RULES AND REGULATIONS

Title 25—ENVIRONMENTAL PROTECTION

ENVIRONMENTAL QUALITY BOARD

[25 PA. CODE CHS. 121 AND 129]

Additional RACT Requirements for Major Sources of NO_x and VOCs

The Environmental Quality Board (Board) amends Chapters 121 and 129 (relating to general provisions; and standards for sources) to read as set forth in Annex A. The final-form rulemaking amends Chapter 129 to adopt presumptive reasonably available control technology (RACT) requirements and RACT emission limitations for certain major stationary sources of oxides of nitrogen (NO_x) and volatile organic compound (VOC) emissions. The final-form rulemaking also provides for a petition process for an alternative compliance schedule, a facility-wide or system-wide NO_x emissions averaging plan provision, an alternative RACT proposal petition process, and compliance demonstration and recordkeeping requirements.

The final-form rulemaking also amends § 121.1 (relating to definitions) to revise or add terms to support the final-form amendments to Chapter 129.

This order was adopted by the Board at its meeting of November 17, 2015.

A. *Effective Date*

This final-form rulemaking will be effective upon publication in the *Pennsylvania Bulletin*.

This final-form rulemaking will be submitted to the United States Environmental Protection Agency (EPA) for approval as a revision to the Commonwealth's State Implementation Plan (SIP) upon publication.

B. *Contact Persons*

For further information, contact Kirit Dalal, Chief, Division of Air Resource Management, Bureau of Air Quality, 12th Floor, Rachel Carson State Office Building, P. O. Box 8468, Harrisburg, PA 17105-8468, (717) 772-3436; or Robert "Bo" Reiley, Assistant Director, Bureau of Regulatory Counsel, 9th Floor, Rachel Carson State Office Building, P. O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-7060. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This final-form rulemaking is available on the Department of Environmental Protection's (Department) web site at www.dep.pa.gov (select "Public Participation," then "Environmental Quality Board (EQB)").

C. *Statutory Authority*

This final-form rulemaking is authorized under section 5(a)(1) of the Air Pollution Control Act (act) (35 P.S. § 4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth, and section 5(a)(8) of the act, which grants the Board the authority to adopt rules and regulations designed to implement the Clean Air Act (CAA) (42 U.S.C.A. §§ 7401—7671q).

D. *Background and Summary*

The EPA is required under section 109 of the CAA (42 U.S.C.A. § 7409) to set National Ambient Air Quality Standards (NAAQS) for six criteria pollutants, of which ground-level ozone is one. The NAAQS are established by the EPA as the maximum concentrations in the ambient atmosphere for specific air contaminants to protect public health and welfare.

Ozone is a highly reactive gas which at sufficient concentrations can produce a wide variety of harmful effects. At elevated concentrations, ground-level ozone can adversely affect human health, vegetation, materials, economic values, and personal comfort and well-being. It can cause damage to important food crops, forests, livestock and wildlife. Repeated exposure to ozone pollution may cause a variety of adverse health effects for healthy people and those with existing conditions including difficulty breathing, chest pains, coughing, nausea, throat irritation and congestion. It can worsen bronchitis, heart disease, emphysema and asthma, and reduce lung capacity. Asthma is a significant and growing threat to children and adults. High levels of ground-level ozone also affect animals in ways similar to humans.

The EPA promulgated primary and secondary NAAQS for photochemical oxidants under section 109 of the CAA at 36 FR 8186 (April 30, 1971). These were set at an hourly average of 0.08 parts per million (ppm) total photochemical oxidants not to be exceeded more than 1 hour per year. The EPA announced a revision to the then-current 1-hour standard at 44 FR 8202 (February 8, 1979). The EPA final rule revised the level of the primary 1-hour ozone standard from 0.08 ppm to 0.12 ppm and set the secondary standard identical to the primary standard. This revised 1-hour standard was subsequently reaffirmed at 58 FR 13008 (March 9, 1993).

Section 110 of the CAA (42 U.S.C.A. § 7410) gives states primary responsibility for achieving the NAAQS. The principal mechanism at the state level for complying with the CAA is the SIP. A SIP includes the regulatory programs, actions and commitments a state will carry out to implement its responsibilities under the CAA. Once approved by the EPA, a SIP is legally enforceable under both Federal and state law.

Section 182 of the CAA (42 U.S.C.A. § 7511a) requires that, for areas that exceed the NAAQS for ozone, states shall develop and implement a program that mandates that certain major stationary sources develop and implement a RACT program. RACT is defined as the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. See 44 FR 53762 (September 17, 1979).

Under section 182(f)(1) of the CAA and section 184(b)(2) of the CAA (42 U.S.C.A. § 7511c(b)(2)), these RACT requirements are applicable to all sources in this Commonwealth that emit or have a potential to emit greater than 100 tons per year (tpy) of NO_x. Under sections 182(b)(2) and 184(b)(2) of the CAA, these RACT requirements are applicable to all sources in this Commonwealth that emit or have a potential to emit greater than 50 tpy of VOCs. NO_x and VOC controls are required Statewide because of the Commonwealth's inclusion in the Northeast Ozone Transport Region. See section 184(a) of the CAA. Additionally, because the five-county Philadelphia area was designated as severe ozone nonattainment for

the 1-hour standard, sources of greater than 25 tpy of either pollutant are required to implement RACT under section 182(d) of the CAA. The Commonwealth's RACT regulations in §§ 129.91—129.95 (relating to stationary sources of NO_x and VOCs) were implemented for the 1-hour ozone standard. These regulations became effective January 15, 1994.

The EPA concluded that revisions to the current primary standard to provide increased public health protection were appropriate at this time to protect public health with an adequate margin of safety. See 62 FR 38856 (July 18, 1997). Further, the EPA determined that it was appropriate to promulgate primary and secondary ozone standards at a level of 0.08 ppm averaged over 8 hours. See 62 FR 38856. The EPA lowered the 8-hour standard from 0.08 ppm to 0.075 ppm at 73 FR 16436 (March 27, 2008).

The EPA designated 37 counties in this Commonwealth as 8-hour ozone nonattainment areas for the 1997 8-hour ozone NAAQS at 69 FR 23858, 23931 (April 30, 2004). The EPA published final designations and classifications for the 2008 8-hour ozone standards at 77 FR 30088 (May 21, 2012) with an effective date of July 20, 2012. The following nonattainment areas were classified as "marginal" ozone nonattainment areas: Allentown-Bethlehem-Easton (Carbon, Lehigh and Northampton Counties); Lancaster (Lancaster County), Philadelphia-Wilmington-Atlantic City (the Pennsylvania areas include Bucks, Chester, Delaware, Montgomery and Philadelphia Counties); Pittsburgh-Beaver Valley (Allegheny, Armstrong, Beaver, Butler, Fayette, Washington and Westmoreland Counties); and the Reading area (Berks County); the remainder of this Commonwealth was designated "Unclassifiable/Attainment." See 77 FR 30088, 30142. The Commonwealth must ensure that these areas attain the 2008 ozone standard by July 20, 2015, and that they continue to maintain the standard thereafter. The Department will seek an extension of the July 2015 8-hour ozone NAAQS attainment date for the five-county Philadelphia Area (Bucks, Chester, Delaware, Montgomery and Philadelphia Counties) due to several violating monitors in Maryland and New Jersey, and for the seven-county Pittsburgh-Beaver Valley Area (Allegheny, Armstrong, Beaver, Butler, Fayette, Washington and Westmoreland Counties).

A re-evaluation of what measures constitute RACT is a requirement to be fulfilled each time a NAAQS is promulgated or revised, as happened in 1997 and 2008 for ozone. According to the EPA's final rule to implement the 8-hour ozone NAAQS published at 70 FR 71612 (November 29, 2005), areas classified as "moderate" nonattainment or higher must submit a demonstration, as a revision to the SIP, that their current rules fulfill 8-hour ozone RACT requirements for all Control Techniques Guidelines (CTG) categories and all major, non-CTG sources.

According to this implementation rule, demonstrations can be made with either a new RACT determination or a certification that previously-required RACT controls represent RACT for the 8-hour ozone NAAQS. The certification should be accompanied by appropriate supporting information, such as consideration of information received during the public comment period. The RACT SIP revision submittal is in addition to the 8-hour ozone attainment demonstration plan for the area, which will also be a revision to the Commonwealth's SIP. The RACT SIP revision was required to be submitted to the EPA by September 15, 2006.

The Commonwealth submitted a SIP revision in September 2006 certifying that RACT determinations made for the 1-hour ozone standard from 1995 to 2006 under §§ 129.91—129.95 were still RACT for the 8-hour standard, including for those sources where a determination was made that "no controls" continued to represent RACT for the 1-hour ozone standard. However, the EPA informally indicated to the Department that based on *NRDC v. EPA,* 571 F.3d 1245 (July 10, 2009), a reanalysis rather than certification is necessary for sources for which the Department previously determined that "no controls" represented RACT for the 1-hour ozone standard.

As a result of the EPA's decision, the Department conducted a generic RACT analysis of those existing sources for which a RACT determination was previously made under §§ 129.91—129.95 for the 1-hour ozone standard to evaluate whether the RACT determination under §§ 129.91—129.95 would represent RACT-level control for the 8-hour ozone standards or if new or additional add-on control technology would represent RACT-level control for the 8-hour ozone NAAQS. That generic analysis identified existing affected source categories by size and fuel type; identified available feasible NO_x or VOC control options for each type of existing source; estimated emission reduction potential for each control technology; identified costs for technologies, using appropriate updates; evaluated cost-effectiveness per EPA guidance for uncontrolled and controlled sources (combinations of technologies); and projected what type of control technology might be applied to each affected source. The Department evaluated technically feasible emission controls for cost-effectiveness and economic feasibility. Based on this analysis, the Board determined that additional cost-effective controls represent RACT for the 8-hour ozone NAAQS. There are nine source categories that are affected by this final-form rulemaking: combustion units; boilers; process heaters; turbines; engines; municipal solid waste landfills; municipal waste combustors; cement kilns; and other sources that are not regulated elsewhere under Chapter 129.

All together, this final-form rulemaking affects the owners and operators of approximately 810 individual sources at 192 major facilities throughout this Commonwealth. Under this final-form rulemaking, the Board anticipates that the total potential NO_x emission reductions will be approximately 253,623 tpy. The amount of NO_x and VOC emission reductions achieved as a result of the application of RACT-level control is determined on the basis of the source's potential to emit before and after the application of RACT-level control.

The Board determines that this final-form rulemaking fulfills the requirements for re-evaluation of RACT-level control for the 1997 and 2008 ozone NAAQS and is less resource intensive than imposing case-by-case analysis for affected facilities in the covered categories, as was done under §§ 129.91—129.95. As more fully discussed in Section E of this preamble, the Board finalized a suite of compliance options. The owner and operator of an individual affected source may demonstrate compliance for that source in one of three ways: first, with the applicable presumptive RACT requirement or emission limitation under § 129.97 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule); second, either by participating in the emissions averaging plan under § 129.98 (relating to facility-wide or system-wide NO_x emissions averaging plan general requirements) or by submitting a request for an alternative case-by-case RACT determina-

tion under § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule).

The Board determines that the requirements under this final-form rulemaking are reasonably necessary to attain and maintain the 8-hour ozone NAAQS.

The Air Quality Technical Advisory Committee (AQTAC) was briefed on the final-form rulemaking and public comments on November 7, 2014. The AQTAC recommended that the preamble to the final-form rulemaking include the clarifications for the following sections: § 129.96(c) (relating to applicability) and § 129.97(c)—applicability to sources emitting less than 1 ton; and § 129.100(a) (relating to compliance demonstration and recordkeeping requirements)—calculations for the 30-day rolling average. Following its discussion on November 7, 2014, the AQTAC voted 11-5-0 (yes; no; abstain) to concur with the Department's recommendation to move the final-form rulemaking forward to the Board for consideration. The draft final-form rulemaking was discussed with the Small Business Compliance Advisory Committee (SBCAC) on January 28, 2015. The SBCAC voted 6-2-0 to concur with the Department's recommendation to forward the final-form rulemaking to the Board. The final-form rulemaking was discussed with the Citizens Advisory Council (CAC), Policy and Regulatory Oversight Committee on February 20, 2015, and May 12, 2015. The Policy and Regulatory Oversight Committee recommended that the CAC concur with the Department's recommendation to move the final-form rulemaking forward to the Board. However, the CAC tabled consideration of the final-form rulemaking at its March 17, 2015, and May 20, 2015, meetings. The CAC considered the final-form rulemaking at its September 15, 2015, meeting. The CAC raised several concerns and recommendations that were considered by the Department. The CAC supported the adoption of the final-form rulemaking and unanimously voted to concur with advancing it to the Board for action.

E. *Summary of Final-Form Rulemaking and Changes from Proposed to Final-Form Rulemaking*

§ 121.1. Definitions

The final-form rulemaking amends § 121.1 by revising the terms "CEMS—continuous emissions monitoring system," "major NO_x emitting facility," "major VOC emitting facility" and "stationary internal combustion engine or stationary reciprocating internal combustion engine" and by adding the terms "process heater," "refinery gas," "regenerative cycle combustion turbine," "simple cycle combustion turbine" and "stationary combustion turbine."

The final-form rulemaking made clarifying changes to "CEMS—continuous emissions monitoring system" and "stationary internal combustion engine or stationary reciprocating internal combustion engine."

In addition, under the final-form rulemaking the definitions of "major NO_x emitting facility" and "major VOC emitting facility" are amended. The 25 tpy major source NO_x and VOC thresholds do not apply in Bucks, Chester, Delaware, Montgomery and Philadelphia Counties for sources that would be subject to §§ 129.96—129.100. For the purposes of this final-form rulemaking, the 100-tpy threshold applies for major NO_x emitting sources and the 50-tpy threshold applies for major VOC emitting sources in those counties. However, the existing 25-tpy major source NO_x and VOC thresholds continue to apply to RACT sources subject to §§ 129.91—129.95 in those counties.

§ 129.96. Applicability

Under subsection (a), the NO_x requirements of the final-form rulemaking apply Statewide to the owner and operator of a major NO_x emitting facility and the VOC requirements 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—129.69, 129.71—129.73, 129.75, 129.77, 129.101—129.107 and 129.301—129.310.

Under subsection (b), the NO_x requirements of the final-form rulemaking apply Statewide to the owner and operator of a NO_x emitting facility and the VOC requirements 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_x 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—129.52c, 129.54—129.69, 129.71—129.73, 129.75, 129.77, 129.101—129.107 and 129.301—129.310.

Under subsections (a) and (b), the final-form rulemaking was clarified to ensure that it applies Statewide to the owner and operator of a major NO_x emitting facility or a major VOC emitting facility that was in existence on or before July 20, 2012. That is, the NO_x requirements apply Statewide to the owner and operator of a major NO_x emitting facility and the VOC requirements apply Statewide to the owner and operator of a major VOC emitting facility.

Subsection (c) was added to provide that the requirements do not apply to the owner and operator of a NO_x air contamination source located at a major NO_x emitting facility that has the potential to emit less than 1 tpy of NO_x or of a VOC air contamination source located at a major VOC emitting facility that has the potential to emit less than 1 tpy of VOC. This change addresses one of the concerns raised by the AQTAC at its November 7, 2014, meeting.

Subsection (d) was added to provide that the requirements do not apply to the owner and operator of a facility which is not a major NO_x emitting facility or a major VOC emitting facility on or before January 1, 2017.

§ 129.97. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule

Under subsection (a), the owner and operator of a source listed in one or more of subsections (b)—(h) located at a major NO_x emitting facility or major VOC emitting facility subject to § 129.96 shall comply with the applicable presumptive RACT requirement or RACT emission limitation beginning with the specified compliance date, unless an alternative compliance schedule is submitted and approved under subsections (k)—(m) or § 129.99.

Under subsection (b), the owner and operator of a listed combustion unit that is located at a major NO_x emitting facility or major VOC emitting facility subject to § 129.96 shall comply with the applicable presumptive RACT requirement for that source, which includes, among other things, inspection and adjustment requirements.

The applicable requirements of paragraphs (1) and (2) have been clarified in the final-form rulemaking. The owner and operator of an affected combustion unit which is located at a major NO_x emitting facility or major VOC

emitting facility subject to § 129.96 shall comply with the applicable requirements in paragraph (1) or (2).

Paragraph (1) has been amended to delete the reference to the requirements in paragraph (2) and to specify that the applicable requirement for the owner and operator of a combustion unit with a rated heat input equal to or greater than 20 million British thermal units (Btu)/hour and less than 50 million Btu/hour is a biennial tune-up conducted in accordance with the procedures described 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 performed to comply with this paragraph must include, at a minimum, the inspections in subparagraphs (i)—(iii).

Paragraph (2) has been amended to delete the requirements that applied only to an oil-fired, a gas-fired or a combination oil-fired and gas-fired combustion unit with a rated heat input equal to or greater than 20 million Btu/hour and less than 50 million Btu/hour. Additionally, the reference to the 1983 EPA document has been deleted. Paragraph (2) specifies that 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 performed to comply with this paragraph must include, at a minimum, the inspections in subparagraphs (i)—(iii).

Under subsection (c), the owner and operator of a source listed in this subsection located at a major NO_x emitting facility or major VOC emitting facility subject to § 129.96 shall comply with the applicable presumptive RACT requirement, which includes, among other things, the operation of the source in accordance with the manufacturer's specifications and good operating practices.

In subsection (c), "good engineering practices" has been amended to "good operating practices" and air contamination sources that have the potential to emit less than 5 tpy of NO_x or the potential to emit less than 2.7 tpy of VOC have been added to the list of sources for which the owner and operator shall install, maintain and operate in accordance with the manufacturer's specifications and with good operating practices. Additionally, language regarding the annual capacity factors that must be used for certain units has been added.

Under subsection (d), 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.

Under subsection (d), "good engineering practices" has been amended to "good operating practices" and clarifying changes were made to ensure that the owner and operator of an affected VOC facility shall install, maintain and operate the source in accordance with specified requirements.

Under subsection (e), the owner and operator of a municipal solid waste landfill subject to § 129.96 shall comply with the applicable presumptive RACT requirement identified under paragraph (1) or (2). No changes were made from proposed to final-form rulemaking.

Under subsection (f), the owner and operator of a municipal waste combustor subject to § 129.96 shall comply with the presumptive RACT requirement of 180 parts per million, volumetric dry (ppmvd) NO_x @ 7% oxygen.

Under subsection (f), the applicable requirement for a municipal waste combustor was revised from the proposed requirement of the applicable Federal standards to the final-form rulemaking requirement of 180 ppmvd NO_x @ 7% oxygen.

Under subsection (g), except as specified under subsection (c), the owner and operator of a NO_x air contamination source listed in this subsection located at a major NO_x emitting facility or of a VOC air contamination source listed in this subsection located at a major VOC emitting facility subject to § 129.96 may not cause, allow or permit NO_x or VOCs to be emitted from the air contamination source in excess of the applicable presumptive RACT emission limitation under paragraphs (1)—(4).

Under subsection (g), a number of minor clarifications were made regarding grammar and the types of fuels used with certain air contamination sources.

In addition to these clarifications, a number of substantive changes were made to the RACT limitations under subsection (g) between proposed and final-form rulemaking.

For instance, under subsection (g)(1)(i), the presumptive RACT emission limitation for natural gas-fired combustion units or process heaters with a rated heat input equal to or greater than 50 million Btu/hour was changed from 0.08 to 0.10 lb NO_x/million Btu heat rate.

Under subsection (g)(1)(vi)(A), the presumptive RACT emission limitation for a circulating fluidized bed (CFB) combustion unit was changed from 0.20 to 0.16 lb NO_x/million Btu heat input.

Under subsection (g)(2)(i)(B) and (D), the presumptive RACT emission limitation for certain combustion units when firing fuel oil was changed from 75 to 96 ppmvd NO_x @ 15% oxygen and from 2 to 9 ppmvd VOC (as propane) @ 15% oxygen, respectively.

Under subsection (g)(2)(i)(C), the presumptive RACT emission limitation for certain combustion units when firing natural gas or noncommercial gaseous fuel was changed from 2 to 5 ppmvd VOC (as propane) @ 15% oxygen.

Under final-form subsection (g)(2)(iv), proposed subsection (g)(2)(iii), the rated output for an affected simple cycle or regenerative cycle combustion turbine was increased from equal to or greater than 1,000 bhp to equal to or greater than 6,000 bhp. Furthermore, under subsection (g)(2)(iv)(B), the presumptive RACT emission limitation for these turbines that burn fuel oil was changed from 75 to 96 ppmvd NO_x @ 15% oxygen.

Under subsection (g)(3)(i)(B), the presumptive RACT emission limitation for a lean burn stationary internal combustion engine with a rating equal to or greater than 500 bhp that burns natural gas or a noncommercial gaseous fuel, liquid fuel or dual-fuel was revised from 0.4 to 1.0 gram VOC/bhp-hr excluding formaldehyde.

The following subparagraphs were added to subsection (g)(1) in the final-form rulemaking: subparagraph (vii)—the presumptive RACT emission limitation for any other type of solid fuel-fired combustion unit with a rated heat input equal to or greater than 50 million Btu/hr is 0.25 lb NO_x/million Btu heat input; subparagraph (viii)—the presumptive RACT emission limitation for a coal-fired combustion unit with a selective catalytic reduction (SCR)

system operating with an inlet temperature equal to or greater than 600°F is 0.12 lb NO_x/million Btu heat input and compliance with this limit is also required when by-passing the SCR system; and subparagraph (ix)—the presumptive RACT requirement for a coal-fired combustion unit with a selective noncatalytic reduction (SNCR) system is that the SNCR system shall be operated with the injection of reagents including ammonia or other NO_x-reducing agents, when the temperature at the area of the reagent injection is equal to or greater than 1,600°F.

Subsection (g)(2)(iii) was added in the final-form rulemaking. A presumptive RACT emission limitation was added 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: clause (A)—when firing natural gas or a noncommercial gaseous fuel is 150 ppmvd NO_x @ 15% oxygen; clause (B)—when firing fuel oil is 150 ppmvd NO_x @ 15% oxygen; clause (C)—when firing natural gas or a noncommercial gaseous fuel is 9 ppmvd VOC (as propane) @ 15% oxygen; and clause (D)—when firing fuel oil is 9 ppmvd VOC (as propane) @ 15% oxygen. Proposed subsection (g)(2)(iii) has been renumbered as final-form subsection (g)(2)(iv).

Under subsection (h), the owner and operator of a Portland cement kiln subject to § 129.96 shall comply with the applicable presumptive RACT emission limitation under paragraphs (1)—(3). No changes were made from proposed to final-form rulemaking.

Under subsection (i), among other things, 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 to control, reduce or minimize NO_x emissions or VOC emissions, or both, from an air contamination source unless the permit contains more stringent requirements or emission limitations, or both. Minor clarifying changes were made from proposed to final-form rulemaking.

Under subsection (j), among other things, 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_x requirements; emissions of NO_x from stationary internal combustion engines; and emissions of NO_x 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. Minor clarifying changes were made from proposed to final-form rulemaking.

Under subsection (k), the owner or operator of a major NO_x 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 paragraphs (1) and (2).

Minor clarifying changes were made to subsection (k) from proposed to final-form rulemaking. Additionally, subsection (k)(2)(v) was revised from proposed to final-form rulemaking to specify that the written petition must include 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. Further, the approved petition shall be incorporated in an applicable operating permit or plan approval. The proposed rulemaking specified under paragraph (2)(v) that the proposed final compliance date be as soon as possible but not later than the date 3 years after the effective date of adoption of the proposed rulemaking.

Under subsection (l), the Department or appropriate approved local air pollution control agency will review a timely and complete written petition requesting an alternative compliance schedule submitted in accordance with subsection (k) and approve or deny the petition in writing. No changes were made from proposed to final-form rulemaking.

Under subsection (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. No changes were made from proposed to final-form rulemaking.

§ 129.98. Facility-wide or system-wide NO_x emissions averaging plan general requirements

Under subsection (a), the owner or operator of a major NO_x emitting facility subject to § 129.96 that includes at least one air contamination source subject to a NO_x RACT emission limitation in § 129.97 that cannot meet the applicable NO_x RACT emission limitation may elect to meet that applicable NO_x RACT emission limitation in § 129.97 by averaging NO_x 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.

Under proposed subsection (a), there was no requirement that system-wide averaging be conducted within the same ozone nonattainment area. The final-form rulemaking requires that system-wide emissions averaging must be among sources under common control of the same owner or operator. The averaging must be conducted within the same ozone nonattainment area in this Commonwealth. The Department interprets this provision to allow emissions averaging in areas designated as unclassifiable/attainment for the ozone NAAQS.

Under subsection (b), the owner or operator of each facility that elects to comply with subsection (a) shall submit a written NO_x 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 in paragraph (1) or (2). Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (c), each NO_x air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NO_x 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_x RACT emission limitation in § 129.97. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (d), the application for the operating permit modification or the plan approval, if otherwise

required, for averaging NO_x 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_x emissions emitted by the air contamination sources included in the facility-wide or system-wide NO_x emissions averaging plan using a 30-day rolling average are not greater than the NO_x emissions that would be emitted by the group of included sources if each source complied with the applicable NO_x RACT emission limitation in § 129.97 on a source-specific basis. The proposed "not greater than 90% of the sum" provision was deleted from this final-form rulemaking.

Under subsection (e), the owner or operator shall calculate the alternative facility-wide or system-wide NO_x 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 equation in this subsection to sum the emissions for all of the sources included in the NO_x emissions averaging plan.

Under subsection (e), the equation used in the NO_x emissions averaging plan was modified. Emissions from start-ups, shutdowns and malfunctions shall be included as well as the most stringent numerical emission rate applicable to each air contamination source in the calculations. The more stringent numerical emission rate limit will include a limit established in the CAA, the act, regulations adopted under these acts, a plan approval, operating permit, consent decree, consent order and agreement, Department order or the SIP.

Under subsection (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_x emissions averaging using a 30-day rolling average only for NO_x emitting sources or NO_x emitting facilities that are owned or operated by the applicant. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (g), the application for the operating permit modification or a plan approval, if otherwise required, specified in subsections (b)—(f) must include the information identified under paragraphs (1)—(3). Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (h), an air contamination source or facility included in the facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with subsections (b)—(g) may be included in only one facility-wide or system-wide NO_x emissions averaging plan. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (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_x emissions averaging plan. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (j), the owner or operator of an air contamination source or facility included in the facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with subsections (b)—(h) shall submit the reports and records 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. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (k), the owner or operator of an air contamination source or facility included in a facility-wide or system-wide NO_x 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 CAA, or regulations adopted under the act or the CAA, that are not NO_x RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NO_x emissions averaging plan submitted to the Department or appropriate approved local air pollution control agency under subsection (b). Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (l), the owner or operator of an air contamination source subject to a NO_x RACT emission limitation in § 129.97 that is not included in a facility-wide or system-wide NO_x emissions averaging plan submitted under subsection (b) shall operate the source in compliance with the applicable NO_x RACT emission limitation in § 129.97. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (m), the owner and operator of the air contamination sources included in a facility-wide or system-wide NO_x emissions averaging plan submitted under subsection (b) shall be liable for a violation of an applicable NO_x RACT emission limitation at each source included in the NO_x emissions averaging plan. Only minor clarifying changes were made between proposed and final-form rulemaking.

§ 129.99. Alternative RACT proposal and petition for alternative compliance schedule

Under subsection (a), the owner or operator of an air contamination source subject to § 129.97 located at a facility subject to § 129.96 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). Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (b), the owner or operator of a NO_x air contamination source with a potential emission rate equal to or greater than 5.0 tons of NO_x per year that is not subject to § 129.97 or §§ 129.201—129.205 located at a major NO_x emitting facility subject to § 129.96 shall propose a NO_x RACT requirement or RACT emission limitation in accordance with subsection (d). Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (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). Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (d), the owner or operator proposing an alternative RACT requirement or RACT emission limitation under subsection (a), (b) or (c) shall comply with all of the RACT proposal requirements specified under paragraphs (1)—(7).

Under subsection (d), the deadline for completing the implementation of the RACT requirement or limitation was changed between proposed and final-form rulemaking

to not later than January 1, 2017, which is the Federal implementation requirement date for RACT for the 2008 8-hour ozone standard.

Under subsection (e), the Department or appropriate approved local air pollution control agency will review the timely and complete alternative RACT proposal submitted in accordance with subsection (d) as specified in paragraph (1) and approve, deny or modify the alternative RACT proposal as indicated under paragraph (2) or (3). Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (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. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (g), the emission limit and requirements specified in the plan approval or operating permit issued 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. No changes were made between proposed and final-form rulemaking.

Under subsection (h), the Department will submit each alternative RACT requirement or RACT emission limitation approved under subsection (f) to 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 required for the SIP submittal. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (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 paragraphs (1) and (2).

Subsection (i)(2)(v) is revised from proposed to final-form rulemaking to specify that the written petition must include a proposed final compliance date that is as soon as possible but not later than 3 years after the written approval of the petition. 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 proposed rulemaking specified under subsection (i)(2)(v) that the proposed final compliance date be as soon as possible but not later than the date 3 years after the effective date of adoption of the proposed rulemaking.

Under subsection (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. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (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. No changes were made between proposed and final-form rulemaking.

Under subsection (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. No changes were made between proposed and final-form rulemaking.

§ 129.100. Compliance demonstration and recordkeeping requirements

Under subsection (a), the owner and operator of an air contamination source subject to a requirement in § 129.97 shall demonstrate compliance with the applicable RACT requirement or RACT emission limitation by performing the monitoring or testing procedures under paragraph (1) or (2), except as provided in subsection (c).

Under subsection (a)(1)—(4), the monitoring and testing requirements have been amended from proposed to final-form rulemaking for all affected air contamination sources.

Under subsection (b), except as provided in §§ 129.97(k) and 129.99(i), 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 the applicable time frame under paragraph (1) or (2).

Under subsection (b), the compliance demonstration date was changed between proposed and final-form rulemaking to not later than January 1, 2017, which is the Federal implementation requirement date for RACT.

Under subsection (c), an owner or operator of an air contamination source subject to this section and §§ 129.96—129.98 may request a waiver from the requirement to demonstrate compliance with the applicable emission limitation in § 129.97 if the requirements under paragraphs (1)—(4) are met. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (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 as set forth in paragraphs (1) and (2). No changes were made between proposed and final-form rulemaking.

Under subsection (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_x 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. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (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. Only minor clarifying changes were made between proposed and final-form rulemaking.

Under subsection (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, the information in paragraphs (1)—(6). Only minor clarifying changes were made between proposed and final-form rulemaking.

Proposed subsection (h), providing a requirement for the owner or operator of an oil-fired, gas-fired or combination oil-fired and gas-fired unit subject to § 129.97(b)(2) to maintain records of the type of fuel, was deleted in the final-form rulemaking.

Under final-form subsection (h), proposed subsection (i), 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 the items in paragraphs (1)—(4).

Under final-form subsection (i), 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 the appropriate approved local air pollution control agency.

F. *Summary of Major Comments and Responses*

General comments

A commentator stated that the proposed rulemaking is not RACT. It does not accomplish RACT, but maintains a status quo that does not meet the CAA test of reducing air pollution emissions for NO_x and VOCs (volatile organic chemicals) ". . . as expeditiously as practicable." The proposed rulemaking would have allowed higher limit (132,000 tons NO_x) than what is already emitted. Power plants would have been allowed to increase emissions, while the purpose of RACT is to decrease emissions.

The Board disagrees that the proposed rulemaking was not RACT. The evaluation or re-evaluation of what constitutes RACT-level control for affected sources is a requirement that must be fulfilled each time the EPA promulgates a new NAAQS as was the case in 1979 for the 1-hour ozone standard and in 1997 for the 8-hour ozone standard; re-evaluation of RACT is also required when the EPA revises a NAAQS as was the case in 2008 for the 8-hour ozone standard. The proposed rulemaking addressed the RACT requirements for the 8-hour ozone NAAQS promulgated in 1997 and 2008. The final-form rulemaking is applicable to certain owners and operators of major sources of NO_x or VOC emissions (precursors to ozone formation) in existence on or before July 20, 2012, the effective date of the EPA's designations and classifications for the 2008 ozone NAAQS. See 77 FR 30088.

The Board agrees that the purpose of RACT is to decrease ozone precursor emissions. However, the amount of emission reductions achieved as a result of the application of RACT-level control is determined on the basis of the source's potential to emit before and after the application of RACT-level control, not on a comparison with a source's current actual emissions. The final-form rulemaking establishes presumptive RACT requirements and RACT emission limitations for NO_x or VOCs that are achievable and sustainable during the expected life of the affected unit using technologies that are technically and economically feasible. Implementation of the final-form rulemaking presumptive RACT requirements and RACT emission limitations will reduce the amount of NO_x and VOC emissions that the owner and operator of a facility subject to §§ 129.96—129.100 would be legally allowed to emit to the atmosphere.

In response to comments and the EPA's Ozone NAAQS Implementation Rule published at 80 FR 12264 (March 6, 2015), the Department conducted additional reviews of historical emissions data for coal-fired electric generating units (EGU) equipped with SCR technology. The Department determined that the NO_x limit specified in § 129.97(g)(1)(viii) should be revised. Section 129.97(g)(1)(viii) specifies that any combustion unit equipped with an SCR system that is operating with an inlet temperature equal to or greater than 600°F must meet a NO_x emission limit of 0.12 lb NO_x/million Btu. Compliance with this emission limit is also required when by-passing the SCR system. The Department acknowledges that the NO_x RACT limit in the final-form rulemaking is not the lowest achievable emissions rate for this technology. However, the EPA has indicated in the preamble for the final rule approving a SIP revision for Wisconsin's NO_x RACT Rule that:

> RACT limits are not meant to be the lowest achievable emission rates. The Nitrogen Oxides Supplement to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990 addresses the issue of an acceptable emission limit. See section 4.6 RACT for Certain Electric Utility Boilers (57 FR 55626), "The EPA expects States, to the extent practicable, to demonstrate that the variety of emission controls adopted are consistent with the most effective level of combustion modification reasonably available for its individual affected sources."

See 75 FR 64155, 64157 (October 19, 2010). The Department's re-evaluation of the NO_x RACT limit for coal-fired EGUs, taking into consideration cost-effectiveness and technological feasibility, is consistent with the approach outlined in the preamble of the rulemaking published at 75 FR 64155 approving Wisconsin's RACT SIP revision.

The final-form RACT rulemaking will reduce the amount of pollution that is currently allowed to be emitted through implementation of more stringent limitations. No facility owner or operator will be allowed to increase their emissions. The final-form RACT rulemaking sets forth emission limitations for NO_x or VOCs that are achievable using technologies that are reasonably available. For example, upon re-evaluation of the NO_x emissions data from coal-fired EGUs equipped with SCR, the Board concluded that a NO_x emission limit of 0.12 lb/MMBtu heat input is achievable with operation of the SCR when an inlet temperature of 600°F is reached. The Board also concluded that a NO_x emission limit of

0.16 lb/MMBtu heat input is achievable for CFB combustion units. The final-form rulemaking has been amended accordingly.

Potential NO_x emission reductions beyond current RACT allowable emissions are presented as follows. For 257 boilers, the potential NO_x emissions reduction is 70,149 tpy or a 28% reduction. For 12 EGUs equipped with SCR systems, the potential NO_x emissions reduction is 138,972 tpy or a 75% reduction. For 393 engines, the potential NO_x emissions reduction is 20,596 tpy or a 44% reduction. For 148 turbines, the potential NO_x emissions reduction is 23,906 tpy or a 40% reduction. In total for 810 air contamination sources, the potential NO_x emissions reduction is 253,623 tpy or a 47% reduction.

Reductions in actual NO_x emissions from coal-fired boilers or EGUs are also anticipated as a result of the implementation of the final-form RACT requirements and RACT emission limitations. The actual NO_x emissions from coal-fired EGUs in this Commonwealth for 2013 were 119,025 tons. The actual 2013 NO_x emissions from coal-fired EGUs that are not scheduled for retirement or for fuel-switching were 92,728 tons. The expected NO_x emissions from coal-fired EGUs that are not scheduled for retirement or fuel-switching, based on 2013 production rates and the NO_x emission limitations in the final-form rulemaking, are 59,039 tpy. This is an anticipated reduction in actual emissions of approximately 36% [{(92,728 tons − 59,039 tons) / 92,728 tons} × 100 = 36%] from this sector.

A commentator cautioned the Department not to rigidly apply a benchmark as low as $2,500 per ton to exclude consideration of technically feasible controls. Rather, the Commonwealth needs to consider a broader range of cost effectiveness to see if some level of additional control falls within that range. Based on Wisconsin's analysis, the Department should consider raising its cost-effectiveness "benchmark" like Wisconsin and New York after considering and evaluating thoroughly the states' analyses.

The Board did not establish a bright-line cost effectiveness threshold to determine RACT. The Board initially used minimum cost-effectiveness thresholds of $1,500 and $3,000 per ton of NO_x and VOC controlled, respectively, in 1990 dollars, for the implementation of RACT requirements for the 1979 1-hour ozone NAAQS in §§ 129.91—129.95. These cost-effectiveness thresholds were consistent with thresholds used at that time by other states for RACT determinations for the 1979 1-hour ozone NAAQS as well. The Board used the United States Bureau of Labor Statistics Consumer Price Index to adjust $1,500 in 1990 dollars to $2,500 in 2010 dollars. When extrapolated into 2014 dollars, this figure is approximately $2,750. The Board used a NO_x emission cost-effectiveness upper-bound of $2,800 per ton NO_x controlled.

Even with an additional 25% margin, the upper-bound cost-effectiveness threshold would not be any greater than $3,500 per ton NO_x controlled. Similarly for VOC, the upper-bound cost-effectiveness threshold would not be any greater than $7,000 per ton VOC controlled. Applying these new thresholds does not have an effect on the add-on control technology decisions for the presumptive RACT requirements established in the final-form rulemaking. The RACT limits included in the final-form rulemaking are comparable to emission limits included in other states' RACT regulations.

It should be noted that Wisconsin's SIP-approved RACT regulations in 2010 were based on a NO_x cost-effectiveness benchmark of $2,500 per ton controlled.

Commentators believed that the proposed rulemaking would weaken current emissions limits. Regulatory and policy changes will add ozone and other criteria pollutants to some of the most overburdened communities in this Commonwealth.

The Board disagrees because the final-form rulemaking does not weaken existing emissions limits. The final-form RACT rulemaking includes emission limitations for NO_x or VOCs that are achievable using technologies that are reasonably available.

Following the adoption and implementation of the final-form rulemaking, NO_x emissions from the electric generating sector in this Commonwealth are expected to be reduced from 119,025 tpy, based on 2013 production rates, to 59,039 tpy. The actual NO_x emissions from coal-fired EGUs in this Commonwealth for 2013 were 119,025 tons. The actual 2013 NO_x emissions from coal-fired EGUs that are not scheduled for retirement or for fuel-switching were 92,728 tons. The expected NO_x emissions from coal-fired EGUs that are not scheduled for retirement or fuel-switching, based on 2013 production rates and the NO_x emission limitations in the final-form rulemaking, are 59,039 tpy.

In addition, the final-form rulemaking specifically provides under § 129.97(i) and (j) that the more stringent limitation or requirement applies to the owner or operator of a facility subject to the regulation.

A commentator represented that for the class of the largest NO_x-emitting sources, the representations of "Anticipated Effect on Emissions" are overstatements in contrast with the much more common sense approach of comparing the proposed emission limitation with current actual emissions. The latter comparison demonstrates that the proposed RACT requirements are no substantial improvement with respect to controlling NO_x emissions from large coal-fired power plants.

The Board disagrees that the representation of "anticipated effect on emissions" should be based on a comparison of the emissions expected as a result of implementation of the presumptive RACT requirements and RACT emission limitations with current actual emissions. The amount of NO_x and VOC emission reductions achieved as a result of the application of RACT-level control is determined on the basis of the source's potential to emit before and after the application of RACT-level control. Implementation of the final-form rulemaking presumptive RACT requirements and RACT emission limitations will reduce the amount of ozone precursor emissions that the owner and operator of a facility subject to §§ 129.96—129.100 would be legally allowed to emit to the atmosphere. Further, the final-form rulemaking revises the NO_x emission limit for CFB combustion units in § 129.97(g)(1)(vi)(A) from 0.20 lb NO_x/million Btu heat input to 0.16 lb NO_x/million Btu heat input. The final-form rulemaking also addresses the use of installed SCR or SNCR equipment in § 129.97(g)(1)(viii) and (ix).

The potential NO_x emission reductions in tpy beyond current RACT allowable emissions is approximately 253,623 tons from 810 units as follows: for 257 boilers—approximately 70,149 tons; for EGUs equipped with SCR systems—approximately 138,972 tons; for engines—approximately 20,596 tons; and for turbines—approximately 23,906 tons.

The actual NO_x emissions from coal-fired EGUs in this Commonwealth for 2013 were 119,025 tons. The actual 2013 NO_x emissions from coal-fired EGUs that are not scheduled for retirement or for fuel-switching were 92,728

tons. The expected NO_x emissions from coal-fired EGUs that are not scheduled for retirement or fuel-switching, based on 2013 production rates and the NO_x emission limitations in the final-form rulemaking, are 59,039 tpy. This is an anticipated reduction in actual emissions of approximately 36% from this sector.

Some commentators allege that additional support and analysis is needed in the Regulatory Analysis Form (RAF) and preamble to justify the proposed regulations.

The Board disagrees that there is insufficient information in either the preamble to the proposed rulemaking or the RAF to justify the regulations. Both of these documents are replete with substantive information regarding emissions data, cost-effectiveness numbers, public health information, statutory requirements, small business information and other types of analyses to demonstrate that the regulations are legally required, in the public interest, economically and technologically feasible, and will reduce emissions. The estimates included in the RAF to the proposed rulemaking and the final-form rulemaking are based on the information available to the Department. The presumptive RACT emission limitations were established based on cost-effectiveness of available control technology and are not based on the total number of affected units or number of total units requiring control.

Some commentators believed that the proposed rulemaking significantly underestimated the number of affected units that would require installation of NO_x or VOC control technology. Approximately 150 units operated by natural gas transmission companies would be affected by the proposed rulemaking; this exceeds the Department's estimate for all affected units Statewide. The proposed rulemaking would have significant impact on natural gas transmission company operations, including many requirements to install control technology and associated costs that are significantly under-estimated by the Commonwealth.

The Board finds that the estimates for numbers of affected units included in the RAF to the proposed rulemaking and the final-form rulemaking are based on the information available to the Department. The presumptive RACT emission limitations were established based on cost-effectiveness of available control technology and not based on the total number of affected units or number of total units requiring control.

The Board re-evaluated the number of units requiring control as a result of revisions to emission limitations in the final-form rulemaking. The number of turbines requiring control has dropped from 64 to 17 primarily due to the final-form rulemaking setting forth a presumptive RACT emission limitation of 150 ppmvd NO_x @ 15% oxygen for simple cycle or regenerative cycle turbines equal to or greater than 1,000 bhp and less than 6,000 bhp.

Several commentators said that compliance with the Federal Clean Air Interstate Rule (CAIR) or Cross-State Air Pollution Rule (CSAPR) should constitute compliance with RACT. The Department should rely on CAIR/CSAPR to satisfy RACT for EGUs.

The Board disagrees that compliance with CAIR/CSAPR should constitute compliance with RACT and that the Department should rely on CAIR/CSAPR to satisfy RACT for EGUs. Moreover, the United States Court of Appeals for the D.C. Circuit granted the EPA's request for voluntary vacatur of the presumption that compliance with the CAIR or the NO_x SIP Call automatically constitutes RACT or reasonably available control measures for NO_x emissions from EGUs participating in regional cap-and-trade programs. *NRDC v. EPA*, No. 09-1198 (D.C. Cir.) (order of August 30, 2013). In the EPA's comments on the proposed rulemaking, designated ozone nonattainment areas required to implement RACT must achieve RACT level reductions inside the nonattainment area. In response to the EPA's comment, final-form § 129.98(a) has been amended to address the system-wide averaging provisions as follows: "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." This approach should assure that emissions averaging will occur among units in the same ozone nonattainment area and that emission reductions from outside a given area of more severe nonattainment cannot be used to offset emissions within the area of more severe nonattainment.

Some commentators believed that the proposed RACT standard would allow coal plants to keep the air in some communities cleaner than others, a fact highly likely to continue racial disparity in air pollution. The health of citizens in this Commonwealth who have limited incomes or are living in poverty is also especially vulnerable to smog pollution. The Department runs the risk of exposing certain citizens, including those living in environmental justice communities, to a disproportionate amount of extra pollution.

The Board disagrees. The final-form rulemaking reduces the allowable emission rates for certain coal-fired facilities and requires the operation of existing control equipment for other facilities. Pollution from this sector continues to decline. For example, the actual NO_x emissions from coal-fired EGUs in this Commonwealth for 2000 were 192,004 tons; the actual NO_x emissions from coal-fired EGUs in this Commonwealth for 2013 were 119,025 tons. The actual 2013 NO_x emissions from coal-fired EGUs that are not scheduled for retirement or for fuel-switching were 92,728 tons. The expected future NO_x emissions from coal-fired EGUs that are not scheduled for retirement or fuel-switching, based on 2013 production rates and the NO_x emission limitations in the final-form rulemaking, are 59,039 tpy.

§ 121.1. Definitions

Several commentators believed that all definitions should match Federal definitions. The proposed new definition for "stationary internal combustion engine" opens up application to the entirety of air quality regulations. It appears the Pennsylvania definition has always included portable (not mobile) internal combustion engines. The definition should be same as the EPA's reciprocating internal combustion engines rule in 40 CFR Part 63, Subpart ZZZZ (relating to National emission standards for hazardous air pollutants for stationary reciprocating internal combustion engines). Some commentators suggested that definitions consistent with the Federal definitions "'capacity factor' in 40 CFR 72, 'combustion turbine' in 40 CFR 60 NSPS, and 'stationary internal combustion engine' in NSPS IIII and JJJJ and NESHAPS ZZZZ" should be added.

The Board agrees. The final-form rulemaking contains definitions consistent with the Federal regulations. The final-form rulemaking revises the definition of "stationary internal combustion engine" to include the term "stationary reciprocating internal combustion engine." The final-form rulemaking adds definitions for "regenerative cycle combustion turbine," "simple cycle combustion turbine" and "stationary combustion turbine." Final-form § 129.97(c)(7)(i) establishes that the "annual capacity

factor" for a combustion unit is the ratio of the unit's heat input (in million Btu or equivalent units of measure) to the unit's maximum rated heat input (in million Btu or equivalent units of measure) times 8,760 hours during a period of 12 consecutive calendar months. The "annual capacity factor" for an EGU is established in final-form § 129.97(c)(7)(ii) as 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) times 8,760 hours during a period of 12 consecutive calendar months. Final-form § 129.97(c)(7)(iii) establishes that 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.

A commentator stated that "air contamination source" is broadly defined and becomes problematic when used in § 129.99(b) and (c). The commentator asked if the term applies to each individual piece of equipment or to a grouping of equipment.

The Board disagrees. The applicability threshold values of § 129.99(b) and (c) were determined as generic emission levels below which the application of add-on emission control technology is not economically feasible. "Air contamination source" is already defined in the act and § 121.1 and needs no further clarification.

§ 129.96. Applicability

A commentator believed that the preamble should have clearly indicated that the proposed rulemaking only applied to major sources of NO_x and VOCs.

The Board agrees that the NO_x RACT requirements are applicable to major NO_x emitting facilities and the VOC RACT requirements are applicable to major VOC emitting facilities. The NO_x requirements of §§ 129.96—129.100 apply Statewide to the owner and operator of a major NO_x emitting facility and the VOC requirements of §§ 129.96—129.100 apply Statewide to the owner and operator of a major VOC emitting facility. Section 129.96 was amended to clarify the applicability.

A commentator stated that while a number of existing regulations are referenced in the applicability section, there is no clarifying statement of prior presumptive RACT requirements that were promulgated under §§ 129.91—129.95. In the proposed rulemaking, these regulations are not superseded until the end of § 129.97. It may be clearer to address all the applicability pieces under § 129.96 instead of splitting it up.

The Board disagrees. Sections 129.91—129.95 are not superseded by the final-form rulemaking. The affected owners and operators of major VOC and NO_x emitting facilities are subject to §§ 129.91—129.95 and §§ 129.96—129.100. Section 129.97(i) is intended to ensure that an owner or operator complies with the more stringent of the RACT requirements in a RACT permit issued under §§ 129.91—129.95 and the presumptive RACT requirements in the final-form rulemaking. Section 129.97(i) and (j) specifically provides that the more stringent provisions apply whether those provisions are under the final-form rulemaking, some other regulation or a previously issued permit. These safeguards prevent backsliding from the most stringent applicable requirements.

A commentator's understanding of EPA policy is that those sources that have already installed air pollution control equipment as a result of previous RACT are not required to install additional controls absent new information indicating otherwise. See, for example, 70 FR 71612, 71655 and *NRDC v. EPA*, 571 F.3d 1245, 1253—55. The Department should amend proposed § 129.96 to exclude NO_x and VOC sources that have already undergone RACT review and have resulting NO_x or VOC, or both, limits or restrictions, unless new information indicates that a new RACT analysis is justified.

The Board believes that the commentator is referring to *NRDC v. EPA,* 571 F.3d 1245 (D.C. Cir. 2009), decided by the D.C. Circuit Court in 2009, not 2008 as stated by the commentator. The Board disagrees with the commentator's assertion. The evaluation or re-evaluation of what constitutes RACT-level control for affected sources is a requirement that must be fulfilled each time the EPA promulgates a new NAAQS as was the case in 1979 for the 1-hour ozone standard and in 1997 for the 8-hour ozone standard or revises a NAAQS as was the case in 2008 for the 8-hour ozone standard. The final-form rulemaking addresses the RACT requirements for the 8-hour ozone NAAQS promulgated in 1997 and revised in 2008. The final-form rulemaking requirements are applicable to the owners and operators of subject sources in existence on or before July 20, 2012, and to owners and operators of subject sources 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_x emitting facility or a major VOC emitting facility.

The EPA's Phase 2 Rule certification provision allows states to certify that the control measures approved as RACT under the 1-hour ozone standard also satisfy the RACT requirements under the 8-hour ozone standard absent information indicating they should not be approved. This approach adequately ensures that RACT determinations will take into account advances in technology.

The Department reviewed all available information, including Federal regulations and RACT regulations from various states. This review showed that a new RACT analysis is justified. The Board believes that the presumptive RACT requirements included in the final-form rulemaking are appropriate. Should an affected owner or operator not be able to comply with the presumptive requirement or emission limitation, the owner or operator may propose an alternative RACT requirement or RACT emission limitation under § 129.99(a) based on the source's potential to emit NO_x or VOCs.

Several commentators believed that since they are subject to more stringent requirements under other programs (such as Maximum Achievable Control Technology (MACT), National Emission Standards for Hazardous Air Pollutants (NESHAP) and New Source Performance Standards (NSPS)) they should be exempt from RACT requirements. The Department should exempt emergency generators and other sources with applicable Federally-mandated NO_x and VOC control requirements from RACT requirements. Additional exemptions are needed to accommodate facilities that are already subject to more stringent requirements or have already completed a RACT process.

The Board disagrees. An evaluation or re-evaluation of what constitutes RACT for affected sources is required under section 182 of the CAA for existing major NO_x emitting or existing major VOC emitting facilities each time a NAAQS is promulgated or revised. The final-form rulemaking addresses the RACT requirements for the 8-hour ozone NAAQS promulgated in 1997 and revised in 2008. RACT applies to the owners and operators of

existing major stationary sources of NO_x and VOC in ozone nonattainment areas. RACT for covered categories is required Statewide and not just in designated ozone nonattainment areas in this Commonwealth because the Commonwealth is in the Northeast Ozone Transport Region established under section 184 of the CAA.

Section 182(b)(2) of the CAA requires that the Commonwealth implement RACT for each category of existing VOC sources in the area covered by a CTG document issued by the Administrator between November 15, 1990, and the date of attainment, as well as for all existing VOC sources in the area covered by any CTG issued before November 15, 1990, and all other major stationary sources of VOCs that are located in the area. Under sections 182(f)(1) and 184(b)(2) of the CAA, RACT requirements are applicable to all existing major sources of NO_x in this Commonwealth.

The MACT and NESHAP requirements apply to the control of emissions of hazardous air pollutants (HAP) from existing or new major sources as required under section 112 of the CAA (42 U.S.C.A. § 7412). Many HAPs are also VOCs, but not all VOCs are HAPs. NO_x are also not HAP. Therefore the owner and operator of an existing major source subject to MACT/NESHAP requirements for the control of HAP emissions may also be subject to RACT requirements for the control of NO_x and VOC emissions. Therefore, the Board believes that no additional exemptions are warranted to accommodate the owners and operators of facilities that are already subject to more stringent requirements or have already completed a RACT process.

§ 129.97. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule

Some commentators felt the proposed regulations were less stringent than those that similarly-situated Mid-Atlantic states, including New Jersey, are proposing. The commentators requested that the Board explain how the final-form rulemaking will ensure that the Commonwealth is adequately addressing emissions under its jurisdiction so that the Commonwealth is properly meeting its pollution control responsibilities to other states.

The Board disagrees. The Department reviewed and considered RACT regulations from similarly situated Mid-Atlantic states, including New Jersey, during the development of the proposed and final-form rulemakings. Source categories in this Commonwealth are diverse with numerous sources having varying characteristics differing from those of the other Mid-Atlantic states. The Department evaluated these source categories and determined that the presumptive RACT requirements included in the final-form rulemaking are appropriate. In this Commonwealth, all monitored areas are attaining the 1997 and 2008 ozone standards, except the Harrison monitor in Allegheny County. RACT regulations are not intended to address interstate transport issues.

Commentators said proposed § 129.97(c) appeared to establish an absolute obligation for relevant sources to be maintained and operated in accordance with both manufacturer's specifications and good engineering practices. However, in many cases, existing sources are components of complex process systems, integrated operations, or are specialized and custom designed, such that the equipment-specific manufacturer's specifications do not exist or are no longer relevant or applicable, and indeed can be inconsistent with "good engineering practice." Even more simply, with respect to older sources, manufacturer's specifications may no longer even be available. Therefore, the regulation should be amended to require operation and maintenance of regulated sources in accordance with good engineering practice, which, in appropriate circumstances, would include operation in accordance with manufacturer's specifications.

The Board notes that the presumptive RACT requirements included in § 129.93 (relating to presumptive RACT emission limitations) require the installation, maintenance and operation of the source in accordance with manufacturer's specifications. This requirement has been implemented since 1995. In addition, an affected owner or operator that is not able to comply with the applicable presumptive RACT requirements and emission limitations in the final-form rulemaking may opt to determine RACT requirements on a case-by-case basis under § 129.99.

In the final-form rulemaking, "good engineering practices" has been replaced with "good operating practices." "Engineering" refers to design, whereas "operating" refers to operation. Since this final-form rulemaking is applicable to the owners and operators of existing operating sources, it is more appropriate to regulate operating practices. In addition, this language is consistent with the permit compliance requirements in § 127.444 (relating to compliance requirements.)

Some commentators stated that in proposed § 129.97(g)(3) there appears to be some disparity between the combustion turbine and the reciprocating engine proposed requirements. The proposed combustion turbine level of 42 ppm on natural gas is approximately four times lower than the RACT level for a lean burn reciprocating engine and approximately two times lower than a rich burn engine. Uncontrolled combustion turbines are close to the proposed RACT levels for reciprocating engines. With reciprocating engines far outnumbering gas turbines in this Commonwealth, the commentator asked if it makes sense, from an environmental or cost impact basis, or both, to have a RACT for combustion turbines, especially small combustion turbines. The RACT compliance cost analyses conducted by the Department is not detailed enough to determine if the RACT emissions level proposed for combustion turbines is cost effective.

The Board disagrees with the comparison of emission rates for engines to turbines. They are different combustion technologies and are considered to be different source types for the purposes of RACT determinations. Therefore, the Board disagrees that presumptive RACT requirements and emission limitations should not be established for turbines. The number of turbines subject to RACT requirements in this Commonwealth justifies the establishment of presumptive RACT emission limitations for turbines to minimize case-by-case RACT determinations.

Presumptive RACT emission limitations are implemented for each source category based on RACT determinations and associated emissions data. In addition, the owner or operator of any affected source that cannot meet a presumptive RACT emission limitation may propose an alternative limit determined on a case-by-case basis.

One commentator was concerned with the Board's statement in RAF Question 12 that the proposed regulations are "similar to regulations already adopted by Wisconsin and New York and approved by the EPA." However, the commentator believed that New York has in place significantly more stringent emissions limits than the Commonwealth. The commentator stated that the Board should either support or amend its response to RAF Question 12.

The Board believes that its response is adequate. The Department reviewed and considered RACT regulations from various states when evaluating what constitutes RACT for the types of sources affected by the final-form rulemaking. Source categories in this Commonwealth are diverse with numerous individual sources having varying characteristics. The Department evaluated these source categories and determined that the presumptive RACT requirements included in the final-form rulemaking are appropriate.

Due to variability in source type, combustion characteristics, unit size, fuel usage, operating conditions and source age, there are differences between the final-form rulemaking and the New York RACT regulations in terms of emission limits, exceptions, size cutoffs, and the like. For example, New York determined that combined-cycle combustion turbines operated after July 1, 2014, should undergo case-by-case analysis due to limited numbers. As New York noted in their Regulatory Impact Statement, "Because of the limited number of sources and the wide range of available control technologies, the [NY] Department was not able to identify a presumptive NO_x RACT emission limit for combined cycle combustion turbines." However, due to the large number of these sources operating in this Commonwealth, the Department was able to determine a presumptive NO_x RACT emission limitation for different categories of combined-cycle combustion turbines, including large combustion turbines that will likely be required to use SCR control to meet the applicable NO_x RACT emission limitation. The basis for the determination of the presumptive RACT requirements and emission limitations included in the final-form rulemaking is included in the RAF and the comment and response document.

The determinations of what add-on control technologies are reasonably available to meet the presumptive RACT requirements and emission limitations included in the final-form rulemaking are consistent with the determinations of what add-on control technologies are reasonably available to meet the presumptive RACT requirements in New York. The RACT emission limits included in the final-form rulemaking are comparable to emission limits included in other states' RACT regulations, including New York and Wisconsin.

Subsections (b) and (g)(1)—Combustion units

A commentator believed that the proposed rulemaking requires minimization of NO_x and carbon monoxide (CO) emissions which is inconsistent with the boiler MACT rule. The commentator recommended that this provision be amended to mirror the boiler MACT requirements. The commentator also stated that a periodic tune-up conducted in accordance with the boiler MACT satisfies § 129.99 in the year in which it is conducted.

The Board revised the final-form rulemaking to require biennial tune-ups 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 conducted in accordance with 40 CFR 63.11223. CO emissions are required to be included in the record under 40 CFR 63.11223. In addition, CO emissions are recorded as a surrogate for VOC emissions.

The commentator found that reference to "flame pattern" is not applicable to all combustion sources. The commentator has seen instances when combustion unit language has been included in a combustion turbine permit rendering an irrelevant and impossible-to-comply-with permit condition.

The Board agrees that the requirements for combustion units referencing "flame pattern" are not applicable to all combustion sources, including turbines. 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 is a biennial tune-up conducted in accordance with the procedures in 40 CFR 63.11223, which includes inspection and adjustment of the flame pattern. A combustion unit is a stationary equipment used to burn fuel primarily for the purpose of producing power or heat by indirect heat transfer. While turbines are combustion sources, they produce power by direct heat transfer and are not combustion units by definition. Therefore, the tune-up requirement is not applicable to combustion turbines. In addition, this tune-up requirement should not appear as an applicable permit requirement for combustion turbines.

Commentators recommended that the presumptive RACT requirements for coal-fired boilers should be established based on actual emission levels achieved in practice while operating with post-combustion controls, such as SCR or SNCR systems. The RACT regulations should require the use of SCR or other control devices continuously to minimize NO_x pollution.

The Board disagrees that the presumptive RACT requirements for coal-fired boilers should be established based solely on the lowest actual emission levels achieved in practice by some of the affected units while operating with post-combustion controls. The proposed and final-form RACT rulemakings establish presumptive emission limitations for NO_x or VOCs that are achievable and sustainable during the expected life of the affected unit using technologies that are both technically and economically feasible. Implementation of the final-form rulemaking presumptive RACT requirements and RACT emission limitations will reduce the amount of ozone precursor emissions that the owner and operator of a facility subject to §§ 129.96—129.100 would be legally allowed to emit to the atmosphere.

Design limitations of the existing SCR and SNCR control technology installed on the affected coal-fired boilers dictate the operating parameters that are reasonably achievable. However, based on consideration of comments received during the public comment period and on the evaluation of NO_x emissions data for coal-fired boilers for a 5-year period, the final-form rulemaking addresses the use of installed SCR or SNCR equipment in § 129.97(g)(1)(viii) and (ix). Further, the NO_x emission limit for CFB combustion units in § 129.97(g)(1)(vi)(A) is revised from the proposed 0.20 lb NO_x/million Btu heat input to 0.16 lb NO_x/million Btu heat input in the final-form rulemaking.

Upon re-evaluation of the NO_x emissions data from the coal-fired EGUs equipped with SCR, the Board concluded that a NO_x emission limit of 0.12 lb/MMBtu was achievable with operation of SCR when an inlet temperature of 600°F is reached. This limit accounts for the design limitations of the existing SCR systems. In addition, compliance with this emission limit is also required when by-passing the SCR system.

Upon re-evaluation of the NO_x emission data from CFB boilers, the Board concluded that a NO_x emission limit of 0.16 lb/MMBtu was achievable. The 0.16 lb/MMBtu NO_x emission level must be achieved at all times and, if equipped with SNCR, the SNCR must be in operation with the injection of reagents including ammonia or other NO_x-reducing agents, when the temperature at the area of the reagent injection is 1,600°F or greater.

The Board further believes that continuous operation of existing SCR and SNCR control technology installed on the combustion units subject to final-form § 129.97(g)(1)(vi)(A), (viii) and (ix) cannot be required due to changing market conditions and deployment of electric generating capacity. Therefore, due to the design limitations of the SCR and SNCR control technology and the minimum operating temperatures required for efficient operation and optimized NO_x emission reduction, operation of the existing SCR and SNCR controls below the minimum designed temperature cannot be required in the final-form rulemaking.

A commentator wanted the Board to provide the technical analysis that supports the 0.08 lb NO_x/MMBtu heat input, as that is different from the EPA's NSPS which recognizes 0.10 lb NO_x/MMBtu.

The Board agrees and that analysis is as follows. The Department determined that the average uncontrolled NO_x emission rate for natural gas-fired combustion units was 0.2 lb/MMBtu. At an average NO_x control efficiency of 50% for low-NO_x burners, the feasible control for natural gas-fired combustion units, the presumptive NO_x RACT emission limitation for natural gas-fired combustion units rated at or above 50 MMBtu/hr is 0.1 lb/MMBtu. The Department initially lowered this to 0.08 lb NO_x/MMBtu to be consistent with Wisconsin's SIP-approved RACT requirements.

Upon further analysis, the Department could not find sufficient information to support the Commonwealth establishing a presumptive NO_x RACT emission limitation of 0.08 lb/MMBtu just to be consistent with Wisconsin's RACT requirements. Therefore, in the final-form rulemaking, the presumptive NO_x RACT emission limitation was revised from 0.08 lb NO_x/MMBtu to 0.10 lb NO_x/MMBtu for a natural gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 MMBtu/hour. This requirement is now consistent with the requirement in the NSPS in 40 CFR Part 60, Subpart Db (relating to standards of performance for industrial-commercial-institutional steam generating units) and § 129.201 (relating to boilers).

A commentator believed that due to the larger combustion zone available on natural gas-fired combustion units rated greater than 50 million Btu/hour, the presumptive RACT emission rate of 0.08 lb NO_x/MMBtu for these units is not achievable for a unit that was designed to burn coal or fuel oil and has been converted to firing natural gas. For example, the units at the Martins Creek facility were converted from an oil-fired design to allow combustion of natural gas. Stack testing of these units revealed that NO_x emission rates cannot approach the standard that may be achievable for units originally designed to combust primarily or exclusively natural gas. Therefore, the commentator believed that case-by-case RACT determinations are appropriate for these sources.

The Board finds that in the final-form rulemaking the presumptive NO_x RACT emission limitation was revised from 0.08 lb NO_x/MMBtu to 0.10 lb NO_x/MMBtu for a natural gas-fired combustion unit or process heater with a rated heat input equal to or greater than 50 million Btu/hour. This requirement is now consistent with the requirement in the NSPS in 40 CFR Part 60, Subpart Db and § 129.201. Should the owner or operator of a combustion unit choose not to comply with the presumptive requirement, the owner or operator may propose an alternative NO_x RACT emission limitation based on the potential to emit NO_x under § 129.99(a).

A commentator stated that even for those few boilers that lack controls superior to the contemplated RACT of low NO_x burners, installation and operation of SNCR would achieve reductions of NO_x at significantly less than $2,500 per ton.

The Board disagrees. The Department reviewed all available information, including Federal regulations and RACT regulations from various states. The cost-effectiveness of technically feasible add-on control devices, including SNCR, was calculated in accordance with the EPA Office of Air Quality Planning and Standards Cost Manual. The Board believes that the presumptive RACT requirements included in the final-form rulemaking are appropriate.

Subsection (g)(2)—Combustion turbines

A commentator found that the Commonwealth's analysis does not indicate whether a meaningful environmental benefit would be derived from VOC reductions. The Commonwealth should provide background documentation to support the basis for the concentration-based turbine standard.

The Board notes that RACT re-evaluation is a requirement to be fulfilled each time a NAAQS is promulgated. The final-form rulemaking addresses the RACT requirements for the 8-hour ozone NAAQS promulgated in 1997 and 2008. However, no specific emission reductions are required under the re-evaluation.

The Department found that the typical uncontrolled VOC emission limit for RACT I was 25 ppm @ 15% oxygen, as methane for turbines rated greater than 1,000 bhp and less than 180 MW. This translates into 9 ppm @ 15% oxygen, as propane. The cost of VOC control using an oxidation catalyst was found to be $21,112—$421,095, which is not cost-effective. Therefore, the final-form rulemaking establishes a presumptive RACT VOC emission limitation of 9 ppm @ 15% oxygen, as propane for simple cycle turbines and combined cycle turbines fired on fuel oil rated at greater than 1,000 bhp and less than 180 MW.

Continuous emission monitoring system (CEMS) data indicates that a combined cycle turbine fired on natural gas rated at greater than 1,000 bhp and less than 180 MW can meet a VOC emission limitation of 5 ppm @ 15% oxygen, as propane. Additionally, CEMS data indicates that turbines rated at greater than 180 MW can meet a VOC emission of 2 ppm @ 15% oxygen, as propane. Therefore, these emission limitations are established in the final-form rulemaking.

The technical support document is available with the final-form rulemaking, which includes documentation to support the basis for the VOC RACT emission limitations. VOC reductions of the type contemplated under this final-form rulemaking will assist in the maintenance of the 8-hour 1997 and 2006 ozone standards. The EPA regulates ground-level ozone as a criteria air pollutant because of its widespread adverse health and environmental effects. Exposure to high concentrations of ground-level ozone is a serious human and animal health and welfare threat, causing respiratory illnesses and decreased lung function, agricultural crop loss, visible foliar injury to sensitive plant species, and damage to forests, ecosystems and infrastructure.

Subsection (g)(3)—Internal combustion engines

Some commentators believed § 129.97(g)(3) was unclear. This paragraph should clearly state that emergency engines greater than 500 bhp are excluded from the

emission limits for stationary internal combustion engines greater than 500 bhp. Proposed subsections (c)(6) and (g)(3) were not compatible. One exempts emergency stand-by engines operating less than 500 hours in a 12-month rolling period, while the other generally includes stationary internal combustion engines. The commentators suggested adding "[e]xcept as provided in § 129.97(c)(6)" to the beginning of subsection (g)(3).

The Board agrees that the proposed paragraph was unclear. The final-form rulemaking has been amended to clarify that the owner or operator of a source that meets the requirements under § 129.97(c) would not be required to also meet the numerical presumptive RACT emission limitations under § 129.97(g) for that source.

Subsection (h)—Portland cement kilns

One commentator contended that the emissions limitations required of Portland cement kilns would likely require the significant expenditure of funds for the installation of NO_x air pollution control technologies such as SNCR systems.

The Board disagrees. The presumptive RACT emission limitations included in the final-form rulemaking for Portland cement kilns are consistent with the emission limitations for Portland cement kilns in § 145.143 (relating to standard requirements). The Department believes that the final-form rulemaking contains appropriate presumptive RACT emission limitations for Portland cement kilns. In addition, several existing Portland cement kilns are equipped with SNCR. Should the owner or operator of a Portland cement kiln choose not to comply with the presumptive requirement, the owner or operator may propose an alternative NO_x RACT emission limitation based on the potential to emit NO_x under § 129.99(a).

Several commentators said that a compliance alternative needs to be included for cement kilns in this program, be it CAIR allowances or some other program NO_x allowances. To ensure that this program does not result in an increase of emissions over what was contemplated in the proposed rulemaking, an allowance program should require a two-for-one allowance surrender. This provision would provide necessary flexibility to the cement industry and would also provide even greater emission offsets in the event a facility found itself out of compliance with the proposed regulation.

The Board disagrees. RACT re-evaluation is a requirement to be fulfilled each time a NAAQS is promulgated. The final-form rulemaking addresses the RACT requirements for the 8-hour ozone NAAQS promulgated in 1997 and 2008. RACT applies to existing major stationary sources of VOCs and NO_x in ozone nonattainment areas. RACT is defined as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility." Therefore, CAIR allowances or some other program NO_x allowances cannot be used to meet the RACT requirements.

Furthermore, the EPA commented on the proposed rulemaking that designated ozone nonattainment areas required to implement RACT must achieve RACT levels reductions inside the nonattainment area. In response to the EPA's comment, final-form § 129.98(a) has been amended to address the system-wide averaging provisions as follows: "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." This approach should assure that emissions averaging will occur among units in the same ozone nonattainment area.

Some commentators found that the proposed rulemaking would impose year-round emission standards that are currently ozone season standards on cement kilns. This imposes additional costs without any public benefits.

The Board disagrees that the final-form rulemaking imposes additional costs without any public benefits. RACT re-evaluation is a requirement to be fulfilled each time a NAAQS is promulgated. The final-form rulemaking addresses the RACT requirements for the 8-hour ozone NAAQS promulgated in 1997 and 2008. RACT applies to existing major stationary sources of VOCs and NO_x in ozone nonattainment areas. RACT is defined as "the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility." Including §§ 145.141—145.146 in § 129.96 is not appropriate because the requirements included in § 145.143 are applicable only during the ozone season (May 1 through September 30), whereas RACT requirements are applicable on a year-round basis. The emissions reductions resulting from year-round requirements will be beneficial to the public due to lower concentrations of ground-level ozone.

Subsection (f)—Municipal waste combustors

Commentators noted that the proposed NO_x emissions limits for municipal waste combustors require only that municipal waste combustor operators meet emissions limits established in Federal emissions guidelines. While the HAP emissions limits in the Federal guidelines are MACT-based, and thus may be RACT for VOCs, the NO_x limits are not MACT-based and are not RACT. Therefore, more stringent limitations should be established as RACT.

The Board finds that the current proposed standards are in compliance with the emission guidelines in 40 CFR Part 60, Subpart Cb (relating to emission guidelines and compliance times for large municipal waste combustors that are constructed on or before September 20, 1994). These emission guidelines range from 180 to 250 ppmvd NO_x @ 7% oxygen. Out of six existing facilities, five are already limited to 180 ppm or less. The Covanta Plymouth (Montgomery County) facility has CEMS data (3rd quarter 2007) showing emissions above 180 ppm. Emissions were generally between 190 and 200 ppm, with a few data points near 180 ppm (one below 180 ppm). The units located at the Covanta Plymouth facility are equipped with SNCR. The existing SNCR could be optimized to achieve an emission limit of 180 ppm. Upon re-evaluation of the NO_x emission data from municipal waste combustors, the Board concluded that a NO_x emission limit of 180 ppmvd @ 7% oxygen was achievable. In final-form § 129.97(f), the NO_x limit is revised to 180 ppmvd @ 7% oxygen for municipal waste combustors.

§ 129.98. Facility-wide or system-wide NO_x emissions averaging plan general requirements

One commentator believed that the proposed alternative compliance mechanisms must include a rate sufficient to lower system-wide emissions. The 30-day system-wide rolling average rate is set so high that it fails to require reductions at all sources. The rulemaking may have the effect of allowing operators to discontinue the operation of NO_x control equipment simply by running controls on a different unit. Therefore, the emission rate needed to achieve compliance with system-wide average is not consistent with an appropriate level of post-combustion controls. The averaging mechanism itself must reflect some level of control. At a minimum, the

system-wide rate needs to incorporate a sufficient use of control technologies already installed on the units. An amendment to the NO_x rate ought to take into account unit configuration and control technologies that have already been installed.

The Board disagrees. The final-form rulemaking will not allow the operator to discontinue the operation of NO_x control equipment, such as SCR or SNCR, by operating controls on a different unit. A 30-day rolling limit addresses problems that are faced by certain owners and operators, including variability in fuel (such as in waste coal combustors), emission spikes during start-up and shutdown of the emission source, and emissions during malfunctions. The 30-day rolling average will require that the owners and operators operate below the allowable standard to account for the occasional higher emissions. Design limitations of the existing SCR and SNCR control technology installed on the affected coal-fired boilers dictate the operating parameters that are reasonably achievable.

However, based on consideration of comments received during the public comment period and on the evaluation of NO_x emissions data for coal-fired boilers for a 5-year period, final-form § 129.97(g)(1)(viii) and (ix) addresses the use of installed SCR or SNCR equipment. Further, the NO_x emission limit for CFB combustion units in § 129.97(g)(1)(vi)(A) is lowered from the proposed 0.20 lb NO_x/million Btu heat input to 0.16 lb NO_x/million Btu heat input in the final-form rulemaking.

The final-form rulemaking adds § 129.97(g)(1)(viii), which states that the presumptive emission limitation for a combustion unit with an SCR system operating with an inlet temperature equal to or greater than 600°F is 0.12 lb NO_x/million Btu heat input. Section 129.97(g)(1)(viii) further states that compliance with this emission limit is also required when by-passing the SCR system. Therefore, operation of SCR for one facility cannot be used to offset non-operation of SCR from a different facility in an emissions averaging plan.

Many commentators found that utilities should not be allowed to average their NO_x emissions over their entire fleet of power plants in addition to allowing them to average these emissions over 30 days rather than the 1-hour or 8-hour standard. Peaking units should not be allowed to average their NO_x emissions over 30 days rather than 24 hours or less.

The Board disagrees. A 30-day rolling averaging period is appropriate to accommodate operation at varying load and operating conditions.

A 30-day rolling limit addresses problems including variability in fuel (such as in waste coal combustors), emission spikes during start-up and shutdown of the emission source, and emissions during malfunctions that are faced by certain owners and operators. Due to these unavoidable circumstances not indicative of normal operation, it would not be appropriate for utilities utilizing NO_x CEMS to be required to show compliance with the presumptive NO_x RACT emission limitations over a 1-hour or 8-hour averaging period. The 30-day rolling average will require that the owners and operators operate below the allowable standard to account for the occasional higher emissions. A 30-day rolling average has been approved by the EPA to demonstrate compliance with the short-term RACT limitations in SIP revisions submitted by certain states, including New York and Wisconsin.

Wisconsin's RACT regulations, which the EPA approved in October 2010, include emission averaging on a 30-day rolling basis for determining compliance. Wisconsin described this period as short term and noted that this approach would allow averaging of the typical variations in emission levels from a single unit.

The 30-day rolling averages are determined on an operating-day basis by taking the total emissions and dividing by the total heat input during each 30-day period. Therefore, there is no difference for peaking units as compared to other units.

In a recent court decision from the 9th Circuit Court of Appeals, the court stated in *Nat'l Parks Conservation Ass'n v. EPA*, No. 12-73710 (9th Cir. 2015) that "EPA also properly set emissions limits for Corette [a coal-fired power plant] on a 30-day rolling average. . . . EPA's reasoned disagreement on this topic with PPL Montana's comment reflects its conclusion on a highly scientific question—the variance in emissions calculations that occurs when annualized rates are translated into thirty-day rolling averages—precisely the kind of question justifying deference to EPA's discretion. See *Nat'l Wildlife Fed'n v. U. S. Army Corps of Eng'rs*, 384 F.3d 1163, 1177-78 (9th Cir. 2004)." Similarly, the Department is setting a 30-day rolling average to accommodate variances in hourly or daily emission calculations. With these variances accommodated, the Department is able to set emission limitations at a lower level.

In the preamble to the final rule for Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements, the EPA supported the use of area-wide emissions averaging at 80 FR 12264, 12280. The final rule stated "[t]he EPA's existing policy recognizes that states can meet NO_x RACT requirements by submitting as part of their NO_x RACT SIP submittal a demonstration that the weighted average NO_x emission rate from sources in the nonattainment area subject to RACT achieves RACT-level reductions." The final rule also stated "[c]onsistent with previous guidance, the EPA continues to believe that RACT can be met on average by a group of sources within a nonattainment area rather than at each individual source." The averaging provision included in § 129.98 is consistent with the EPA's final rule.

A number of commentators found that the equation for calculating the 30-day rolling average should reflect what the proposed rulemaking's actual text provides for, which is that the value for the 30-day rolling average is calculated by taking the total mass of NO_x emissions for the sources under the plan (over the 30-day period) and comparing that with the total mass of NO_x that the sources could have emitted by using the emission rates under the presumptive RACT. In these instances, the actual value of emissions must then be less than or equal to the allowable emissions over the 30-day period. Additionally, the averaging equation should also be generalized to allow operators to use engineering units consistent with the type of equipment or process.

The Board agrees with the commentators' suggestion about the 30-day rolling average equation. The facility-wide NO_x emission averaging equation in § 129.98(e) has been revised in the final-form rulemaking to reflect a mass-to-mass comparison between actual and allowable NO_x emissions. The aggregated actual emissions from sources included in the averaging plan must be no greater than aggregated allowable emissions on a 30-day rolling basis. The allowable emissions are necessarily determined using the actual operation of the emission sources included in the plan. The owner or operator assumes the responsibility to meet the allowable emission limit. See the response to comment 138 in the comment and

response document for information about how emission sources are selected for inclusion in an emissions averaging plan proposal submitted under § 129.98.

Section 129.98(d) has been revised in the final-form rulemaking to clarify that the application for the operating permit modification or the plan approval, if otherwise required, for averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average submitted under § 129.98(b) must demonstrate that the aggregate NO_x emissions emitted by the air contamination sources included in the facility-wide or system-wide NO_x emissions averaging plan using a 30-day rolling average are not greater than the NO_x emissions that would be emitted by the group of included sources if each source complied with the applicable NO_x RACT emission limitation in § 129.97 on a source-specific basis.

Section 129.98(e) has been revised in the final-form rulemaking to incorporate the following changes in the facility-wide or system-wide NO_x emissions averaging equation: the 0.9 factor was deleted and the final-form equation reflects a mass-to-mass comparison between actual and allowable NO_x emissions. Since the final-form rulemaking sets forth more stringent requirements and emission limitations for certain affected sources than were proposed, the 0.9 factor is not included in the averaging equation.

§§ 129.97(a) and (k), 129.99(i) and 129.100(b)—Compliance demonstration timeline

Several commentators noted that the timing in the proposed rulemaking for the implementation of the RACT regulations is not adequate. A 1-year compliance schedule for implementing alternative RACT NO_x limitations is infeasible, grossly inadequate, impractical and unreasonable. The Board should explain why the time frames are reasonable or provide a request for extension provision in the final-form rulemaking.

The Board disagrees with the commentators. The final-form rulemaking provides an adequate amount of time for the implementation of the alternative RACT requirement or RACT emission limitation. Moreover, the EPA recently established a January 1, 2017, RACT implementation deadline for the 2008 8-hour ozone NAAQS. In the preamble for the SIP Implementation Requirements Rule published at 80 FR 12264, 12279, the EPA stated the following:

> The EPA believes that the January 1, 2017, date allows a sufficient amount of time for states to make RACT determinations and for sources to meet RACT requirements on the time-table originally anticipated under the 1990 CAA Amendments, and ensures that RACT measures are required to be in place throughout the last ozone season prior to the Moderate area attainment date of July 20, 2018.

The final-form rulemaking provides additional time for compliance if the installation of air cleaning devices or approval of alternative emission limitations or compliance schedules will be necessary for RACT compliance purposes.

Two commentators found that § 129.97(a) and (k), relative to alternative compliance schedules, should allow for an exception to the presumptive RACT limits in situations when a regulated entity submits a timely and complete proposal for an alternative RACT. As written, the subsections appear to require compliance with the presumptive RACT limits until the Department approves an alternative RACT. This creates uncertainty and puts the regulated entity at risk of being in noncompliance even though it applied for an alternative in good faith and on a timely basis. The subsections should be amended to provide a mechanism for a regulated source to secure an extension of those deadlines.

The Boards disagrees in part and agrees in part. Section 129.97(k)(2)(iv) has not been changed from proposed to final-form rulemaking. Proposed § 129.97(k)(2)(v) specified that the written petition include a proposed final compliance date that is as soon as possible but not later than 3 years after the effective date of adoption of the proposed rulemaking. Section 129.97(k)(2)(v) has been amended to specify that the written petition include a proposed final compliance date that is as soon as possible but not later than 3 years after the approval of the petition. The approved petition shall be incorporated in an applicable operating permit or plan approval. The affected owner and operator that cannot comply with the presumptive RACT requirement or RACT emission limitation without the installation of an air cleaning device therefore has 6 months to submit the written petition under § 129.97(k)(1) and may request an extension of the compliance date under § 129.97(k)(2)(v) of up to 3 years after the approval date of the petition.

Some commentators wanted to allow 12 to 18 months from the effective date of this final-form rulemaking to submit a proposed case-by-case RACT, and the compliance deadline for an approved alternative RACT should be submitted with the RACT proposal.

The Board disagrees with the commentators that applicants should have 12 to 18 months after the effective date of the final-form rulemaking to submit an alternative RACT proposal. The case-by-case RACT proposals for the existing RACT requirements in § 129.91 (relating to control of major sources of NO_x and VOCs) were required to be submitted by the affected owners and operators by July 15, 1994, which was 6 months after the effective date of § 129.91. See 24 Pa.B. 467 (January 15, 1994). The 6-month time frame in final-form § 129.99(d)(1) for the submission of alternative RACT proposals is consistent with existing Department regulations.

Furthermore, at 80 FR 12264, 12282, the EPA stated that ". . . the January 1, 2017, date allows a sufficient amount of time for states to make RACT determinations and for sources to meet RACT requirements on the time-table originally anticipated under the 1990 CAA Amendments. . . ." With a January 1, 2017, RACT implementation deadline, the 6-month deadline for the submittal of alternatives to the presumptive RACT requirements and limitations is reasonable.

The Board agrees with the commentators that the compliance deadline for an approved alternative RACT should be submitted with the RACT proposal and included this requirement in proposed § 129.99(d)(4). Final-form § 129.99(i)(2)(v) has been revised to specify that the written petition include a proposed final compliance date that is as soon as possible but not later than 3 years after the approval of the petition. If the petition is for the replacement of an existing source, the final compliance date will be determined on a case-by-case basis.

§ 129.99. Alternative RACT proposal and petition for alternative compliance schedule

Several commentators supported the provisions of the proposed rulemaking preserving case-by-case.

The Board thanks the commentators for their support. The Board believes that the section dealing with case-by-case provides certain flexibility for the regulated community. However, the Board does not expect that this

provision will be used routinely as the owners and operators of most affected sources shall likely meet the presumptive RACT requirements and RACT emission limitations.

The commentators recommended that the Department further outline the case-by-case process, as well as update and define dollar-per-ton cost thresholds against which case-by-case RACT petitions will be required to rank technology options. The Department provided similar detail in the first RACT implementation program in 1994 and, for example, could include implementation guidance and a reference to the updated EPA cost manual.

The Board notes that the Department did not establish a bright-line cost effectiveness threshold to determine RACT. For the determination of presumptive NO_x RACT emission limitations, the Department generally used a NO_x emission cost-effectiveness upper bound of $2,800 per ton NO_x controlled. However, the cost effectiveness thresholds used for presumptive RACT emission limitations may not be appropriate for case-by-case determinations. Prior to the implementation of the final-form RACT rulemaking requirements, the Department may prepare additional guidance for alternative RACT proposals and petitions for an alternative compliance schedule, if necessary. The case-by-case process itself is outlined under § 129.99.

A commentator said that the Department is to approve, deny or modify the alternative RACT proposal in writing through the issuance of a plan approval or an operating permit modification prior to the owner or operator implementing the alternative RACT emission limitation. The proposed rulemaking should be revised to acknowledge that modifications of the alternative RACT proposal will not be made without input from the applicant.

The Board finds that § 129.99(e)(3) allows the Department to deny or modify the alternative RACT proposal submitted by the applicant if the proposal does not comply with § 129.99(d). The proposed alternative RACT determinations are required to undergo a public participation process when the applicant will have an opportunity to comment. In addition, the applicant has the right to appeal the final RACT determination.

§ 129.100. Compliance demonstration and recordkeeping requirements

Subsections (a) and (c)—Source testing and monitoring

A few commentators stated that many of these provisions do not meet the CAA requirement for a monitored, verifiable, measureable and Federally-enforceable emissions control program.

The Board disagrees. The final-form rulemaking contains adequate requirements for monitoring that are measureable and verifiable and will be Federally enforceable upon approval by the EPA as a SIP revision. These requirements are under § 129.100.

More than a few commentators believed that NO_x emissions should be monitored by pollution sources and over a 1-hour and 8-hour standard.

The Board disagrees. For sources equipped with CEMS, a 30-day rolling averaging period is appropriate to accommodate operation at varying load and operating conditions. A 30-day rolling limit addresses problems including variability in fuel (such as in waste coal combustors), emission spikes during start-up and shutdown of the emission source, and emissions during malfunctions that are faced by certain owners and operators. Due to these unavoidable circumstances not indicative of normal operation, it would not be appropriate for utilities utilizing NO_x CEMS to be required to show compliance with the presumptive NO_x RACT emission limitations over a 1-hour or 8-hour averaging period. The 30-day rolling average will require that the owners and operators operate below the allowable standard to account for the occasional higher emissions. A 30-day rolling average has been approved by the EPA to demonstrate compliance with the short-term RACT limitations in SIP revisions submitted by certain states including New York and Wisconsin.

Wisconsin's RACT regulations, which the EPA approved in October 2010, include emission averaging on a 30-day rolling basis for determining compliance. Wisconsin described this period as short term and noted that this approach would allow averaging of the typical variations in emission levels from a single unit. For sources not equipped with CEMS, compliance with the presumptive NO_x RACT emission limitations is to be shown with appropriate EPA reference-method source testing. Therefore, the RACT rulemaking contains adequate requirements for monitoring that are measureable and verifiable and will be Federally enforceable upon approval by the EPA as a SIP revision.

One commentator believed that the waiver regarding stack testing compliance demonstration in § 129.100(c) should be available to all sources subject to the proposed regulations, including those subject to § 129.99, the case-by-case RACT determination.

The Board responds by noting that the owner or operator of any source that is not subject to a presumptive RACT requirement may propose an alternative RACT emission limitation. The alternative RACT proposal may include alternative methods of compliance demonstration, including the use of previously performed source testing. Since this would involve case-by-case approval, there is no need to put any additional requirements in the final-form rulemaking.

Another commentator stated that, under § 129.100, compliance for each source subject to RACT limits is to be demonstrated through CEMS or source testing. The final-form rulemaking should provide that engines that are EPA-certified for the NSPS (40 CFR Part 60, Subparts IIII and JJJJ (relating to standards of performance for stationary compression ignition internal combustion engines; and standards of performance for stationary spark ignition internal combustion engines)) comply with RACT without resort to CEMS or source testing. The use of an EPA-certified engine should be sufficient to demonstrate compliance with RACT emission limitations.

The Board disagrees. Compliance must be demonstrated in accordance with § 129.100, which requires that compliance for each source subject to RACT limits is to be demonstrated through either CEMS or stack testing. A certification in and of itself cannot show that a source is in compliance with an emission limit. Only a CEMS, stack test or other measuring protocol can assure compliance. In the case of RACT, the Department decided that a CEMS or stack test is the most efficacious way to show compliance.

Subsections (d)—(i)—Recordkeeping

A few commentators noted that proposed § 129.100 contained compliance demonstration and recordkeeping requirements for sources subject to part or all of the proposed rulemaking. However, there does not seem to be any direction for a source only subject to work practice standards (such as the vague good engineering practices

requirement). The commentators asked what is their compliance demonstration method and what records is a site required to keep to meet this requirement.

The Board points out that § 127.444 requires sources to operate in a manner consistent with good operating practices. Sources subject to § 129.97 are already subject to § 127.444. The Title V Operating Permit includes the appropriate recordkeeping and reporting requirements to demonstrate compliance with all applicable requirements.

It should be noted that the presumptive RACT requirements included in § 129.93 require the installation, maintenance and operation of the source in accordance with manufacturer's specifications. This requirement has been implemented since 1995. In addition, the owner or operator may opt to determine RACT requirements on a case-by-case basis under § 129.99 in place of the presumptive RACT requirements and RACT emission limitations under § 129.97.

The commentator felt that CO should not be included in the log book. At a minimum the CO emissions requirement should be removed as CO is not part of the proposed NO_x and VOC RACT.

The Board disagrees. The final-form rulemaking has been revised to require biennial tune-ups 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 conducted in accordance with 40 CFR 63.11223. CO emissions are required to be included in the record under 40 CFR 63.11223. In addition, CO emissions are recorded as a surrogate for VOC emissions.

A commentator stated that the cement kiln limits apply at all times, including malfunctions, so there is no logical reason why the Department would need malfunction logs to assess compliance with the proposed rulemaking. Malfunction records are already required under Title V boilerplate conditions and do not need to be repeated in the proposed rulemaking.

The Board notes that the presumptive NO_x RACT emission limitations for Portland cement kilns are applicable at all times, including start-up, shutdown and malfunction. The Department agrees that malfunction records are already required by Title V permits. Therefore, no additional recordkeeping requirements are imposed on the owner or operator to record malfunction information due to the final-form rulemaking.

Miscellaneous comments

A commentator believed that the failure to apply MACT-based limits uniformly, especially to municipal waste combustors, also poses a risk of increased VOC exposure to vulnerable populations that may also fall under the rubric of environmental justice communities which are warranted additional protection under Federal Executive Order 12898 (1994), Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations.

The Board disagrees that the failure to apply MACT-level limitations to subject sources, including municipal waste combustors, will pose a risk of increased VOC exposure to vulnerable populations. The proposed and final-form rulemakings address the Commonwealth's obligations under the act, the CAA and regulations issued under the CAA to establish RACT requirements for the 8-hour ozone NAAQS promulgated in 1997 and revised in 2008. The RACT requirements and emission limitations in the proposed rulemaking are applicable to the owners and operators of subject sources of NO_x or VOC emissions (precursors to ozone formation) in existence on or before July 20, 2012, the effective date of the EPA's designations and classifications for the 2008 ozone NAAQS published at 77 FR 30088.

The Commonwealth must implement permanent and enforceable control measures to attain and maintain the standards and to ensure violations of the standards do not occur for the next decade.

This final-form rulemaking will provide reductions of both potential and actual NO_x and VOC emissions from major NO_x and VOC emitting facilities Statewide. Additionally, the owners and operators of many of the facilities that the commentator is concerned about are already subject to MACT.

A commentator requested clarification regarding the jurisdiction of the Philadelphia Air Management Services (AMS) in implementing/enforcing the RACT regulations in proposed §§ 129.96—129.100. The commentator recommended that compliance with proposed §§ 129.96—129.100 satisfy compliance with Philadelphia AMS RACT requirements.

The Philadelphia AMS in the City of Philadelphia's Health Department administers a local air pollution control program approved by the Department under section 12 of the act (35 P.S. § 4012). Air quality regulations enforced by the Philadelphia AMS are codified under Title 3 of the *Philadelphia Code*. The Philadelphia AMS may incorporate Department regulations by reference or may enact regulations of its own to satisfy the obligations under the CAA and regulations issued under the CAA. The Philadelphia AMS has required the owners and operators of affected sources in its jurisdiction to determine RACT requirements on a case-by-case basis for the 1997 ozone standard. While the Board's RACT regulations will apply Statewide, the Philadelphia AMS may establish separate RACT requirements and compliance standards for the owners and operators of affected sources under its jurisdiction.

Commentators signed a petition that expressed concern that the proposed rulemaking will not do enough to address pollution at coal-fired power plants.

The Board acknowledges receipt of a petition containing 2,246 signatures. The Board also disagrees with the commentators. The final-form rulemaking requires the owners and operators of any combustion unit equipped with an SCR system that is operating with an inlet temperature equal to or greater than 600°F to meet a NO_x emission limit of 0.12 lb NO_x/million Btu. Compliance with this emission limit is also required when by-passing the SCR system. The more stringent NO_x emission limitation for coal-fired units equipped with SCR systems will reduce NO_x emissions from the electric generating sector to approximately 59,000 tons of actual NO_x emissions. It is also important to note that NO_x emissions have declined significantly in this Commonwealth, especially from coal-fired EGUs—NO_x emissions decreased from approximately 192,004 tons in 2000 to 119,025 tons of NO_x emissions in 2013. The final-form rulemaking will result in further reductions in actual NO_x emissions from one of the largest sources of NO_x emissions in the Department emissions inventory.

G. *Benefits, Costs and Compliance*

Benefits

Reduced ambient concentrations of ground-level ozone would reduce the incidences of hospital admissions for respiratory ailments including asthma and improve the quality of life for citizens overall. While children, the

elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to high levels of ambient ground-level ozone while engaged in activities that involve physical exertion.

This final-form rulemaking may create economic opportunities for NO_x and VOC emission control technology innovators, manufacturers and distributors through an increased demand for new or improved equipment. In addition, the owners and operators of regulated facilities may be required to install and operate an emissions monitoring system or equipment necessary for an emissions monitoring method to comply with this final-form rulemaking, thereby creating an economic opportunity for the emissions monitoring industry.

Compliance costs

Compliance costs will vary for each facility depending on which compliance option is chosen by the owner and operator of a facility. The final-form rulemaking includes a provision for the owner and operator of an affected facility to meet the applicable presumptive NO_x RACT or VOC RACT emission limitation under § 129.97, which is the option to propose an alternative compliance schedule if an air cleaning device must be installed. In addition, in the case of a NO_x limitation, the owners and operators of an affected facility may elect to meet that applicable NO_x RACT emission limitation by averaging NO_x emissions on either a facility-wide or system-wide basis using a 30-day rolling average under § 129.98.

An affected facility owner or operator may also submit a case-specific RACT proposal for an alternative emission limitation to the Department for approval under § 129.99. Under this provision, the owner or operator shall demonstrate to the Department's satisfaction that it is economically or technically infeasible to meet the applicable proposed NO_x RACT or VOC RACT emission limitation. These provisions may minimize compliance costs to the owner or operator of an affected facility.

The emission limitations established by this final-form rulemaking will not require the submission of applications for amendments to existing operating permits. These requirements will be incorporated as applicable requirements at the time of permit renewal, if less than 3 years remain in the permit term, as specified under § 127.463(c) (relating to operating permit revisions to incorporate applicable standards). If 3 years or more remain in the permit term, the requirements will be incorporated as applicable requirements in the permit within 18 months of the promulgation of the final-form rulemaking, as required under § 127.463(b). Most importantly, § 127.463(e) specifies that "[r]egardless of whether a revision is required under this section, the permittee shall meet the applicable standards or regulations promulgated under the Clean Air Act within the time frame required by standards or regulations." Consequently, the requirements will apply to affected owners and operators irrespective of a modification to the operating permit.

Compliance assistance plan

The Department will continue to work with the Small Business Assistance Program to aid the facilities less able to handle permitting matters with in-house staff. Through increased preapplication meetings with facilities, industry and the Department both benefit by faster review of permit applications.

Paperwork requirements

The final-form rulemaking will not increase the paperwork that is already generated during the normal course of business operations.

H. *Pollution Prevention*

The Pollution Prevention Act of 1990 (42 U.S.C.A. §§ 13101—13109) established a National policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to the owners and operators of facilities that permanently achieve or move beyond compliance. The final RACT requirements allow the Department and approved local air pollution control agencies to maintain or increase the reductions of NO_x and VOC emissions from the regulated sources in this Commonwealth, sustain the gains made in healthful air quality and ensure continued protection of the environment and the public health and welfare of the citizens of this Commonwealth.

I. *Sunset Review*

This final-form rulemaking will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were intended.

J. *Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on April 7, 2014, the Department submitted a copy of the notice of proposed rulemaking, published at 44 Pa.B. 2392 (April 19, 2014), to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the House and Senate Committees were provided with copies of comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P.S. § 745.5a(j.2)), on March 9, 2016, the final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on March 10, 2016, and approved the final-form rulemaking.

K. *Findings*

The Board finds that:

(1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and regulations promulgated thereunder, 1 Pa. Code §§ 7.1 and 7.2.

(2) At least a 60-day public comment period was provided as required by law and all comments were considered.

(3) This final-form rulemaking does not enlarge the purpose of the proposed rulemaking published at 44 Pa.B. 2392.

(4) These regulations are necessary and appropriate for administration and enforcement of the authorizing acts identified in Section C of this preamble.

(5) These regulations are reasonably necessary to attain and maintain the 8-hour ozone NAAQS and to satisfy related CAA requirements.

L. *Order*

The Board, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 25 Pa. Code Chapters 121 and 129, are amended by adding §§ 129.96—129.100 and by amending § 121.1 to read as set forth in Annex A, with ellipses referring to existing text of the regulations.

(b) The Chairperson of the Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for review and approval as to legality and form, as required by law.

(c) The Chairperson of the Board shall submit this order and Annex A to IRRC and the Committees as required by the Regulatory Review Act.

(d) The Chairperson of the Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(e) This final-form rulemaking will be submitted to the EPA as an amendment to the Pennsylvania SIP.

(f) This order shall take effect upon publication in the *Pennsylvania Bulletin*.

JOHN QUIGLEY,
Chairperson

(*Editor's Note*: See 46 Pa.B. 1623 (March 26, 2016) for IRRC's approval order.)

Fiscal Note: Fiscal Note 7-485 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE III. AIR RESOURCES

CHAPTER 121. GENERAL PROVISIONS

§ 121.1. Definitions.

The definitions in section 3 of the act (35 P. S. § 4003) apply to this article. In addition, the following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

CEMS—Continuous emissions monitoring system—All of the equipment that may be required to meet the data acquisition and availability requirements established under the act or the Clean Air Act to monitor, measure, calculate, sample, condition, analyze and provide a record of emissions from an affected unit on a continuous basis.

* * * * *

Major NO_x emitting facility—A facility which emits or has the potential to emit NO_x from the processes located at the site or on contiguous properties under the common control of the same person at a rate greater than one of the following:

(i) Ten TPY in an ozone nonattainment area designated as extreme under section 182(e) and (f) of the Clean Air Act (42 U.S.C.A. § 7511a(e) and (f)).

(ii) Twenty-five TPY in an ozone nonattainment area designated as severe under section 182(d) and (f) of the Clean Air Act.

(iii) Fifty TPY in an area designated as serious under section 182(c) and (f) of the Clean Air Act.

(iv) One hundred TPY in an area included in an ozone transport region established under section 184 of the Clean Air Act (42 U.S.C.A. § 7511c).

(v) Twenty-five TPY and is located in Bucks, Chester, Delaware, Montgomery or Philadelphia County. This threshold does not apply to §§ 129.96—129.100 (relating to additional RACT requirements for major sources of NO_x and VOCs).

Major VOC emitting facility—A facility which emits or has the potential to emit VOCs from processes located at the site or on contiguous properties under the common control of the same person at a rate greater than one of the following:

(i) Ten TPY in an ozone nonattainment area designated as extreme under section 182(e) of the Clean Air Act.

(ii) Twenty-five TPY in an ozone nonattainment area designated as severe under section 182(d) of the Clean Air Act.

(iii) Fifty TPY in an area included in an ozone transport region established under section 184 of the Clean Air Act.

(iv) Twenty-five TPY and is located in Bucks, Chester, Delaware, Montgomery or Philadelphia County. This threshold does not apply to §§ 129.96—129.100.

* * * * *

Process—A method, reaction or operation in which materials are handled or whereby materials undergo physical change—that is, the size, shape, appearance, temperature, state or other physical property of the material is altered—or chemical change—that is, a substance with different chemical composition or properties is formed or created. The term includes all of the equipment, operations and facilities necessary for the completion of the transformation of the materials to produce a physical or chemical change. There may be several processes in series or parallel necessary to the manufacture of a product.

Process heater—

(i) An enclosed device using controlled flame, that is not a boiler, the primary purpose of which is to transfer heat to a process material or to a heat transfer material for use in a process unit.

(ii) The term does not include an enclosed device that meets either of the following circumstances:

(A) Has the primary purpose of generating steam.

(B) In which the material being heated is in direct contact with the products of combustion, including:

(I) A furnace.

(II) A kiln.

(III) An unfired waste heat recovery heater.

(IV) A unit used for comfort heat, space heat or food preparation for onsite consumption.

(V) An autoclave.

Project—A physical change in or change in the method of operation of an existing facility, including a new emissions unit.

* * * * *

Refinery component—A piece of equipment which has the potential to leak VOCs when tested in the manner specified in § 129.58 (relating to petroleum refineries—fugitive sources). These sources include, but are not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains and open-ended pipes. Excluded from these sources are valves which are not externally regulated.

Refinery gas—Gas produced at a refinery which produces petroleum products, including gasoline, from refinery units.

Refinery unit—A basic process operation, such as distillation hydrotreating, cracking or reforming of hydrocarbons which is made up of a set of refinery components.

Regenerative cycle combustion turbine—A stationary combustion turbine which recovers heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine.

Regulated NSR pollutant—

* * * * *

Silicone insulation material—An insulating material applied to exterior metal surfaces of aerospace vehicles for protection from high temperatures caused by atmospheric friction or engine exhaust. These materials differ from ablative coatings in that they are not designed to be purposefully exposed to open flame or extreme heat and charred.

Simple cycle combustion turbine—A stationary combustion turbine which does not recover heat from the combustion turbine exhaust gases to preheat the inlet combustion air to the combustion turbine, or which does not recover heat from the combustion turbine exhaust gases for purposes other than enhancing the performance of the combustion turbine itself.

Single coat—One film of coating applied to a metal surface.

* * * * *

Start-up—For purposes of §§ 129.301—129.310, the period of time, after initial construction, shutdown or cold shutdown, during which a glass melting furnace is heated to stable operating temperature by the primary furnace combustion system, and systems and instrumentation are brought to stabilization.

Stationary combustion turbine—Equipment, including the turbine, fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), heat recovery system, and ancillary components and subcomponents comprising a simple cycle combustion turbine, a regenerative or recuperative cycle combustion turbine, a combined cycle combustion turbine, and a combined heat and power combustion turbine-based system. The equipment is not self-propelled or intended to be propelled while performing its function. The equipment may be mounted on a vehicle for portability.

Stationary internal combustion engine or *stationary reciprocating internal combustion engine*—

(i) An internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile.

(ii) The term does not include the following:

(A) A combustion turbine.

(B) A nonroad engine as defined in 40 CFR 1068.30 (relating to what definitions apply to this part), excluding paragraph (2)(ii) of this definition.

(C) An engine used to propel a motor vehicle, an aircraft or a vehicle used solely for competition.

(D) A portable temporary source such as an air compressor or generator.

Stockpiling—The act of placing, storing and removing materials on piles exposed to the outdoor atmosphere. Placing refers to the deposition of material onto the pile. Removing refers to disturbing the pile either for loading of material into or onto vehicles for transportation purposes or for material handling. Material that is not to be utilized in the production of a product or is not itself a useful product is excluded from the definition of stockpile material. Operations which consist entirely of transferring material between different transportation conveyances are also excluded from this definition.

* * * * *

CHAPTER 129. STANDARDS FOR SOURCES

ADDITIONAL RACT REQUIREMENTS FOR MAJOR SOURCES OF NO_x AND VOCs

§ 129.96. Applicability.

(a) The NO_x requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a major NO_x 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—129.69, 129.71—129.73, 129.75, 129.77, 129.101—129.107 and 129.301—129.310.

(b) The NO_x requirements of this section and §§ 129.97—129.100 apply Statewide to the owner and operator of a NO_x 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_x 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—129.52c, 129.54—129.69, 129.71—129.73, 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_x air contamination source located at a major NO_x emitting facility that has the potential to emit less than 1 TPY of NO_x 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_x emitting facility or a major VOC emitting facility on or before January 1, 2017.

§ 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_x

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_x 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_x 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_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.

(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_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 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 NO_x air contamination source that has the potential to emit less than 5 TPY of 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_x @ 7% oxygen.

(g) Except as specified under subsection (c), the owner and operator of a NO_x air contamination source specified in this subsection, which is located at a major NO_x 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_x 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_x/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_x/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_x/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_x/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_x/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_x/million Btu heat input.

(B) A tangentially fired combustion unit, 0.35 lb NO_x/million Btu heat input.

(C) Any other type of coal-fired combustion unit, 0.40 lb NO_x/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_x/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_x/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_x-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_x @ 15% oxygen.

(B) Fuel oil, 96 ppmvd NO_x @ 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_x @ 15% oxygen.

(B) Fuel oil, 8 ppmvd NO_x @ 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_x @ 15% oxygen.

(B) Fuel oil, 150 ppmvd NO_x @ 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_x @ 15% oxygen.

(B) Fuel oil, 96 ppmvd NO_x @ 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_x/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_x/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_x/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:

$$E_{HIweighted} = \frac{\sum_{i=1}^{n} E_i HI_i}{\sum_{i=1}^{n} HI_i}$$

Where:

$E_{HIweighted}$ = 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_x 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_x per ton of clinker produced for a long dry-process cement kiln as defined in § 145.142.

(3) 2.36 pounds of 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 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_x and VOCs) to control, reduce or minimize NO_x 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_x requirements; emissions of NO_x from stationary internal combustion engines; and emissions of NO_x 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_x 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_x 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.

§ 129.98. Facility-wide or system-wide NO_x emissions averaging plan general requirements.

(a) The owner or operator of a major NO_x emitting facility subject to § 129.96 (relating to applicability) that includes at least one air contamination source subject to a NO_x 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_x RACT emission limitation may elect to meet the applicable NO_x RACT emission limitation in § 129.97 by averaging NO_x 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_x 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_x emitting facility, whichever is later, for a source subject to § 129.96(b).

(c) Each NO_x air contamination source included in the application for an operating permit modification or a plan approval, if otherwise required, for averaging NO_x emis-

sions 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_x RACT emission limitation in § 129.97.

(d) The application for the operating permit modification or the plan approval, if otherwise required, for averaging NO_x 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_x emissions emitted by the air contamination sources included in the facility-wide or system-wide NO_x emissions averaging plan using a 30-day rolling average are not greater than the NO_x emissions that would be emitted by the group of included sources if each source complied with the applicable NO_x 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_x 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_x emissions averaging plan:

$$\left[\sum_{i=1}^{n} \mathrm{Ei}_{\mathrm{actual}}\right] \leq \left[\sum_{i=1}^{n} \mathrm{Ei}_{\mathrm{allowable}}\right]$$

Where:

Ei_{actual} = The actual NO_x mass emissions, including emissions during start-ups, shutdowns and malfunctions, for air contamination source i on a 30-day rolling basis.

$Ei_{allowable}$ = The allowable NO_x 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_x mass emissions.

n = The number of air contamination sources included in the NO_x 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_x emissions averaging using a 30-day rolling average only for NO_x emitting sources or NO_x 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_x 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_x emissions averaging plan submitted under subsection (b).

(h) An air contamination source or facility included in the facility-wide or system-wide NO_x emissions averaging plan submitted in accordance with subsections (b)—(g) may be included in only one facility-wide or system-wide NO_x 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_x emissions averaging plan.

(j) The owner or operator of an air contamination source or facility included in the facility-wide or system-wide NO_x 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_x 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_x RACT emission limitations may not substitute those emission reductions for the emission reductions required by the facility-wide or system-wide NO_x 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_x RACT emission limitation in § 129.97 that is not included in a facility-wide or system-wide NO_x emissions averaging plan submitted under subsection (b) shall operate the source in compliance with the applicable NO_x 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_x emissions averaging plan submitted under subsection (b) shall be liable for a violation of an applicable NO_x RACT emission limitation at each source included in the NO_x emissions averaging plan.

§ 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_x 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_x air contamination source with a potential emission rate equal to or greater than 5.0 tons of NO_x per year that is not subject to § 129.97 or §§ 129.201—129.205 (relating to additional NO_x requirements) located at a major NO_x emitting facility subject to § 129.96 shall propose a NO_x 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_x 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_x emitting facility or major VOC emitting facility.

(3) Include in the RACT proposal the proposed alternative NO_x 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_x 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_x 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.

§ 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_x requirement or RACT emission limitation or VOC 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_x 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_x 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_x 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_x 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_x 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_x 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_x 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.

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