program on or before January 31, 2023, with quarterly inspections thereafter separated by at least 60 calendar days but not more than 120 calendar days using one or more of the following:
    - (i) OGI equipment.
    - (ii) A gas leak detector that meets the requirements of EPA Method 21.
    - (iii) Another leak detection method approved by the Department.
- (f) *Requirements for extension of the LDAR inspection interval.* The owner or operator of an affected facility may request, in writing, an extension of the LDAR inspection interval from the Air Program Manager of the appropriate Department Regional Office.
- (g) *Fugitive emissions monitoring plan.* The owner or operator shall develop, in writing, an emissions monitoring plan that covers the collection of fugitive emissions components at the subject facility within each company-defined area. The written plan must include the following elements:
  - (1) The technique used for determining fugitive emissions.
  - (2) A list of fugitive emissions detection equipment, including the manufacturer and model number, that may be used at the facility.
  - (3) A list of personnel that may conduct the monitoring surveys at the facility, including their training and experience.
  - (4) The procedure and timeframe for identifying and fixing a fugitive emissions component from which fugitive emissions are detected, including for a component that is unsafe-to-repair.
  - (5) The procedure and timeframe for verifying fugitive emissions component repairs.
  - (6) The procedure and schedule for verifying the fugitive emissions detection equipment is operating properly.
    - (i) For OGI equipment, the verification must be completed as specified in subsection (h).
    - (ii) For gas leak detection equipment using EPA Method 21, the verification must be completed as specified in subsection (i).
    - (iii) For a Department-approved method, a copy of the request for approval that shows the method's equivalence to subsection (h) or subsection (i).
  - (7) A sitemap.

- (8) If using OGI, a defined observation path that meets the following:
  - (i) Ensures that all fugitive emissions components are within sight of the path.
  - (ii) Accounts for interferences.
- (9) If using EPA Method 21, a list of the fugitive emissions components to be monitored and an identification method to locate them in the field.
- (10) A written plan for each fugitive emissions component designated as difficult-to-monitor or unsafe-to-monitor which includes the following:
  - (i) A method to identify a difficult-to-monitor or unsafe-to-monitor component in the field.
  - (ii) The reason each component was identified as difficult-to-monitor or unsafe-to-monitor.
  - (iii) The monitoring schedule for each component identified as difficult-to-monitor or unsafe-to-monitor. The monitoring schedule for difficult-to-monitor components must include at least one survey per year no more than 13 months apart.
- (h) *Verification procedures for OGI equipment.* An owner or operator that identifies OGI equipment in the fugitive emissions monitoring plan in subsection (g)(6)(i) shall complete the verification by doing the following:
  - (1) Demonstrating that the OGI equipment is capable of imaging a gas:
    - (i) In the spectral range for the compound of highest concentration in the potential fugitive emissions.
    - (ii) That is half methane, half propane at a concentration of 10,000 ppm at a flow rate of less than or equal to 60 grams per hour (2.115 ounces per hour) from a 1/4-inch diameter orifice.
  - (2) Performing a verification check each day prior to use.
  - (3) Determining the equipment operator's maximum viewing distance from the fugitive emissions component and how the equipment operator will ensure that this distance is maintained.
  - (4) Determining the maximum wind speed during which monitoring can be performed and how the equipment operator will ensure monitoring occurs only at wind speeds below this threshold.
  - (5) Conducting the survey by using the following procedures:
    - (i) Ensuring an adequate thermal background is present to view potential fugitive emissions.
    - (ii) Dealing with adverse monitoring conditions, such as wind.
    - (iii) Dealing with interferences, such as steam.
  - (6) Following the manufacturer's recommended calibration and maintenance procedures.
- (i) *Verification procedures for gas leak detection equipment using EPA Method 21.* An owner or operator that identifies gas leak detection equipment using EPA Method 21 in the fugitive emissions monitoring plan in subsection (g)(6)(ii) shall complete the verification by doing the following:

- (1) Verifying that the gas leak detection equipment meets:
  - (i) The requirements of Section 6.0 of EPA Method 21 with a fugitive emissions definition of 500 ppm or greater calibrated as methane using an FID-based instrument.
  - (ii) A site-specific fugitive emission definition that would be equivalent to subparagraph (i) for other equipment approved for use in EPA Method 21 by the Department.
- (2) Using the average composition of the fluid, not the individual organic compounds in the stream, when performing the instrument response factor of Section 8.1.1 of EPA Method 21.
- (3) Calculating the average stream response factor on an inert-free basis for process streams that contain nitrogen, air or other inert gases that are not organic hazardous air pollutants or VOCs.
- (4) Calibrating the gas leak detection instrument in accordance with Section 10.1 of EPA Method 21 on each day of its use using zero air, defined as a calibration gas with less than 10 ppm by volume of hydrocarbon in air, and a mixture of methane in air at a concentration less than 10,000 ppm by volume as the calibration gases.
- (5) Conducting the surveys which, at a minimum, must comply with the relevant sections of EPA Method 21, including Section 8.3.1.
- (j) *Fugitive emissions detection devices.* Fugitive emissions detection devices must be operated and maintained in accordance with manufacturer-recommended procedures and as required by the test method or a Department-approved method.
- (k) *Background adjustment.* For LDAR inspections using a gas leak detector in accordance with EPA Method 21, the owner or operator may choose to adjust the gas leak detection instrument readings to account for the background organic concentration level as determined by the procedures of Section 8.3.2 of EPA Method 21.
- (l) *Repair and resurvey provisions.* The owner or operator shall repair a leak detected from a fugitive emissions component as follows:
  - (1) A first attempt at repair must be made within 5 calendar days of detection, and repair must be completed no later than 15 calendar days after the leak is detected unless:
    - (i) The purchase of a part is required. The repair must be completed no later than 10 calendar days after the receipt of the purchased part.
    - (ii) The repair is technically infeasible because of one of the following reasons:
      - (A) It requires vent blowdown.
      - (B) It requires facility shutdown.
      - (C) It requires a well shut-in.
      - (D) It is unsafe to repair during operation of the unit.
    - (iii) A repair that is technically infeasible under subparagraph (ii) must be completed at the earliest of the following:

- (A) After a planned vent blowdown.
  - (B) The next facility shutdown.
  - (C) Within 2 years.
- (2) The owner or operator shall resurvey the fugitive emissions component no later than 30 calendar days after the leak is repaired.
- (3) For a repair that cannot be made during the monitoring survey when the leak is initially found, the owner or operator shall do one of the following:
- (i) Take a digital photograph of the fugitive emissions component which includes:
    - (A) The date the photo was taken.
    - (B) Clear identification of the component by location, such as by latitude and longitude or other descriptive landmarks visible in the picture.
  - (ii) Tag the component for identification purposes.
- (4) A gas leak is considered repaired if:
- (i) There is no visible leak image when using OGI equipment calibrated according to subsection (h).
  - (ii) A leak concentration of less than 500 ppm as methane is detected when the gas leak detector probe inlet is placed at the surface of the fugitive emissions component for a gas leak detector calibrated according to subsection (i).
  - (iii) There are no detectable emissions consistent with Section 8.3.2 of EPA Method 21.
  - (iv) There is no bubbling at the leak interface using the soap solution bubble test specified in Section 8.3.3 of EPA Method 21.
- (m) *Recordkeeping and reporting requirements.* The owner or operator of a fugitive emissions component subject to this section shall maintain the records under § 129.140(g) and submit the reports under § 129.140(k)(3)(vi).

#### Authority

The provisions of this § 129.137 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.137 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.

#### Cross References

This section cited in 25 Pa. Code § 129.131 (relating to general provisions and applicability); 25 Pa. Code § 129.132 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.138 (relating to covers and closed vent systems); and 25 Pa. Code § 129.140 (relating to recordkeeping and reporting).

**§ 129.138. Covers and closed vent systems.**

(a) *Requirements for a cover on a storage vessel, reciprocating compressor or centrifugal compressor:* The owner or operator shall perform the following for a cover of a source subject to § 129.133(b)(1)(i) or § 129.136(b)(2) or (c)(2) (relating to storage vessels; and compressors), as applicable:

(1) Ensure that the cover and all openings on the cover form a continuous impermeable barrier over each subject source as follows:

- (i) The entire surface area of the liquid in the storage vessel.
- (ii) The entire surface area of the liquid in the wet seal fluid degassing system of a centrifugal compressor.
- (iii) The rod packing emissions collection system of a reciprocating compressor.

(2) Ensure that each cover opening is covered by a gasketed lid or cap that is secured in a closed, sealed position except when it is necessary to use an opening for one or more of the following:

- (i) To inspect, maintain, repair or replace equipment.
- (ii) To route a liquid, gas, vapor or fume from the source to a control device or a process that meets the applicable requirements of § 129.139 (relating to control devices) through a closed vent system designed and operated in accordance with subsection (b).
- (iii) To inspect or sample the material in a storage vessel.
- (iv) To add material to or remove material from a storage vessel, including openings necessary to equalize or balance the internal pressure of the storage vessel following changes in the level of the material in the storage vessel.

(3) Ensure that each storage vessel thief hatch is equipped, maintained and operated with the following:

- (i) A mechanism to ensure that the lid remains properly seated and sealed under normal operating conditions, including when working, standing or breathing, or when flash emissions may be generated.
- (ii) A gasket made of a suitable material based on the composition of the fluid in the storage vessel and weather conditions.

(4) Conduct an initial AVO inspection on or before January 31, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days for defects that could result in air emissions. Defects include the following:

- (i) A visible crack, hole or gap in the cover.
- (ii) A visible crack, hole or gap between the cover and the separator wall.
- (iii) A broken, cracked or otherwise damaged seal or gasket on a closure device.

(iv) A broken or missing hatch, access cover, cap or other closure device.

(5) Inspect only those portions of the cover that extend to or above the surface and the connections on those portions of the cover, including fill ports, access hatches and gauge wells that can be opened to the atmosphere for a storage vessel that is partially buried or entirely underground.

(6) Repair a detected leak or defect as specified in § 129.137(l) (relating to fugitive emissions components).

(7) Maintain the records under § 129.140(h) (relating to recordkeeping and reporting) and submit the report under § 129.140(k)(3)(vii).

(b) *Requirements for a closed vent system.* The owner or operator shall perform the following for each closed vent system installed on a source subject to § 129.133(b)(1)(ii), § 129.135(b)(1)(i) or (c)(1)(ii) (relating to natural gas-driven diaphragm pumps) or § 129.136(b)(2) or (c)(2):

(1) Design the closed vent system to route the liquid, gas, vapor or fume emitted from the source to a control device or process that meets the applicable requirements in § 129.139.

(2) Operate the closed vent system with no detectable emissions as determined by the following:

(i) Conduct an initial AVO inspection on or before January 31, 2023, with monthly inspections thereafter separated by at least 15 calendar days but not more than 45 calendar days for defects that could result in air emissions. Defects include the following:

- (A) A visible crack, hole or gap in piping.
- (B) A loose connection.
- (C) A liquid leak.
- (D) A broken or missing cap or other closure device.

(ii) Conducting a no detectable emissions inspection as specified in subsection (d) during the facility's scheduled LDAR inspection in accordance with § 129.137(c)(2)(ii) and (c)(3)(ii) or (e)(2).

(3) Repair a detected leak or defect as specified in § 129.137(l).

(4) Except as specified in subparagraph (iii), if the closed vent system contains one or more bypass devices that could be used to divert the liquid, gas, vapor or fume from routing to the control device or to the process under paragraph (1), perform one or more of the following:

(i) Install, calibrate, operate and maintain a flow indicator at the inlet to the bypass device so when the bypass device is open it does one of the following:

- (A) Sounds an alarm.
- (B) Initiates a notification by means of a remote alarm to the nearest field office.

(ii) Secure the bypass device valve installed at the inlet to the bypass device in the non-diverting position using the following procedure:



- (A) Installing either of the following:
  - (I) A car-seal.
  - (II) A lock-and-key configuration.
- (B) Visually inspecting the mechanism in clause (A) to verify that the valve is maintained in the non-diverting position on or before January 31, 2023, with monthly inspections separated by at least 15 calendar days but not more than 45 calendar days.
- (C) Maintaining the records under § 129.140(i)(4).
- (iii) Subparagraphs (i) and (ii) do not apply to a low leg drain, high point bleed, analyzer vent, open-ended valve or line or safety device.
- (5) Conduct an assessment that meets the requirements of subsection (c).
- (6) Maintain the records under § 129.140(i) and submit the reports under § 129.140(k)(3)(viii).
- (c) *Requirements for closed vent system design and capacity assessment.* An owner or operator that installs a closed vent system under subsection (b) shall perform a design and capacity assessment which must include the following:
  - (1) Be prepared under the supervision of an in-house engineer or qualified professional engineer.
  - (2) Verify the following:
    - (i) That the closed vent system is of sufficient design and capacity to ensure that the emissions from the emission source are routed to the control device or process.
    - (ii) That the control device or process is of sufficient design and capacity to accommodate the emissions from the emission source.
  - (3) Be certified, signed and dated by the engineer supervising the assessment, including the statement: “I certify that the closed vent design and capacity assessment was prepared under my supervision. I further certify that the assessment was conducted and this report was prepared under the requirements of 25 Pa. Code § 129.138(c). Based on my professional knowledge and experience, and inquiry of personnel involved in the assessment, the certification submitted herein is true, accurate, and complete. I am aware that there are penalties for knowingly submitting false information.”
  - (d) *No detectable emissions procedures.* The owner or operator shall conduct the no detectable emissions inspection required under subsection (b)(2)(ii) by performing one of the following:
    - (1) Use OGI equipment that meets § 129.137(h).
    - (2) Use a gas leak detection instrument that meets § 129.137(i). The owner or operator may adjust the gas leak detection instrument readings as specified in § 129.137(k).
    - (3) Use another leak detection method approved by the Department.
    - (4) Determine if a potential leak interface operates with no detectable emissions, if the gas leak detection instrument reading is not a leak as defined in § 129.132(a) (relating to definitions, acronyms and EPA methods).

**Authority**

The provisions of this § 129.138 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

**Source**

The provisions of this § 129.138 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.

**Cross References**

This section cited in 25 Pa. Code § 129.131 (relating to general provisions and applicability); 25 Pa. Code § 129.132 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.133 (relating to storage vessels); 25 Pa. Code § 129.135 (relating to natural gas-driven diaphragm pumps); 25 Pa. Code § 129.136 (relating to compressors); 25 Pa. Code § 129.137 (relating to fugitive emissions components); and 25 Pa. Code § 129.140 (relating to recordkeeping and reporting).

**§ 129.139. Control devices.**

(a) *Applicability.* This section applies to the owner or operator of each control device that receives a liquid, gas, vapor or fume from a source subject to § 129.133(b)(1)(iii), § 129.135(b)(1)(ii) or (c)(1), or § 129.136(b)(2) or (c)(2) (relating to storage vessels; natural gas-driven diaphragm pumps; and compressors).

(1) The owner or operator shall perform the following:

(i) Operate each control device whenever a liquid, gas, vapor or fume is routed to the control device.

(ii) Maintain the records under § 129.140(j) (relating to recordkeeping and reporting) and submit the reports under § 129.140(k)(3)(ix).

(2) The owner or operator may route the liquid, gas, vapor or fume from more than one source subject to § 129.133(b)(1)(iii), § 129.135(b)(1)(ii) or (c)(1), or § 129.136(b)(2) or (c)(2) to a control device installed and operated under this section.

(b) *General requirements for a control device.* The owner or operator of a control device subject to this section shall install and operate one or more control devices listed in subsections (c)—(i). The owner or operator shall meet the following requirements, as applicable:

(1) Operate the control device following the manufacturer's written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing VOC emissions.

(2) Ensure that the control device is maintained in a leak-free condition by conducting a physical integrity check according to the manufacturer's instructions, with monthly inspections separated by at least 15 calendar days but not more than 45 calendar days.

(3) Maintain a pilot flame while operating the control device and monitor the pilot flame by installing a heat sensing CPMS as specified under subsection (m)(3). If the heat sensing CPMS indicates the absence of the pilot flame

or if the control device is smoking or shows other signs of improper equipment operation, ensure the control device is returned to proper operation by performing the following procedures:

(i) Checking the air vent for obstruction and clearing an observed obstruction.

(ii) Checking for liquid reaching the combustor.

(4) Operate the control device with no visible emissions, except for periods not to exceed a total of 1 minute during a 15-minute period as determined by conducting a visible emissions test according to Section 11 of EPA Method 22.

(i) Each monthly visible emissions test shall be separated by at least 15 calendar days but not more than 45 calendar days.

(ii) The observation period for the test in subparagraph (i) shall be 15 minutes.

(5) Repair the control device if it fails the visible emissions test of paragraph (4) as specified in subparagraph (i) or subparagraph (ii) and return the control device to compliant operation.

(i) The manufacturer's repair instructions, if available.

(ii) The best combustion engineering practice applicable to the control device if the manufacturer's repair instructions are not available.

(6) Ensure the control device passes the EPA Method 22 visual emissions test described in paragraph (4) following return to operation from a maintenance or repair activity.

(7) Record the inspection, repair and maintenance activities for the control device in a maintenance and repair log.

(c) *Compliance requirements for a manufacturer-tested combustion device.* The owner or operator of a control device subject to this section that installs a control device tested under 40 CFR 60.5413a(d) (relating to what are the performance testing procedures for control devices used to demonstrate compliance at my centrifugal compressor and storage vessel affected facilities?) shall meet subsection (b)(1)—(7) and the following:

(1) Maintain the inlet gas flow rate at less than or equal to the maximum flow rate specified by the manufacturer. This is confirmed by one of the following:

(i) Installing, operating and maintaining a flow CPMS that meets subsection (m)(1) and (2)(i) to measure gas flow rate at the inlet to the control device.

(ii) Conducting a periodic performance test under subsection (k) instead of installing a flow CPMS to demonstrate that the mass content of VOC in the gases vented to the device is reduced by 95.0% by weight or greater.

(2) Submit an electronic copy of the performance test results to the EPA as required by 40 CFR 60.5413a(d) in accordance with 40 CFR 60.5413a(e)(6).

(d) *Compliance requirements for an enclosed combustion device.* The owner or operator of a control device subject to this section that installs an enclosed combustion device, such as a thermal vapor incinerator, catalytic vapor incinerator, boiler or process heater, shall meet subsection (b)(1)—(7) and the following:

(1) Ensure the enclosed combustion control device is designed and operated to meet one of the following performance requirements:

(i) To reduce the mass content of VOC in the gases vented to the device by 95.0% by weight or greater, as determined under subsection (k).

(ii) To reduce the concentration of TOC in the exhaust gases at the outlet to the device to a level less than or equal to 275 ppmvd as propane corrected to 3% oxygen as determined under subsection (l).

(iii) To operate at a minimum temperature of 760 °Celsius (1,400 °Fahrenheit), if it is demonstrated during the performance test conducted under subsection (k) that combustion zone temperature is an indicator of destruction efficiency.

(iv) To introduce the vent stream into the flame zone of the boiler or process heater if a boiler or process heater is used as the control device.

(2) Install, calibrate, operate and maintain a CPMS according to the manufacturer's specifications and subsection (m) to measure the values of the operating parameters appropriate to the control device as follows:

(i) For a thermal vapor incinerator that demonstrates under subsection (m)(6)(i) that combustion zone temperature is an accurate indicator of performance, a temperature CPMS that meets subsection (m)(1) and (4) with the temperature sensor installed at a location representative of the combustion zone temperature.

(ii) For a catalytic vapor incinerator, a temperature CPMS capable of monitoring temperature at two locations and that meets subsection (m)(1) and (4) with one temperature sensor installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a boiler or process heater that demonstrates under subsection (m)(6)(i) that combustion zone temperature is an accurate indicator of performance, a temperature CPMS that meets subsection (m)(1) and (4) with the temperature sensor installed at a location representative of the combustion zone temperature. The monitoring requirements do not apply if the boiler or process heater meets either of the following:

(A) Has a design heat input capacity of 44 megawatts (150 MMBtu per hour) or greater.

(B) Introduces the vent stream with the primary fuel or uses the vent stream as the primary fuel.

- (iv) For a control device complying with paragraph (1)(ii), an organic concentration CPMS that meets subsection (m)(1) and (5) that measures the concentration level of organic compounds in the exhaust vent stream from the control device.
- (3) Operate the control device in compliance with the operating parameter value established under subsection (m)(6).
- (4) Calculate the daily average of the monitored operating parameter for each operating day, using the valid data recorded by the monitoring system under subsection (m)(7).
- (5) Ensure that the daily average of the monitoring parameter value calculated under paragraph (4) complies with the parameter value established under paragraph (3) as specified in subsection (m)(9).
- (6) Operate the CPMS installed under paragraph (2) whenever the source is operating, except during the times specified in subsection (m)(8)(iii).
- (e) *Compliance requirements for a flare.* The owner or operator of a control device subject to this section that installs a flare designed and operated in accordance with 40 CFR 60.18(b) (relating to general control device and work practice requirements) shall meet subsection (b)(3)—(7).
- (f) *Compliance requirements for a carbon adsorption system.* The owner or operator of a control device subject to this section that installs a carbon adsorption system shall meet subsection (b)(1) and (2) and the following:
  - (1) Design and operate the carbon adsorption system to reduce the mass content of VOC in the gases vented to the device as demonstrated by one of the following:
    - (i) Determining the VOC emission reduction is 95.0% by weight or greater as specified in subsection (k).
    - (ii) Reducing the concentration of TOC in the exhaust gases at the outlet to the device to a level less than or equal to 275 ppmvd as propane corrected to 3% oxygen as determined under subsection (l).
    - (iii) Conducting a design analysis in accordance with subsection (g)(6) or subsection (h)(2) as applicable.
  - (2) Include a carbon replacement schedule in the design of the carbon adsorption system.
  - (3) Replace the carbon in the control device with fresh carbon on a regular schedule that is no longer than the carbon service life established according to the design analysis in subsection (g)(6) or subsection (h)(2) or according to the replacement schedule in paragraph (2).
  - (4) Manage the spent carbon removed from the carbon adsorption system in paragraph (3) by one of the following:
    - (i) Regenerating or reactivating the spent carbon in one of the following:
      - (A) A thermal treatment unit for which the owner or operator has been issued a permit under 40 CFR Part 270 (relating to EPA administered per-

mit programs: the hazardous waste permit program) that implements the requirements of 40 CFR Part 264, Subpart X (relating to miscellaneous units).

(B) A unit equipped with operating organic air emission controls in accordance with an emissions standard for VOC under a subpart in 40 CFR Part 60 (relating to standards of performance for new stationary sources) or 40 CFR Part 63 (relating to National emission standards for hazardous air pollutants for source categories).

(ii) Burning the spent carbon in one of the following:

(A) A hazardous waste incinerator, boiler or industrial furnace for which the owner or operator complies with the requirements of 40 CFR Part 63, Subpart EEE (relating to National emission standards for hazardous air pollutants from hazardous waste combustors) and has submitted a Notification of Compliance under 40 CFR 63.1207(j) (relating to what are the performance testing requirements?).

(B) An industrial furnace for which the owner or operator has been issued a permit under 40 CFR Part 270 that implements the requirements of 40 CFR Part 266, Subpart H (relating to hazardous waste burned in boilers and industrial furnaces).

(C) An industrial furnace designed and operated in accordance with the interim status requirements of 40 CFR Part 266, Subpart H.

(g) *Additional compliance requirements for a regenerative carbon adsorption system.* The owner or operator of a control device subject to this section that installs a regenerative carbon adsorption system shall meet subsection (f) and the following:

(1) Install, calibrate, operate and maintain a CPMS according to the manufacturer's specifications and the applicable requirements of subsection (m) to measure the values of the operating parameters appropriate to the control device as follows:

(i) For a source complying with subsection (f)(1)(i), a flow CPMS system that meets the requirements of subsection (m)(1) and (2)(ii) to measure and record the average total regeneration steam mass flow or volumetric flow during each carbon bed regeneration cycle. The owner or operator shall inspect the following:

(A) The mechanical connections for leakage with monthly inspections separated by at least 15 calendar days but not more than 45 calendar days.

(B) The components of the flow CPMS for physical and operational integrity if the flow CPMS is not equipped with a redundant flow sensor with quarterly inspections separated by at least 60 calendar days but not more than 120 calendar days.

(C) The electrical connections of the flow CPMS for oxidation and galvanic corrosion if the flow CPMS is not equipped with a redundant

flow sensor with quarterly inspections separated by at least 60 calendar days but not more than 120 calendar days.

(ii) For a source complying with subsection (f)(1)(i), a temperature CPMS that meets the requirements of subsection (m)(1) and (4) to measure and record the average carbon bed temperature for the duration of the carbon bed steaming cycle and measure the actual carbon bed temperature after regeneration and within 15 minutes of completing the cooling cycle.

(iii) For a source complying with subsection (f)(1)(ii), an organic concentration CPMS that meets subsection (m)(1) and (5) that measures the concentration level of organic compounds in the exhaust vent stream from the control device.

(2) Operate the control device in compliance with the operating parameter value established under subsection (m)(6).

(3) Calculate the daily average of the applicable monitored operating parameter for each operating day, using the valid data recorded by the CPMS as specified in subsection (m)(7).

(4) Ensure that the daily average of the monitoring parameter value calculated under paragraph (3) complies with the parameter value established under paragraph (2) as specified in subsection (m)(9).

(5) Operate the CPMS installed in paragraph (1) whenever the source is operating, except during the times specified in subsection (m)(8)(iii).

(6) Ensure that the design analysis to meet subsection (f)(1)(iii) and (2) for the regenerable carbon adsorption system meets the following:

(i) Includes an analysis of the vent stream, including the following information:

- (A) Composition.
- (B) Constituent concentrations.
- (C) Flowrate.
- (D) Relative humidity.
- (E) Temperature.

(ii) Establishes the following parameters for the regenerable carbon adsorption system:

- (A) Design exhaust vent stream organic compound concentration level.
- (B) Adsorption cycle time.
- (C) Number and capacity of carbon beds.
- (D) Type and working capacity of activated carbon used for the carbon beds.
- (E) Design total regeneration stream flow over the period of each complete carbon bed regeneration cycle.
- (F) Design carbon bed temperature after regeneration.
- (G) Design carbon bed regeneration time.
- (H) Design service life of the carbon.

(h) *Additional compliance requirements for a non-regenerative carbon adsorption system.* The owner or operator of a control device subject to this section that installs a non-regenerative carbon adsorption system shall meet subsection (f) and the following:

(1) Monitor the design carbon replacement interval established in subsection (f)(2) or paragraph (2). The design carbon replacement interval must be based on the total carbon working capacity of the control device and the source operating schedule.

(2) Ensure that the design analysis to meet subsection (f)(1)(iii) and (2) for a non-regenerable carbon adsorption system, such as a carbon canister, meets the following:

(i) Includes an analysis of the vent stream including the following information:

- (A) Composition.
- (B) Constituent concentrations.
- (C) Flowrate.
- (D) Relative humidity.
- (E) Temperature.

(ii) Establishes the following parameters for the non-regenerable carbon adsorption system:

- (A) Design exhaust vent stream organic compound concentration level.
- (B) Capacity of the carbon bed.
- (C) Type and working capacity of activated carbon used for the carbon bed.
- (D) Design carbon replacement interval based on the total carbon working capacity of the control device and the source operating schedule.

(iii) Incorporates dual carbon canisters in case of emission breakthrough occurring in one canister.

(i) *Compliance requirements for a condenser or non-destructive control device.* The owner or operator of a control device subject to this section that installs a condenser or other non-destructive control device shall meet subsection (b)(1) and (2) and the following:

(1) Design and operate the condenser or other non-destructive control device to reduce the mass content of VOC in the gases vented to the device as demonstrated by one of the following:

- (i) Determining the VOC emissions reduction is 95.0% by weight or greater under subsection (k).
- (ii) Reducing the concentration of TOC in the exhaust gases at the outlet to the device to a level less than or equal to 275 ppmvd as propane corrected to 3% oxygen as determined under subsection (l).
- (iii) Conducting a design analysis in accordance with paragraph (7).



(2) Prepare a site-specific monitoring plan that addresses the following CPMS design, data collection, and quality assurance and quality control elements:

(i) The performance criteria and design specifications for the CPMS equipment, including the following:

(A) The location of the sampling interface that allows the CPMS to provide representative measurements. For a temperature CPMS that meets the requirements of subsection (m)(1) and (4) the sensor must be installed in the exhaust vent stream as detailed in the procedures of the site-specific monitoring plan.

(B) Equipment performance checks, system accuracy audits or other audit procedures.

(I) Performance evaluations of each CPMS shall be conducted in accordance with the site-specific monitoring plan.

(II) CPMS performance checks, system accuracy audits or other audit procedures specified in the site-specific monitoring plan shall be conducted at least once every 12 months.

(ii) Ongoing operation and maintenance procedures in accordance with 40 CFR 60.13(b) (relating to monitoring requirements).

(iii) Ongoing reporting and recordkeeping procedures in accordance with 40 CFR 60.7(c), (d) and (f) (relating to notification and record keeping).

(3) Install, calibrate, operate and maintain a CPMS according to the site-specific monitoring plan described in paragraph (2) and the applicable requirements of subsection (m) to measure the values of the operating parameters appropriate to the control device as follows:

(i) For a source complying with paragraph (1)(i), a temperature CPMS that meets subsection (m)(1) and (4) to measure and record the average condenser outlet temperature.

(ii) For a source complying with paragraph (1)(ii), an organic concentration CPMS that meets subsection (m)(1) and (5) that measures the concentration level of organic compounds in the exhaust vent stream from the control device.

(4) Operate the control device in compliance with the operating parameter value established under subsection (m)(6).

(5) Calculate the daily average of the applicable monitored operating parameter for each operating day, using the valid data recorded by the CPMS as follows:

(i) For a source complying with paragraph (1)(i), use the calculated daily average condenser outlet temperature as specified in subsection (m)(7) and the condenser performance curve established under subsection (m)(6)(iii) to determine the condenser efficiency for the current operating day. Calculate the 365-day rolling average TOC emission reduction, as appropriate, from the condenser efficiencies as follows:

(A) If there is less than 120 days of data for determining average TOC emission reduction, calculate the average TOC emission reduction for the first 120 days of operation. Compliance is demonstrated with paragraph (1)(i) if the 120-day average TOC emission reduction is equal to or greater than 95.0% by weight.

(B) After 120 days and no more than 364 days of operation, calculate the average TOC emission reduction as the TOC emission reduction averaged over the number of days of operation for which there is data. Compliance is demonstrated with paragraph (1)(i) if the average TOC emission reduction is equal to or greater than 95.0% by weight.

(C) If there is data for 365 days or more of operation, compliance is demonstrated with the TOC emission reduction if the rolling 365-day average TOC emission reduction calculated in subparagraph (i) is equal to or greater than 95.0% by weight.

(ii) For a source complying with paragraph (1)(ii), calculate the daily average concentration for each operating day, using the data recorded by the CPMS as specified in subsection (m)(7). Compliance is demonstrated with paragraph (1)(ii) if the daily average concentration is less than the operating parameter under paragraph (4) as specified in subsection (m)(9).

(6) Operate the CPMS installed in accordance with paragraph (3) whenever the source is operating, except during the times specified in subsection (m)(8)(iii).

(7) Ensure that the design analysis to meet paragraph (1)(iii) for a condenser or other non-destructive control device meets the following:

(i) Includes an analysis of the vent stream including the following information:

- (A) Composition.
- (B) Constituent concentrations.
- (C) Flowrate.
- (D) Relative humidity.
- (E) Temperature.

(ii) Establishes the following parameters for the condenser or other non-destructive control device:

- (A) Design outlet organic compound concentration level.
- (B) Design average temperature of the condenser exhaust vent stream.
- (C) Design average temperatures of the coolant fluid at the condenser inlet and outlet.

(j) *General performance test requirements.* The owner or operator shall meet the following performance test requirements:

(1) The owner or operator shall do the following, as applicable:

(i) Except as specified in subparagraph (iii), conduct an initial performance test within 180 days after installation of a control device.

(ii) Except as specified in subparagraph (iii), conduct a performance test of an existing control device on or before July 30, 2023, unless the owner or operator of the control device is complying with an established performance test interval, in which case the current schedule should be maintained.

(iii) The performance test in subparagraph (i) or subparagraph (ii) is not required if the owner or operator meets one or more of the following:

(A) Installs a manufacturer-tested combustion device that meets the requirements of subsection (c).

(B) Installs a flare that meets the requirements of subsection (e).

(C) Installs a boiler or process heater with a design heat input capacity of 44 megawatts (150 MMBtu per hour) or greater.

(D) Installs a boiler or process heater which introduces the vent stream with the primary fuel or uses the vent stream as the primary fuel.

(E) Installs a boiler or process heater which burns hazardous waste that meets one or more of the following:

(I) For which an operating permit was issued under 40 CFR Part 270 (relating to EPA administered permit programs: the hazardous waste permit program) and complies with the requirements of 40 CFR Part 266, Subpart H.

(II) For which compliance with the interim status requirements of 40 CFR Part 266, Subpart H has been certified.

(III) Which complies with 40 CFR Part 63, Subpart EEE and for which a Notification of Compliance under 40 CFR 63.1207(j) was submitted to the Department.

(IV) Which complies with 40 CFR Part 63, Subpart EEE and for which a Notification of Compliance under 40 CFR 63.1207(j) will be submitted to the Department within 90 days of the completion of the initial performance test report unless a written request for an extension is submitted to the Department.

(F) Installs a hazardous waste incinerator which meets the requirements of 40 CFR Part 63, Subpart EEE and for which the Notification of Compliance under 40 CFR 63.1207(j):

(I) Was submitted to the Department.

(II) Will be submitted to the Department within 90 days of the completion of the initial performance test report unless a written request for an extension is submitted to the Department.

(G) Requests the performance test be waived under 40 CFR 60.8(b) (relating to performance tests).

(2) Conduct a periodic performance test no more than 60 months after the most recent performance test unless the owner or operator:

(i) Monitors the inlet gas flow for a manufacturer-tested combustion device under subsection (c)(1)(i).

- (ii) Installs a control device exempt from testing requirements under paragraph (1)(iii)(A)—(G).
- (iii) Establishes a correlation between firebox or combustion chamber temperature and the VOC performance level for an enclosed combustion device under subsection (d)(2)(iii).
- (3) Conduct a performance test when establishing a new operating limit.
- (k) *Performance test method for demonstrating compliance with a control device weight-percent VOC emission reduction requirement.* Demonstrate compliance with the control device weight-percent VOC emission reduction requirements of subsections (c)(1)(ii), (d)(1)(i), (f)(1)(i) and (i)(1)(i) by meeting subsection (j) and the following:
  - (1) Conducting a minimum of three test runs of at least 1-hour duration.
  - (2) Using EPA Method 1 or EPA Method 1A, as appropriate, to select the sampling sites which must be located at the inlet of the first control device and at the outlet of the final control device. References to particulate mentioned in EPA Method 1 or EPA Method 1A do not apply to this paragraph.
  - (3) Using EPA Method 2, EPA Method 2A, EPA Method 2C or EPA Method 2D, as appropriate, to determine the gas volumetric flowrate.
  - (4) Using EPA Method 25A to determine compliance with the control device percent VOC emission reduction performance requirement using the following procedure:
    - (i) Convert the EPA Method 25A results to a dry basis, using EPA Method 4.
    - (ii) Compute the mass rate of TOC using the following equations:

$$E_i = K_2 C_i M_p Q_i$$

$$E_o = K_2 C_o M_p Q_o$$

Where:

$E_i$  = Mass rate of TOC at the inlet of the control device on a dry basis, in kilograms per hour (pounds per hour).

$E_o$  = Mass rate of TOC at the outlet of the control device on a dry basis, in kilograms per hour (pounds per hour).

$K_2$  = Constant,  $2.494 \times 10^{-6}$  (ppm) (mole per standard cubic meter) (kilogram per gram) (minute per hour) where standard temperature (mole per standard cubic meter) is 20 °Celsius

Or

$K_2$  = Constant,  $1.554 \times 10^{-7}$  (ppm) (lb-mole per standard cubic feet) (minute per hour), where standard temperature (lb-mole per standard cubic feet) is 68 °Fahrenheit.

$C_i$  = Concentration of TOC, as propane, of the gas stream as measured by EPA Method 25A at the inlet of the control device, ppmvd.

$C_o$  = Concentration of TOC, as propane, of the gas stream as measured by EPA Method 25A at the outlet of the control device, ppmvd.

$M_p$  = Molecular weight of propane, 44.1 gram per mole (pounds per lb-mole).

$Q_i$  = Flowrate of gas stream at the inlet of the control device in dry standard cubic meter per minute (dry standard cubic feet per minute).

$Q_o$  = Flowrate of gas stream at the outlet of the control device in dry standard cubic meter per minute (dry standard cubic feet per minute).

(iii) Calculate the percent reduction in TOC as follows:

$$R_{cd} = \frac{E_i - E_o}{E_i} * 100\%$$

Where:

$R_{cd}$  = Control efficiency of control device, percent.

$E_i$  = Mass rate of TOC at the inlet to the control device as calculated in subparagraph (ii), kilograms per hour (pounds per hour).

$E_o$  = Mass rate of TOC at the outlet of the control device as calculated in subparagraph (ii), kilograms per hour (pounds per hour).

(iv) If the vent stream entering a boiler or process heater with a performance testing requirement is introduced with the combustion air or as a secondary fuel, the owner or operator shall:

(A) Calculate  $E_i$  in subparagraph (ii) by using the TOC concentration in all combusted vent streams, primary fuels and secondary fuels as  $C_i$ .

(B) Calculate  $E_o$  in subparagraph (ii) by using the TOC concentration exiting the device as  $C_o$ .

(C) Determine the weight-percent reduction of TOC across the device in accordance with subparagraph (iii).

(5) The weight-percent reduction of TOC across the control device represents the VOC weight-percent reduction for demonstration of compliance with subsections (c)(1)(ii), (d)(1)(i), (f)(1)(i) and (i)(1)(i).

(1) *Performance test method for demonstrating compliance with an outlet concentration requirement.* Demonstrate compliance with the TOC concentration requirement of subsections (d)(1)(ii), (f)(1)(ii) and (i)(1)(ii) by meeting subsection (j) and the following:

(1) Conducting a minimum of three test runs of at least 1-hour duration.

(2) Using EPA Method 1 or EPA Method 1A, as appropriate, to select the sampling sites which must be located at the outlet of the control device. References to particulate mentioned in EPA Method 1 or EPA Method 1A do not apply to this paragraph.

(3) Using EPA Method 2, EPA Method 2A, EPA Method 2C, or EPA Method 2D, as appropriate, to determine the gas volumetric flowrate.

(4) Using EPA Method 25A to determine compliance with the TOC concentration requirement using the following procedures:

(i) Measure the TOC concentration, as propane.

(ii) For a control device subject to subsection (f) or subsection (i), the results of EPA Method 25A in subparagraph (i) may be adjusted by subtracting the concentration of methane and ethane measured using EPA Method 18 taking either:

(A) An integrated sample.

(B) A minimum of four grab samples per hour using the following procedures:

(I) Taking the samples at approximately equal intervals in time, such as 15-minute intervals during the run.

(II) Taking the samples during the same time as the EPA Method 25A sample.

(III) Determining the average methane and ethane concentration per run.

(iii) The TOC concentration must be adjusted to a dry basis, using EPA Method 4.

(iv) The TOC concentration must be corrected to 3% oxygen as follows:

(A) The oxygen concentration must be determined using the emission rate correction factor for excess air, integrated sampling and analysis procedures from one of the following methods:

(I) EPA Method 3A.

(II) EPA Method 3B.

(III) ASTM D6522-00.

(IV) ANSI/ASME PTC 19.10-1981, Part 10.

(B) The samples for clause (A) must be taken during the same time that the samples are taken for determining the TOC concentration.

(C) The TOC concentration for percent oxygen must be corrected as follows:

$$C_c = C_m \left( \frac{17.9}{20.9 - \%O_{2m}} \right)$$

Where:

$C_c$  = TOC concentration, as propane, corrected to 3% oxygen, ppmvd.

$C_m$  = TOC concentration, as propane, ppmvd.

$\%O_{2m}$  = Concentration of oxygen, percent by volume as measured, dry.

(m) *Continuous parameter monitoring system requirements.* The owner or operator of a source subject to § 129.131(a) (relating to general provisions and applicability) and controlled by a device listed in subsections (c)—(i) that is required to install a CPMS shall:

(1) Ensure the CPMS measures the applicable parameter at least once every hour and continuously records either:

(i) The measured operating parameter value.

(ii) The block average operating parameter value for each 1-hour period calculated using the following procedures:

- (A) The block average from all measured data values during each period.
- (B) If values are measured more frequently than once per minute, a single value for each minute may be used instead of all measured values.
- (2) Ensure the flow CPMS has either:
  - (i) An accuracy of  $\pm 2\%$  or better at the maximum expected flow rate.
  - (ii) A measurement sensitivity of 5% of the flow rate or 10 standard cubic feet per minute, whichever is greater.
- (3) Ensure the heat-sensing CPMS indicates the presence of the pilot flame while emissions are routed to the control device. Heat-sensing CPMS are exempt from the calibration, quality assurance and quality control requirements in this section.
- (4) Ensure the temperature CPMS has a minimum accuracy of  $\pm 1\%$  of the temperature being monitored in  $^{\circ}\text{Celsius}$  ( $\pm 1.8\%$  in  $^{\circ}\text{Fahrenheit}$ ) or  $\pm 2.5^{\circ}\text{Celsius}$  ( $\pm 4.5^{\circ}\text{Fahrenheit}$ ), whichever value is greater.
- (5) Ensure the organic concentration CPMS meets the requirements of Performance Specification 8 or 9 of 40 CFR Part 60, Appendix B (relating to performance specifications).
- (6) Establish the operating parameter value to define the conditions at which the control device must be operated to continuously achieve the applicable performance requirement as follows:
  - (i) For a parameter value established while conducting a performance test under subsection (k) or subsection (l):
    - (A) Base each minimum operating parameter value on the value established while conducting the performance test and supplemented, as necessary, by the design analysis of subsection (g)(6), subsection (h)(2) or subsection (i)(7), the manufacturer's recommendations, or both.
    - (B) Base each maximum operating parameter value on the value established while conducting the performance test and supplemented, as necessary, by the design analysis of subsection (g)(6), subsection (h)(2) or subsection (i)(7), the manufacturer's recommendations, or both.
  - (ii) Except as specified in clause (C), for a parameter value established using a design analysis in subsection (g)(6), subsection (h)(2) or subsection (i)(7):
    - (A) Base each minimum operating parameter value on the value established in the design analysis and supplemented, as necessary, by the manufacturer's recommendations.
    - (B) Base each maximum operating parameter value on the value established in the design analysis and supplemented, as necessary, by the manufacturer's recommendations.
    - (C) If the owner or operator and the Department do not agree on a demonstration of control device performance using a design analysis as specified in clause (A) or (B), then the owner or operator shall perform a

performance test under subsection (k) or subsection (l) to resolve the disagreement. The Department may choose to have an authorized representative observe the performance test.

(iii) For a condenser, establish a condenser performance curve showing the relationship between condenser outlet temperature and condenser control efficiency that demonstrates the condenser complies with the applicable performance requirements in subsection (i)(1) as follows:

(A) Based on the value measured while conducting a performance test under subsection (k) or subsection (l) and supplemented, as necessary, by a condenser design analysis performed under subsection (i)(7), the manufacturer's recommendations, or both.

(B) Based on the value from a condenser design analysis performed under subsection (i)(7) supplemented, as necessary, by the manufacturer's recommendations.

(7) Except for the CPMS in paragraphs (2) and (3), calculate the daily average for each monitored parameter for each operating day using the data recorded by the CPMS. Valid data points must be available for 75% of the operating hours in an operating day to compute the daily average where the operating day is:

(i) A 24-hour period if the control device operation is continuous.

(ii) The total number of hours of control device operation per 24-hour period.

(8) Except as specified in subparagraph (iii), do both of the following:

(i) Ensure the data recorded by the CPMS is used to assess the operation of the control device and associated control system.

(ii) Report the failure to collect the required data in paragraph (1) as a deviation of the monitoring requirements.

(iii) The requirements of subparagraphs (i) and (ii) do not apply during:

(A) A monitoring system malfunction.

(B) A repair associated with a monitoring system malfunction.

(C) A required monitoring system quality assurance or quality control activity.

(9) Determine compliance with the established parameter value by comparing the calculated daily average to the established operating parameter value as follows:

(i) For a minimum operating parameter established in paragraph (6)(i)(A) or paragraph (6)(ii)(A), the control device is in compliance if the calculated value is equal to or greater than the established value.

(ii) For a maximum operating parameter established in paragraph (6)(i)(B) or paragraph (6)(ii)(B), the control device is in compliance if the calculated value is less than or equal to the established value.



**Authority**

The provisions of this § 129.139 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

**Source**

The provisions of this § 129.139 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.

**Cross References**

This section cited in 25 Pa. Code § 129.131 (relating to general provisions and applicability); 25 Pa. Code § 129.132 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.133 (relating to storage vessels); 25 Pa. Code § 129.135 (relating to natural gas-driven diaphragm pumps); 25 Pa. Code § 129.136 (relating to compressors); 25 Pa. Code § 129.137 (relating to fugitive emissions components); 25 Pa. Code § 129.138 (relating to covers and closed vent systems); and 25 Pa. Code § 129.140 (relating to recordkeeping and reporting).

**§ 129.140. Recordkeeping and reporting.**

(a) *Recordkeeping.* The owner or operator of a source subject to §§ 129.131—129.139 shall maintain the applicable records onsite or at the nearest local field office for 5 years. The records shall be made available to the Department upon request.

(b) *Storage vessels.* The records for each storage vessel must include the following, as applicable:

(1) The identification and location of each storage vessel subject to § 129.133 (relating to storage vessels). The location of the storage vessel shall be in latitude and longitude coordinates in decimal degrees to an accuracy and precision of 5 decimals of a degree using the North American Datum of 1983.

(2) Each deviation when the storage vessel was not operated in compliance with the requirements specified in § 129.133.

(3) The identity of each storage vessel removed from service under § 129.133(e) and the date on which it was removed from service.

(4) The identity of each storage vessel returned to service under § 129.133(f) and the date on which it was returned to service.

(5) The identity of each storage vessel and the VOC potential to emit calculation under § 129.133(a)(2).

(6) The identity of each storage vessel and the actual VOC emission calculation under § 129.133(c)(2)(i) including the following information:

(i) The date of each monthly calculation performed under § 129.133(c)(2)(i).

(ii) The calculation determining the actual VOC emissions each month.

(iii) The calculation demonstrating that the actual VOC emissions are less than 2.7 TPY determined as a 12-month rolling sum.

(7) The records documenting the time the skid-mounted or mobile storage vessel under § 129.133(d)(1) is located on site. If a skid-mounted or mobile storage vessel is removed from a site and either returned or replaced within 30

calendar days to serve the same or similar function, count the entire period since the original storage vessel was removed towards the number of consecutive days.

(8) The identity of each storage vessel required to reduce VOC emissions under § 129.133(b)(1) and the demonstration under § 129.133(b)(1)(iv).

(c) *Natural gas-driven continuous bleed pneumatic controllers.* The records for each natural gas-driven continuous bleed pneumatic controller must include the following, as applicable:

(1) The required compliance date, identification, location and manufacturer specifications for each natural gas-driven continuous bleed pneumatic controller subject to § 129.134(c) (relating to natural gas-driven continuous bleed pneumatic controllers).

(2) Each deviation when the natural gas-driven continuous bleed pneumatic controller was not operated in compliance with the requirements specified in § 129.134(c).

(3) If the natural gas-driven continuous bleed pneumatic controller is located at a natural gas processing plant, the documentation that the natural gas bleed rate is zero.

(4) For a natural gas-driven continuous bleed pneumatic controller under § 129.134(b), the determination based on a functional requirement for why a natural gas bleed rate greater than the applicable standard is required. A functional requirement includes one or more of the following:

- (i) Response time.
- (ii) Safety.
- (iii) Positive actuation.

(d) *Natural gas-driven diaphragm pumps.* The records for each natural gas-driven diaphragm pump must include the following, as applicable:

(1) The required compliance date, location and manufacturer specifications for each natural gas-driven diaphragm pump subject to § 129.135 (relating to natural gas-driven diaphragm pumps).

(2) Each deviation when the natural gas-driven diaphragm pump was not operated in compliance with the requirements specified in § 129.135.

(3) For a natural gas-driven diaphragm pump under § 129.135(d), the records of the days of operation each calendar year. Any period of operation during a calendar day counts toward the 90-calendar-day threshold.

(4) For a natural gas-driven diaphragm pump under § 129.135(c)(1), maintain the following records:

- (i) The records under subsection (j) for the control device type.
- (ii) One of the following:

(A) The results of a performance test under § 129.139(k) or (l) (relating to control devices).

(B) A design evaluation indicating the percentage of VOC emissions reduction the control device is designed to achieve.

- (C) The manufacturer's specifications indicating the percentage of VOC emissions reduction the control device is designed to achieve.
- (5) For a well site with no available control device or process under § 129.135(c)(2), maintain a copy of the certification submitted under subsection (k)(3)(iii)(B)(II).
- (6) The engineering assessment substantiating a claim under § 129.135(c)(3), including the certification under § 129.135(c)(3)(ii)(C).
- (7) For a natural gas-driven diaphragm pump required to reduce VOC emissions under § 129.135(b)(1), the demonstration under § 129.135(b)(1)(iii).
- (e) *Reciprocating compressors*. The records for each reciprocating compressor must include the following, as applicable:
- (1) For a reciprocating compressor under § 129.136(b)(1)(i) (relating to compressors), the following records:
    - (i) The cumulative number of hours of operation.
    - (ii) The date and time of each rod packing replacement.
  - (2) For a reciprocating compressor under § 129.136(b)(1)(ii), the following records:
    - (i) The number of months since the previous replacement of the rod packing.
    - (ii) The date of each rod packing replacement.
  - (3) For a reciprocating compressor under § 129.136(b)(2), the following records:
    - (i) A statement that emissions from the rod packing are being routed to a control device or a process through a closed vent system under negative pressure.
    - (ii) The date of installation of a rod packing emissions collection system and closed vent system as specified in § 129.136(b)(2).
  - (4) Each deviation when the reciprocating compressor was not operated in compliance with § 129.136(b).
- (f) *Centrifugal compressors*. The records for each centrifugal compressor must include the following, as applicable:
- (1) An identification of each existing centrifugal compressor using a wet seal system subject to § 129.136(c).
  - (2) Each deviation when the centrifugal compressor was not operated in compliance with § 129.136(c).
  - (3) For a centrifugal compressor required to reduce VOC emissions under § 129.136(c)(1), the demonstration under § 129.136(c)(3).
- (g) *Fugitive emissions components*. The records for each fugitive emissions component must include the following, as applicable:
- (1) For an oil well site subject to § 129.137(c)(1)(ii) (relating to fugitive emissions components):
    - (i) The location of each well and its United States Well ID Number.

- (ii) The analysis documenting a GOR of less than 300 standard cubic feet of gas per barrel of oil produced, conducted using generally accepted methods. The analysis must be signed by and include a certification by the responsible official stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- (2) For each well site, the average production calculations required under § 129.137(b)(1) and § 129.137(c)(4).
- (3) For a well site subject to § 129.137(c)(2) or (c)(3), a natural gas gathering and boosting station or a natural gas processing plant:
  - (i) The fugitive emissions monitoring plan under § 129.137(g).
  - (ii) The records of each monitoring survey conducted under § 129.137(c)(2)(ii), (c)(3)(ii) or (e)(2). The monitoring survey must include the following information:
    - (A) The facility name and location.
    - (B) The date, start time and end time of the survey.
    - (C) The name of the equipment operator performing the survey.
    - (D) The monitoring instrument used.
    - (E) The ambient temperature, sky conditions and maximum wind speed at the time of the survey.
    - (F) Each deviation from the monitoring plan or a statement that there were none.
    - (G) Documentation of each fugitive emission including:
      - (I) The identification of each component from which fugitive emissions were detected.
      - (II) The instrument reading of each fugitive emissions component that meets the definition of a leak under § 129.132(a) (relating to definitions, acronyms and EPA methods).
      - (III) The repair methods applied in each attempt to repair the component.
      - (IV) The tagging or digital photographing of each component not repaired during the monitoring survey in which the fugitive emissions were discovered.
      - (V) The reason a component was placed on delay of repair.
      - (VI) The date of successful repair of the component.
      - (VII) If repair of the component was not completed during the monitoring survey in which the fugitive emissions were discovered, the information on the instrumentation or the method used to resurvey the component after repair.
- (h) *Covers*. The records for each cover include the results of each cover inspection under § 129.138(a) (relating to covers and closed vent systems).
  - (i) *Closed vent systems*. The records for each closed vent system must include the following, as applicable:

- (1) The results of each closed vent system inspection under § 129.138(b)(2).
- (2) For the no detectable emissions inspections of § 129.138(d), a record of the monitoring survey as specified under subsection (g)(3)(ii).
- (3) The engineering assessment under § 129.138(c), including the certification under § 129.138(c)(3).
- (4) If the closed vent system includes a bypass device subject to § 129.138(b)(4), a record of:
  - (i) Each time the alarm is activated.
  - (ii) Each time the key is checked out, as applicable.
  - (iii) Each inspection required under § 129.138(b)(4)(ii)(B).
- (j) *Control devices.* The records for each control device must include the following, as applicable:
  - (1) Make, model and serial number of the purchased device.
  - (2) Date of purchase.
  - (3) Copy of purchase order.
  - (4) Location of the control device in latitude and longitude coordinates in decimal degrees to an accuracy and precision of 5 decimals of a degree using the North American Datum of 1983.
  - (5) For the general requirements under § 129.139(b):
    - (i) The manufacturer's written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions under § 129.139(b)(1).
    - (ii) The results of each monthly physical integrity check performed under § 129.139(b)(2).
    - (iii) The CPMS data which indicates the presence of a pilot flame during the device's operation under § 129.139(b)(3).
    - (iv) The results of the visible emissions test under § 129.139(b)(4) using Figure 22-1 in EPA Method 22 or a form which includes the following:
      - (A) The name of the company that owns or operates the control device.
      - (B) The location of the control device.
      - (C) The name and affiliation of the person performing the observation.
      - (D) The sky conditions at the time of observation.
      - (E) Type of control device.
      - (F) The clock start time.
      - (G) The observation period duration, in minutes and seconds.
      - (H) The accumulated emission time, in minutes and seconds.
      - (I) The clock end time.
    - (v) The results of the visible emissions test required in § 129.139(b)(6) under subparagraph (iv) following a return to operation from a maintenance or repair activity performed under § 129.139(b)(5).

- (vi) The maintenance and repair log under § 129.139(b)(7).
- (6) For a manufacturer-tested combustion control device under § 129.139(c), maintain the following records:
  - (i) The records specified in paragraph (5)(i)—(vi).
  - (ii) The manufacturer's specified inlet gas flow rate.
  - (iii) The CPMS results under § 129.139(c)(1)(i).
  - (iv) The results of each performance test conducted under § 129.139(c)(1)(ii) as performed under § 129.139(k).
- (7) For an enclosed combustion device in § 129.139(d):
  - (i) The records specified in paragraph (5)(i)—(vi).
  - (ii) The results of each performance test conducted under § 129.139(d)(1)(i) as performed under § 129.139(k).
  - (iii) The results of each performance test conducted under § 129.139(d)(1)(ii) as performed under § 129.139(l).
  - (iv) The data and calculations for the CPMS installed, operated or maintained under § 129.139(d)(2).
- (8) For a flare in § 129.139(e), the records specified in paragraph (5)(iii)—(vi).
- (9) For a regenerative carbon adsorption device in § 129.139(g):
  - (i) The records specified in paragraph (5)(i) and (ii).
  - (ii) The results of the performance test conducted under § 129.139(f)(1)(i) as performed under § 129.139(k).
  - (iii) The results of the performance test conducted under § 129.139(f)(1)(ii) as performed under § 129.139(l).
  - (iv) The control device design analysis, if one is performed under § 129.139(g)(6).
  - (v) The data and calculations for a CPMS installed, operated or maintained under § 129.139(g)(1)—(5).
  - (vi) The schedule for carbon replacement, as determined by § 129.139(f)(2) or the design analysis requirements of § 129.139(g)(6) and records of each carbon replacement under § 129.139(f)(3) and (4).
- (10) For a nonregenerative carbon adsorption device in § 129.139(h):
  - (i) The records specified in paragraph (5)(i) and (ii).
  - (ii) The results of the performance test conducted under § 129.139(f)(1)(i) as performed under § 129.139(k).
  - (iii) The results of the performance test conducted under § 129.139(f)(1)(ii) as performed under § 129.139(l).
  - (iv) The control device design analysis, if one is performed under § 129.139(h)(2).
  - (v) The schedule for carbon replacement, as determined by § 129.139(f)(2) or the design analysis requirements of § 129.139(h)(2) and records of each carbon replacement under § 129.139(f)(3) and (4).
- (11) For a condenser or other nondestructive control device in § 129.139(i):

- (i) The records specified in paragraph (5)(i) and (ii).
  - (ii) The results of the performance test conducted under § 129.139(i)(1)(i) as performed under § 129.139(k).
  - (iii) The results of the performance test conducted under § 129.139(i)(1)(ii) as performed under § 129.139(l).
  - (iv) The control device design analysis, if one is performed under § 129.139(i)(7).
  - (v) The site-specific monitoring plan under § 129.139(i)(2).
  - (vi) The data and calculations for a CPMS installed, operated or maintained under § 129.139(i)(3)—(5).
- (k) *Reporting.* The owner or operator of a source subject to § 129.131(a) (relating to general provisions and applicability) shall do the following:
- (1) Submit an initial annual report to the Air Program Manager of the appropriate Department Regional Office by December 2, 2023, and annually thereafter on or before June 1.
    - (i) The responsible official must sign, date and certify compliance and include the certification in the initial report and each subsequent annual report.
    - (ii) The due date of the initial report may be extended with the written approval of the Air Program Manager of the appropriate Department Regional Office.
  - (2) Submit the reports under paragraph (3) in a manner prescribed by the Department.
  - (3) Submit the information specified in subparagraphs (i)—(ix) for each report as applicable:
    - (i) *Storage vessels.* The report for each storage vessel must include the information specified in subsection (b)(1)—(4) for the reporting period, as applicable.
    - (ii) *Natural gas-driven continuous bleed pneumatic controllers.* The initial report for each natural gas-driven continuous bleed pneumatic controller must include the information specified in subsection (c), as applicable. Subsequent reports must include the following:
      - (A) The information specified in subsection (c)(1) and (2) for each natural gas-driven continuous bleed pneumatic controller.
      - (B) The information specified in subsection (c)(3) and (4) for each natural gas-driven continuous bleed pneumatic controller installed during the reporting period.
    - (iii) *Natural gas-driven diaphragm pumps.* The report for each natural gas-driven diaphragm pump must include the following:
      - (A) The information specified in subsection (d)(1) and (2) for the reporting period, as applicable.
      - (B) A certification of the compliance status of each natural gas-driven diaphragm pump during the reporting period using one of the following:

(I) A certification that the emissions from the natural gas-driven diaphragm pump are routed to a control device or process under § 129.135(b)(1)(ii) or (c)(1). If the control device is installed during the reporting period under § 129.135(c)(2)(iii), include the information specified in subsection (d)(4).

(II) A certification under § 129.135(c)(2) that there is no control device or process available at the facility during the reporting period. This includes if a control device or process is removed from the facility during the reporting period.

(III) A certification according to § 129.135(c)(3)(ii)(C) that it is technically infeasible to capture and route emissions from:

(-a-) A natural gas-driven diaphragm pump installed during the reporting period to an existing control device or process.

(-b-) An existing natural gas-driven diaphragm pump to a control device or process installed during the reporting period.

(-c-) An existing natural gas-driven diaphragm pump to another control device or process located at the facility due to the removal of the original control device or process during the reporting period.

(iv) *Reciprocating compressors*. The report for each reciprocating compressor must include the information specified in subsection (e) for the reporting period, as applicable.

(v) *Centrifugal compressors*. The report for each centrifugal compressor must include the information specified in subsection (f) for the reporting period, as applicable.

(vi) *Fugitive emissions components*. The report for each fugitive emissions component must include the records of each monitoring survey conducted during the reporting period as specified in subsection (g)(3)(ii).

(vii) *Covers*. The report for each cover must include the information specified in subsection (h) for the reporting period, as applicable.

(viii) *Closed vent systems*. The report for each closed vent system must include the information specified in subsection (i)(1) and (2) for the reporting period, as applicable. The information specified in subsection (i)(3) is only required for the initial report or if the closed vent system was installed during the reporting period.

(ix) *Control devices*. The report for each control device must include the information specified in subsection (j), as applicable.

#### Authority

The provisions of this § 129.140 added under section 5(a)(1) and (8) of the Air Pollution Act (35 P.S. § 4005(a)(1) and (8)).

#### Source

The provisions of this § 129.140 added December 9, 2022, effective December 2, 2022, 52 Pa.B. 7635.



**Cross References**

This section cited in 25 Pa. Code § 129.131 (relating to general provisions and applicability); 25 Pa. Code § 129.132 (relating to definitions, acronyms and EPA methods); 25 Pa. Code § 129.133 (relating to storage vessels); 25 Pa. Code § 129.134 (relating to natural gas-driven continuous bleed pneumatic controllers); 25 Pa. Code § 129.135 (relating to natural gas-driven diaphragm pumps); 25 Pa. Code § 129.136 (relating to compressors); 25 Pa. Code § 129.137 (relating to fugitive emissions components); 25 Pa. Code § 129.138 (relating to covers and closed vent systems); and 25 Pa. Code § 129.139 (relating to control devices).

**ADDITIONAL NO<sub>x</sub> REQUIREMENTS****§ 129.201. Boilers.**

(a) By May 1, 2005, and each year thereafter, the owner or operator of a boiler that meets the definition of a boiler in § 145.2 (relating to definitions) located in Bucks, Chester, Delaware, Montgomery or Philadelphia County shall comply with this section and § 129.204 (relating to emission accountability). This section does not apply to naval marine combustion units operated by the United States Navy for the purposes of testing and operational training or to units that combust municipal waste at a facility that is permitted as a resource recovery facility under Part I, Subpart D, Article VIII (relating to municipal waste).

(b) By October 31, 2005, and each year thereafter, the owner or operator of the boiler shall calculate the difference between the actual emissions from the unit for the period from May 1 through September 30 and the allowable emissions for that period.

(c) The owner or operator shall calculate allowable emissions by multiplying the unit's cumulative heat input for the period by the applicable emission rate in paragraph (1) or (2).

(1) The emission rate for a boiler with a nameplate rated capacity of greater than 100 million Btu/hour but less than or equal to 250 million Btu/hour shall be as follows:

(i) For a boiler firing natural gas or a boiler firing a noncommercial gaseous fuel, 0.10 pounds NO<sub>x</sub> per million Btu heat input.

(ii) For a boiler firing solid or liquid fuel, 0.20 pounds of NO<sub>x</sub> per million Btu heat input.

(2) The emission rate for a boiler with a nameplate rated capacity of greater than 250 million Btu/hour that is not subject to § 145.8(c) or (d) (relating to transition to CAIR NO<sub>x</sub> trading programs) shall be 0.17 pounds NO<sub>x</sub> per million Btu heat input.

**Authority**

The provisions of this § 129.201 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.201 adopted December 10, 2004, effective December 11, 2004, 34 Pa.B. 6509; amended April 11, 2008, effective April 12, 2008, 38 Pa.B. 1705. Immediately preceding text appears at serial pages (308492) to (308493).

**Cross References**

This section cited in 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.204 (relating to emission accountability); and 25 Pa. Code § 145.8 (relating to transition to CAIR NO<sub>x</sub> trading programs).

**§ 129.202. Stationary combustion turbines.**

(a) By May 1, 2005, and each year thereafter, the owner or operator of a stationary combustion turbine with a nameplate rated capacity of greater than 100 million Btu/hour located in Bucks, Chester, Delaware, Montgomery or Philadelphia County shall comply with this section and § 129.204 (relating to emission accountability). This section does not apply to naval marine stationary combustion turbines operated by the United States Navy for the purposes of testing and operational training.

(b) By October 31, 2005, and each year thereafter, the owner or operator of the stationary combustion turbine shall calculate the difference between the actual emissions from the unit for the period from May 1 through September 30 and the allowable emissions for that period.

(c) The owner or operator shall calculate allowable emissions by multiplying the unit's cumulative heat input for the period by the applicable emission rate set forth in paragraph (1) or (2).

(1) The emission rate for a stationary combustion turbine with a nameplate rated capacity of greater than 100 million Btu/hour but less than or equal to 250 million Btu/hour heat input shall be as follows:

(i) A combined cycle or regenerative cycle stationary combustion turbine:

(A) When firing natural gas or a noncommercial gaseous fuel, 0.17 lbs NO<sub>x</sub>/MMBtu or 1.3 lbs NO<sub>x</sub>/MWH.

(B) When firing oil, 0.26 lbs NO<sub>x</sub>/MMBtu or 2.0 lbs NO<sub>x</sub>/MWH.

(ii) A simple cycle stationary combustion turbine:

(A) When firing natural gas or a noncommercial gaseous fuel, 0.20 lbs NO<sub>x</sub>/MMBtu or 2.2 lbs NO<sub>x</sub>/MWH.

(B) When firing oil, 0.30 lbs NO<sub>x</sub>/MMBtu or 3.0 lbs NO<sub>x</sub>/MWH.

(2) The emission rate for a stationary combustion turbine with a nameplate rated capacity of greater than 250 million Btu/hour heat input that is not sub-

ject to § 145.8(c) or (d) (relating to transition to CAIR NO<sub>x</sub> trading programs) is 0.17 lbs NO<sub>x</sub> per million Btu heat input.

#### Authority

The provisions of this § 129.202 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

#### Source

The provisions of this § 129.202 adopted December 10, 2004, effective December 11, 2004, 34 Pa.B. 6509; amended April 11, 2008, effective April 12, 2008, 38 Pa.B. 1705. Immediately preceding text appears at serial pages (308493) to (308494).

#### Cross References

This section cited in 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.204 (relating to emissions accountability); and 25 Pa. Code § 145.8 (relating to transition to CAIR NO<sub>x</sub> trading program).

### § 129.203. Stationary internal combustion engines.

(a) By May 1, 2005, the owner or operator of a stationary internal combustion engine rated at greater than 1,000 horsepower and located in Bucks, Chester, Delaware, Montgomery or Philadelphia County shall comply with this section and § 129.204 (relating to emission accountability). This section does not apply to naval marine combustion units operated by the United States Navy for the purposes of testing and operational training or to stationary internal combustion engines regulated under Chapter 145, Subchapter B (relating to emissions of NO<sub>x</sub> from stationary internal combustion engines).

(b) By October 31, 2005, and each year thereafter, the owner or operator of the stationary internal combustion engine shall calculate the difference between the actual emissions from the unit during the period from May 1 through September 30 and the allowable emissions for that period.

(c) The owner or operator shall calculate allowable emissions by multiplying the cumulative hours of operations for the unit for the period by the horsepower rating of the unit and by the applicable emission rate set forth in paragraph (1) or (2).

(1) For a spark-ignited engine, 3.0 grams of NO<sub>x</sub> per brake horsepower-hour.

(2) For a compression ignition stationary internal combustion engine firing diesel fuel or a combination of diesel fuel and natural gas, 2.3 grams of NO<sub>x</sub> per brake horsepower-hour.

(d) Emissions from a stationary internal combustion engine that has been or is replaced by an electric motor may be counted as allowable emissions for purposes of this section and § 129.204, as follows:

(1) For a replaced spark-ignited engine, 3.0 grams of NO<sub>x</sub> per brake horsepower-hour of the replacement motor, less 1.5 pounds of NO<sub>x</sub> per MWH of electricity consumed by the replacement motor.

(2) For a replaced compression ignition stationary internal combustion engine that fired diesel fuel or a combination of diesel fuel and natural gas, 2.3 grams of NO<sub>x</sub> per brake horsepower-hour, less 1.5 pounds of NO<sub>x</sub> per MWH of electricity consumed by the replacement motor.

#### Authority

The provisions of this § 129.203 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

#### Source

The provisions of this § 129.203 adopted December 10, 2004, effective December 11, 2004, 34 Pa.B. 6509.

#### Cross References

This section cited in 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.204 (relating to emission accountability); and 25 Pa. Code § 145.8 (relating to transition to CAIR NO<sub>x</sub> trading program).

### § 129.204. Emission accountability.

(a) This section applies to units described in §§ 129.201—129.203 (relating to boilers; stationary combustion turbines; and stationary internal combustion engines).

(b) The owner or operator shall determine actual emissions in accordance with one of the following:

(1) If the owner or operator of the unit is required to monitor NO<sub>x</sub> emissions with a CEMS operated and maintained in accordance with a permit or State or Federal regulation, the CEMS data reported to the Department to comply with the monitoring and reporting requirements of this article shall be used. Any data invalidated under Chapter 139 (relating to sampling and testing) shall be substituted with data calculated using the potential emission rate for the unit or, if approved by the Department in writing, an alternative amount of emissions that is more representative of actual emissions that occurred during the period of invalid data.

(2) If the owner or operator of the unit is not required to monitor NO<sub>x</sub> emissions with a CEMS, one of the following shall be used to determine actual emissions of NO<sub>x</sub>:

(i) The 1-year average emission rate calculated from the most recent permit emission limit compliance demonstration test data for NO<sub>x</sub>.

(ii) The maximum hourly allowable NO<sub>x</sub> emission rate contained in the permit or the higher of the following:

(A) The highest rate determined by use of the emission factor for the unit class contained in the most up-to-date version of the EPA publication, “AP-42 *Compilation of Air Pollution Emission Factors*.”

(B) The highest rate determined by use of the emission factor for the unit class contained in the most up-to-date version of EPA’s “Factor Information Retrieval (FIRE)” data system.

(iii) CEMS data, if the owner or operator elects to monitor NO<sub>x</sub> emissions with a CEMS. The owner or operator shall monitor emissions and report the data from the CEMS in accordance with Chapter 139 or Chapter 145 (relating to interstate pollution transport reduction). Any data invalidated under Chapter 139 shall be substituted with data calculated using the potential emission rate for the unit or, if approved by the Department in writing, an alternative amount of emissions that is more representative of actual emissions that occurred during the period of invalid data.

(iv) An alternate calculation and recordkeeping procedure based upon emissions testing and correlations with operating parameters. The operator of the unit shall demonstrate that the alternate procedure does not underestimate actual emissions throughout the allowable range of operating conditions. In regard to obtaining the Department’s approval for an alternate calculation method and recordkeeping procedure for actual emissions, the owner or operator may request an adjustment to the allowable emissions calculations set forth in §§ 129.201—129.203. An allowable emission adjustment may not overestimate a unit’s allowable emissions and must be based upon the parameters and procedures proposed in the alternate calculation method for actual emissions. The alternate calculation and recordkeeping procedures must be approved by the Department, in writing, prior to implementation.

(c) The owner or operator of a unit subject to this section shall surrender to the Department one CAIR NO<sub>x</sub> allowance and one CAIR NO<sub>x</sub> Ozone Season allowance, as defined in 40 CFR 96.102 and 96.302 (relating to definitions), for each ton of NO<sub>x</sub> by which the combined actual emissions exceed the allowable emissions of the units subject to this section at a facility from May 1 through September 30. The surrendered allowances shall be of current year vintage. For the purpose of determining the amount of allowances to surrender, any remaining fraction of a ton equal to or greater than 0.50 ton is deemed to equal 1 ton and any fraction of a ton less than 0.50 ton is deemed to equal zero tons.

(d) If the combined allowable emissions from units subject to this section at a facility from May 1 through September 30 exceed the combined actual emissions from units subject to this section at the facility during the same period, the owner or operator may deduct the difference or any portion of the difference from the amount of actual emissions from units subject to this section at the owner or operator’s other facilities.

(e) By November 1, 2005, and by November 1 of each year thereafter, an owner or operator of a unit subject to this section shall surrender the required NO<sub>x</sub> allowances to the Department's designated NO<sub>x</sub> allowance tracking system account and provide to the Department, in writing, the following:

(1) The serial number of each NO<sub>x</sub> allowance surrendered.

(2) The calculations used to determine the quantity of NO<sub>x</sub> allowances required to be surrendered.

(f) If an owner or operator fails to comply with subsection (e), the owner or operator shall by December 31 surrender three NO<sub>x</sub> allowances of the current or later year vintage for each NO<sub>x</sub> allowance that was required to be surrendered by November 1 of that year.

(g) The surrender of NO<sub>x</sub> allowances under subsection (f) does not affect the liability of the owner or operator of the unit for any fine, penalty or assessment, or an obligation to comply with any other remedy for the same violation, under the CAA or the act.

(1) For purposes of determining the number of days of violation, if a facility has excess emissions for the period May 1 through September 30, each day in that period (153 days) constitutes a day in violation unless the owner or operator of the unit demonstrates that a lesser number of days should be considered.

(2) Each ton of excess emissions is a separate violation.

#### Authority

The provisions of this § 129.204 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

#### Source

The provisions of this § 129.204 adopted December 10, 2004, effective December 11, 2004, 34 Pa.B. 6509; amended April 11, 2008, effective April 12, 2008, 38 Pa.B. 1705. Immediately preceding text appears at serial pages (308495) to (308497).

#### Cross References

This section cited in 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.202 (relating to stationary combustion turbines); 25 Pa. Code § 129.203 (relating to stationary internal combustion engines); and 25 Pa. Code § 129.205 (relating to zero emissions renewable energy production credit).

### § 129.205. Zero emission renewable energy production credit.

In calculating actual emissions from a facility under § 129.204 (relating to emission accountability), the owner or operator may deduct 1.5 pounds of NO<sub>x</sub> per MWH of electricity or thermal power equivalent for each MWH of zero emission renewable energy produced, if the following conditions are met:

- (1) The zero emission renewable energy production is certified in a tradable renewable certificate.
- (2) The zero emission renewable energy was generated by a power source that produced zero emissions and used 100% renewable energy, such as solar or wind power, in producing the renewable energy. For hydropower, the power must be generated without the use of a dam.
- (3) The zero emission renewable energy power source was originally brought into production on or after December 11, 2004.
- (4) The zero emission renewable energy power source is located in Bucks, Chester, Delaware, Montgomery or Philadelphia County.
- (5) The owner or operator surrenders the renewable tradable certificate to the Department.
- (6) The owner or operator certifies that the conditions of this section have been satisfied.

**Authority**

The provisions of this § 129.205 issued under section 5 of the Air Pollution Control Act (35 P.S. § 4005).

**Source**

The provisions of this § 129.205 adopted December 10, 2004, effective December 11, 2004, 34 Pa.B. 6509.

**Cross References**

This section cited in 25 Pa. Code § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); and 25 Pa. Code § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule).

**CONTROL OF NO<sub>x</sub> EMISSIONS FROM GLASS MELTING FURNACES****§ 129.301. Purpose.**

The purpose of this section and §§ 129.302—129.310 is to annually limit the emissions of NO<sub>x</sub> from glass melting furnaces.

**Authority**

The provisions of this § 129.301 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**

The provisions of this § 129.301 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.302 (relating to applicability); 25 Pa. Code § 129.304 (relating to emission requirements); 25 Pa. Code § 129.308 (relating to compliance determination); and 25 Pa. Code § 129.310 (relating to recordkeeping).

**§ 129.302. Applicability.**

This section, § 129.301 (relating to purpose) and §§ 129.303—129.310 apply to an owner or operator of a glass melting furnace in this Commonwealth, including those within the jurisdiction of local air pollution control agencies in Philadelphia and Allegheny Counties approved under section 12 of the act (35 P.S. § 4012), that emits or has the potential to emit NO<sub>x</sub> at a rate greater than 50 tons per year.

**Authority**

The provisions of this § 129.302 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**

The provisions of this § 129.302 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.301 (relating to purpose); 25 Pa. Code § 129.304 (relating to emission requirements); 25 Pa. Code § 129.308 (relating to compliance determination); and 25 Pa. Code § 129.310 (relating to recordkeeping).

**§ 129.303. Exemptions.**

(a) The emission requirements in § 129.304 (relating to emission requirements) do not apply during periods of start-up, shutdown, or idling as defined in § 121.1 (relating to definitions), if the owner or operator complies with the requirements in §§ 129.305, 129.306 and 129.307 (relating to start-up requirements; shutdown requirements; and idling requirements).

(b) The owner or operator of a glass melting furnace claiming an exemption under subsection (a) shall notify the Department or the appropriate approved local air pollution control agency in writing within 24 hours after initiation of the operation for which the exemption is claimed. The methods for submitting the written notice may include e-mail, hand or courier delivery, certified mail or facsimile transmissions to the appropriate regional office described in § 121.4 (relating to regional organization of the Department) or appropriate approved local air pollution control agency. The notification must include:

- (1) The date and time of the start of the exempt operation.
- (2) The reason for performing the operation and an estimated completion date.
- (3) Identification of the emission control system operating during the exemption period.

(c) The owner or operator of a glass melting furnace granted an exemption under this section shall maintain operating records or documentation, or both, necessary to support the claim for the exemption. The records shall be maintained



for 5 years onsite and made available or submitted to the Department or appropriate approved local air pollution control agency, upon request.

(d) The owner or operator of a glass melting furnace shall notify the Department or the appropriate approved local air pollution control agencies in writing within 24 hours after completion of the operation for which the exemption is claimed.

#### Authority

The provisions of this § 129.303 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.303 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.301 (relating to purpose); 25 Pa. Code § 129.302 (relating to applicability); 25 Pa. Code § 129.304 (relating to emission requirements); 25 Pa. Code § 129.308 (relating to compliance determination); and 25 Pa. Code § 129.310 (relating to recordkeeping).

### § 129.304. Emission requirements.

(a) Except as specified in §§ 129.303, 129.304(c), 129.305, 129.306 and 129.307, the owner or operator of a glass melting furnace may not operate the glass melting furnace in a manner that results in NO<sub>x</sub> emissions in excess of the following allowable limits or NO<sub>x</sub> emission limits contained in the plan approval or operating permit, whichever are lower:

- (1) 4.0 pounds of NO<sub>x</sub> per ton of glass pulled for container glass furnaces.
- (2) 7.0 pounds of NO<sub>x</sub> per ton of glass pulled for pressed or blown glass furnaces.
- (3) 4.0 pounds of NO<sub>x</sub> per ton of glass pulled for fiberglass furnaces.
- (4) 7.0 pounds of NO<sub>x</sub> per ton of glass pulled for flat glass furnaces.
- (5) 6.0 pounds of NO<sub>x</sub> per ton of glass pulled for all other glass melting furnaces.

(b) The owner or operator of a glass melting furnace shall comply with subsection (a) by January 1, 2012, unless a petition for an alternative emission limitation or compliance schedule is submitted, in writing, to the Department and appropriate approved local air pollution control agency by January 1, 2012, in accordance with subsection (c) and approved, in writing, by the Department or appropriate approved local air pollution control agency.

(c) An owner or operator of a glass melting furnace that does not meet the NO<sub>x</sub> emission limits specified under this section by January 1, 2012, may petition the Department and appropriate approved local air pollution control agency for an alternative emission limitation or compliance schedule as follows:

(1) The owner or operator of a glass melting furnace subject to this section may submit, in writing, a petition requesting an alternative emission limitation. The petition must demonstrate to the satisfaction of the Department and appropriate approved local air pollution control agency that it is economically or technologically infeasible to meet the emission limitation under this section. The alternative emission limitation must be included in either a plan approval or an operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency.

(2) The owner or operator of a glass melting furnace for which the schedule for cold shutdown does not allow compliance by January 1, 2012 may submit a petition, in writing, requesting an alternative compliance schedule. The alternative compliance schedule for a cold shutdown which occurs after June 19, 2010, may not be extended beyond 180 days from the start-up of the furnace after the cold shutdown, unless approved, in writing, by the Department.

(3) A petition must include the following:

(i) A brief description, including make, model and location, of each affected glass melting furnace.

(ii) A list of all air pollution control technologies and measures that have been installed on each affected glass melting furnace and are operating to control emissions of NO<sub>x</sub>.

(iii) The date of installation and original commencement of operation for each of the technologies and measures listed in accordance with subparagraph (ii).

(iv) An explanation of how the NO<sub>x</sub> control technology or measure installed has been optimized for the maximum NO<sub>x</sub> emission reduction for each of the technologies and measures listed in accordance with subparagraph (ii).

(v) The results of each stack test and other emissions measurements for the affected glass melting furnace following the installation and commencement of operation of the air pollution control technologies and measures listed in accordance with subparagraph (ii).

(vi) The date of last scheduled cold shutdown for each affected furnace.

(vii) The date of next scheduled cold shutdown of each affected furnace.

(viii) Other relevant information requested, in writing, by the Department or appropriate approved local air pollution control agency.

(4) If an alternative compliance schedule is sought to meet the requirements of this section, the owner or operator shall submit a proposed schedule containing proposed interim milestone dates for completing each phase of the required work and a proposed final compliance date. The petition must also include a proposed interim emission limitation until compliance is achieved with the requirements specified in this section.

(5) If an alternative emission limitation is sought to meet the requirements of this section, the conditions or special circumstances which demonstrate that the applicable requirements are technologically or economically infeasible.

(6) If an alternative emission limitation is sought to meet the requirements of this section, the owner or operator shall propose emission limitations in the petition.

(7) Approved interim milestone dates or emission limitations determined to be necessary for effective monitoring of progress toward full compliance with the requirements of this section, §§ 129.301—129.303 and 129.305—129.310 shall be specified in a plan approval or operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency.

(d) During routine maintenance of an add-on emission control system or systems, or maintenance or repair measures on furnace components, the owner or operator of a glass melting furnace subject to the emission limits specified under subsection (a) is exempt from these limits if:

(1) All routine maintenance of an add-on emission control system or maintenance or repair measures on furnace components, or both, combined, in each calendar year does not exceed 144 hours total.

(2) The routine maintenance or maintenance or repair measure, or both, is conducted in a manner consistent with good air pollution control practices for minimizing emissions.

#### Authority

The provisions of this § 129.304 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.304 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.301 (relating to purpose); 25 Pa. Code § 129.302 (relating to applicability); 25 Pa. Code § 129.303 (relating to exemptions); 25 Pa. Code § 129.307 (relating to idling requirements); 25 Pa. Code § 129.308 (relating to compliance determination); 25 Pa. Code § 129.309 (relating to compliance demonstration); and 25 Pa. Code § 129.310 (relating to recordkeeping).

### § 129.305. Start-up requirements.

(a) The owner or operator of the glass melting furnace shall submit, in writing, to the Department or appropriate approved local air pollution control agency, no later than 30 days prior to the anticipated date of start-up, information requested by the Department or appropriate approved local air pollution control agency to assure proper operation of the furnace. The information must include the following:

- (1) A detailed list of activities to be performed during start-up and an explanation for the length of time needed to complete each activity.
- (2) A description of the material process flow rates and system operating parameters and other information that the owner or operator plans to evaluate during the process optimization.
- (b) The owner or operator of a glass melting furnace may submit a request for a start-up exemption in conjunction with the plan approval application if required. The actual length of the start-up exemption, if any, will be determined by the Department or appropriate approved local air pollution control agency at the time of the issuance of the plan approval or operating permit.
- (c) The length of the start-up exemption following activation of the primary furnace combustion system may not exceed:
  - (1) Seventy days for a container, pressed or blown glass furnace.
  - (2) Forty days for a fiberglass furnace.
  - (3) One hundred and four days for a flat glass furnace and for all other glass melting furnaces not covered under paragraphs (1) and (2).
- (d) The requirements of subsection (c) notwithstanding, if the NO<sub>x</sub> control system is not in common use or is not readily available from a commercial supplier, the length of the maximum start-up exemption following activation of the primary furnace combustion system is as follows:
  - (1) One hundred days for a container, pressed or blown glass furnace.
  - (2) One hundred and five days for a fiberglass furnace.
  - (3) Two hundred and eight days for a flat glass furnace and for all other glass melting furnaces not covered under paragraphs (1) and (2).
- (e) The Department or appropriate approved local air pollution control agency may approve start-up exemptions, as appropriate, to the extent that the submittal clearly:
  - (1) Identifies the control technologies or strategies to be used.
  - (2) Describes the physical conditions that prevail during start-up periods that prevent the controls from being effective.
  - (3) Provides a reasonably precise estimate as to when physical conditions will have reached a state that allows for the effective control of emissions.
- (f) During the start-up period, the owner or operator of a glass melting furnace shall maintain the stoichiometric ratio of the primary furnace combustion system so as not to exceed 5% excess oxygen, as calculated from the actual fuel and oxidant flow measurements for combustion in the glass melting furnace.
- (g) The owner or operator shall place the emission control system in operation as soon as technologically feasible during start-up to minimize emissions.

**Authority**

The provisions of this § 129.305 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**

The provisions of this § 129.305 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.301 (relating to purpose); 25 Pa. Code § 129.302 (relating to applicability); 25 Pa. Code § 129.303 (relating to exemptions); 25 Pa. Code § 129.304 (relating to emission requirements); 25 Pa. Code § 129.308 (relating to compliance determination); and 25 Pa. Code § 129.310 (relating to recordkeeping).

**§ 129.306. Shutdown requirements.**

(a) The duration of a glass melting furnace shutdown, as measured from the time the furnace operations drop below 25% of the permitted production capacity or fuel use capacity to when all emissions from the furnace cease, may not exceed 20 days.

(b) The owner or operator of a glass melting furnace shall operate the emission control system whenever technologically feasible, as approved by the Department or appropriate approved local air pollution control agency, during shutdown to minimize emissions.

**Authority**

The provisions of this § 129.306 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

**Source**

The provisions of this § 129.306 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.301 (relating to purpose); 25 Pa. Code § 129.302 (relating to applicability); 25 Pa. Code § 129.303 (relating to exemptions); 25 Pa. Code § 129.304 (relating to emission requirements); 25 Pa. Code § 129.308 (relating to compliance determination); and 25 Pa. Code § 129.310 (relating to recordkeeping).

**§ 129.307. Idling requirements.**

(a) The owner or operator of a glass melting furnace shall operate the emission control system whenever technologically feasible, as approved by the Department or appropriate approved local air pollution control agency, during idling to minimize emissions.

(b) The NO<sub>x</sub> emissions during idling may not exceed the amount calculated using the following equation:

Pounds per day emission limit of NO<sub>x</sub> = (Applicable NO<sub>x</sub> emission limit speci-

fied in § 129.304(a) (relating to emission requirements) expressed in pounds per ton of glass produced) x (Furnace permitted production capacity in tons of glass produced per day)

#### Authority

The provisions of this § 129.307 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.307 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.301 (relating to purpose); 25 Pa. Code § 129.302 (relating to applicability); 25 Pa. Code § 129.303 (relating to exemptions); 25 Pa. Code § 129.304 (relating to emission requirements); 25 Pa. Code § 129.308 (relating to compliance determination); and 25 Pa. Code § 129.310 (relating to recordkeeping).

### § 129.308. Compliance determination.

(a) Not later than 14 days prior to the applicable compliance date under § 129.304(b) or (c), the owner or operator of a glass melting furnace subject to this section, §§ 129.301—129.307, 129.309 and 129.310 shall install, operate and maintain continuous emissions monitoring systems (CEMS, as defined in § 121.1 (relating to definitions)) for NO<sub>x</sub> and other monitoring systems to convert data to required reporting units in compliance with Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) and calculate actual emissions using the CEMS data reported to the Department. The owner or operator of a glass melting furnace may install or operate, or both, an alternate NO<sub>x</sub> emissions monitoring system or method, approved in writing by the Department or appropriate approved local air pollution control agency.

(b) Data invalidated under Chapter 139, Subchapter C, shall be substituted with the following if approved in writing by the Department or appropriate approved local air pollution control agency:

- (1) The highest valid 1-hour emission value that occurred under similar source operating conditions during the reporting quarter.
- (2) If no valid data were collected during the reporting quarter, one of the following shall be reported to the Department or appropriate approved local air pollution control agency:
  - (i) The highest valid 1-hour emission value that occurred under similar source operating conditions during the most recent quarter for which valid data were collected.
  - (ii) The highest valid 1-hour emission value that occurred under similar source operating conditions during an alternative reporting period.
- (3) An alternative method of data substitution.

(c) Instead of data substitution, the Department or appropriate approved local air pollution control agency may approve an alternative procedure to quantify NOx emissions and glass production.

(d) The owner or operator of a glass furnace subject to this section shall submit to the Department or the appropriate approved local air pollution control agencies quarterly reports of CEMS monitoring data in pounds of NOx emitted per hour, in a format approved by the Department and in compliance with Chapter 139, Subchapter C, or a format approved by the appropriate approved local air pollution control agencies.

(e) The CEMS or approved monitoring system or method for NOx installed under this section must meet the minimum data availability requirements in Chapter 139, Subchapter C.

#### Authority

The provisions of this § 129.308 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.308 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.301 (relating to purpose); 25 Pa. Code § 129.302 (relating to applicability); 25 Pa. Code § 129.304 (relating to emission requirements); and 25 Pa. Code § 129.310 (relating to recordkeeping).

### § 129.309. Compliance demonstration.

(a) The owner or operator of a glass melting furnace shall calculate and report to the Department or appropriate approved local air pollution control agency on a quarterly basis, no later than 30 days after the end of the quarter, the CEMS data and glass production data used to show compliance with the allowable NOx emission limitation specified in § 129.304 (relating to emission requirements). The glass production data must consist of the quantity of glass, in tons, pulled per day for each furnace.

(b) The owner or operator of a glass melting furnace shall demonstrate compliance with the emission requirements of § 129.304(a) using one of the following methods:

- (1) On a furnace-by-furnace basis.
- (2) Facility-wide emissions averaging.
- (3) System-wide emissions averaging among glass melting furnaces under common control of the same owner or operator in this Commonwealth.

(c) The owner or operator of a glass melting furnace for which the Department or the appropriate approved local air pollution control agency has granted approval to voluntarily opt into a market-based program may not demonstrate

compliance on an emissions averaging basis under subsection (b). An emission reduction obtained by emissions averaging to demonstrate compliance with the emission requirements of § 129.304(a) will not be considered surplus for emission reduction credit purposes. The owner or operator of a glass melting furnace shall demonstrate compliance with the emission requirements of § 129.304(a) in accordance with subsection (d).

(d) Compliance with the emission requirements of § 129.304(a) shall be determined on a 30-day rolling average basis.

#### Authority

The provisions of this § 129.309 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

#### Source

The provisions of this § 129.309 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

#### Cross References

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.301 (relating to purpose); 25 Pa. Code § 129.302 (relating to applicability); 25 Pa. Code § 129.304 (relating to emission requirements); 25 Pa. Code § 129.308 (relating to compliance determination); and 25 Pa. Code § 129.310 (relating to recordkeeping).

### § 129.310. Recordkeeping.

(a) The owner or operator of a glass melting furnace subject to this section and §§ 129.301—129.309 shall maintain records to demonstrate compliance. The records must include an operating log maintained for each glass melting furnace that includes, on a daily basis:

- (1) The total hours of operation.
- (2) The type and quantity of fuel used.
- (3) The quantity of glass pulled.

(b) The owner or operator of a glass melting furnace shall maintain records of:

- (1) Source tests and operating parameters established during the initial source test.
- (2) Maintenance, repairs, malfunctions, idling, start-up and shutdown.

(c) The owner or operator claiming that a glass melting furnace is exempt from the requirements of §§ 129.301—129.309 based on the furnace's potential to emit shall maintain records that clearly demonstrate to the Department or appropriate approved local air pollution control agency that the furnace is not subject to §§ 129.301—129.309.

(d) The records required under this section shall be maintained onsite for 5 years. The records shall be made available or submitted to the Department or appropriate approved local air pollution control agency upon request.



**Authority**

The provisions of this § 129.310 issued under section 5(a)(1) of the Air Pollution Control Act (35 P.S. § 4005(a)(1)).

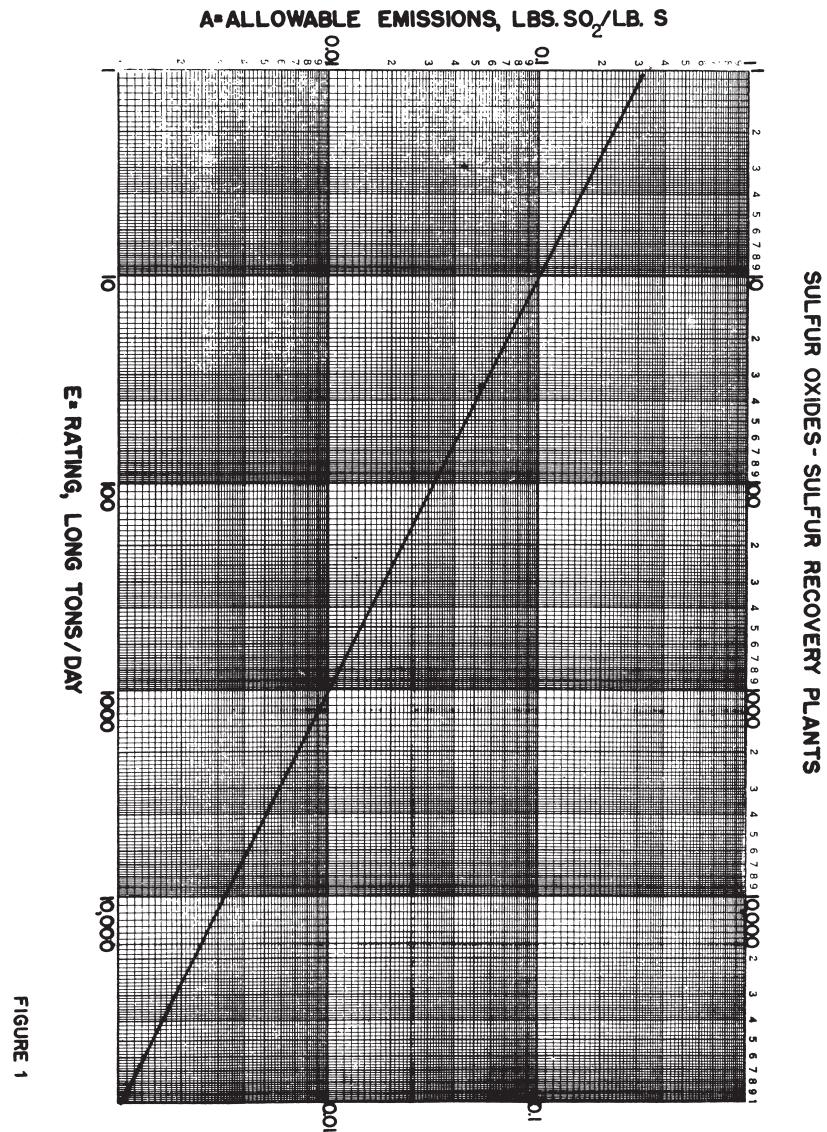
**Source**

The provisions of this § 129.310 adopted June 18, 2010, effective June 19, 2010, 40 Pa.B. 3328.

**Cross References**

This section cited in 25 Pa. Code § 121.1 (relating to definitions); 25 Pa. Code § 129.96 (relating to applicability); 25 Pa. Code § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); 25 Pa. Code § 129.301 (relating to purpose); 25 Pa. Code § 129.302 (relating to applicability); 25 Pa. Code § 129.304 (relating to emission requirements); and 25 Pa. Code § 129.308 (relating to compliance determination).

## APPENDIX A



## Cross References

This appendix cited in 25 Pa. Code § 129.13 (relating to sulfur recovery plants).

[Next page is 130-1.]

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