

**TITLE 25. ENVIRONMENTAL PROTECTION  
PART I. DEPARTMENT OF ENVIRONMENTAL  
PROTECTION**

**Subpart C. PROTECTION OF NATURAL  
RESOURCES**

**ARTICLE III. AIR RESOURCES**

**CHAPTER 129. STANDARDS FOR SOURCES ADDITIONAL RACT REQUIREMENTS  
FOR MAJOR SOURCES OF NO<sub>x</sub> AND VOCs**

**§ 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.

(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 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.

(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 NO<sub>x</sub> 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 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 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 MW<sub>e</sub>/hr) to the unit's nameplate capacity (or maximum observed hourly gross load (in MW<sub>e</sub>/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 NOx @ 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 NOx @ 15% oxygen.
  - (B) Fuel oil, 8 ppmvd NOx @ 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 NOx @ 15% oxygen.
  - (B) Fuel oil, 150 ppmvd NOx @ 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 NOx @ 15% oxygen.
  - (B) Fuel oil, 96 ppmvd NOx @ 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 NOx/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 NOx/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 NOx/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.

<sup>1</sup>(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.

<sup>2</sup>(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.

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<sup>1</sup> This section does not automatically remove any permits previously approved into the SIP. Unless and until PADEP submits and EPA approves a SIP revision requesting removal from the SIP any permit previously SIP-approved under 25 Pa Code 129.91-129.95 remains in the SIP. See 83 FR 39600 and 83 FR 12673 for examples of EPA's interpretation regarding the "superseding" language.

<sup>2</sup> This section does not automatically remove any other SIP-approved provisions from the PA SIP. Unless and until PADEP submits and EPA approves a SIP revision requesting removal from the SIP, any provisions previously SIP-approved remain in the SIP. See 83 FR 39600 and 83 FR 12673 for examples of EPA's interpretation regarding the "superseding" language.

(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, 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.