



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

Bureau of Air Quality

**Additional RACT Requirements for
Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS**

25 Pa. Code Chapters 121 and 129
51 Pa.B. 4333 (August 7, 2021)
Environmental Quality Board Regulation #7-561
(Independent Regulatory Review Commission #3310)

Comment and Response Document

Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS

On August 7, 2021, the Environmental Quality Board (Board or EQB) published a *Pennsylvania Bulletin* notice of public hearing and comment period on a proposed rulemaking to amend Chapters 121 and 129 (relating to general provisions; and standards for sources). See 51 Pa.B. 4333 (August 7, 2021). The Board proposed to amend Chapter 129 by adopting additional 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 that commenced operation on or before August 3, 2018, to address the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS). There are ten existing source categories that would be affected by this proposed rulemaking: combustion units; municipal solid waste landfills; municipal waste combustors (MWCs); process heaters; turbines; stationary internal combustion engines; cement kilns; glass melting furnaces; lime kilns; and direct-fired heaters, furnaces or ovens; as well as other existing source categories that are not regulated elsewhere under Chapter 129. The Board also proposed to amend § 121.1 (relating to definitions) by adding the terms "combustion source" and "natural gas compression and transmission facility fugitive VOC air contamination source" to support the proposed amendments to Chapter 129. The proposed RACT requirements would apply to all sources in this Commonwealth that emit or have a potential to emit (PTE) 100 tons per year (TPY) or more of NO_x or 50 TPY of VOCs.

This proposed rulemaking was adopted by the Board at its meeting on May 19, 2021. The Board held three public hearings for the purpose of accepting comments on this proposed rulemaking. The hearings were held at 1 p.m. on September 7, September 8 and September 9, 2021. The 67-day public comment period closed on October 12, 2021.

This document summarizes the testimony received at the public hearings and the written comments received during the public comment period. In addition, the comments received from the Independent Regulatory Review Commission (IRRC) and the United States Environmental Protection Agency (EPA) are summarized and responses provided. The Board received comments from 25 individuals and organizations, including letters with multiple attachments. A list of the Commentators, including name and affiliation (if any), can be found in Appendix A.

Copies of Comments

Copies of all comments received by the Board during the public comment period can be viewed on eComment located on the Department's website at <https://www.ahs.dep.pa.gov/eComment/>. Copies of all comments received are also posted on the website of the Independent Regulatory Review Commission (IRRC) at <http://www.irrc.state.pa.us>. Search by Regulation # 7-561 or IRRC # 3310.

Abbreviations and Acronyms

ACHD	Allegheny County Health Department
APCA	Pennsylvania Air Pollution Control Act (35 P.S. §§ 4001—4015)
BACT	Best Available Control Technology
bhp	Brake horsepower
CAA	Federal Clean Air Act (42 U.S.C.A. §§ 7401—7671q)
CEMS	Continuous Emissions Monitoring System
CSMM	Continuous Source Monitoring Manual
DEP	Pennsylvania Department of Environmental Protection
DLNC	Dry Low NO _x Combustion
EGU	Electric Generating Unit
EQB	Environmental Quality Board
EPA	United States Environmental Protection Agency
IRRC	Independent Regulatory Review Commission
LDAR	Leak Detection and Repair
MSW	Municipal Solid Waste
MW	Megawatts
MWC	Municipal Waste Combustor
NAAQS	National Ambient Air Quality Standard
NO _x	Oxides of Nitrogen
OTC	Ozone Transport Commission
OTR	Ozone Transport Region
ppm	Parts per Million
ppmv	Parts per Million Volume
ppmvd	Parts per Million Volume Dry
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
RACT I	25 Pa. Code §§ 129.91—129.95
RACT II	25 Pa. Code §§ 129.96—129.100
RAF	Regulatory Analysis Form
SAS	Stationary and Area Sources Committee
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
TSD	Technical Support Document
VOC	Volatile Organic Compound

Comments of the Independent Regulatory Review Commission (IRRC)

IRRC notes that EPA Region III submitted comments on the proposed rulemaking. Since this rulemaking must ultimately be approved by the EPA before it can be incorporated as part of the Commonwealth's SIP, it is important that the Board work with the EPA to ensure that the issues raised by the EPA are adequately addressed in this final-form rulemaking. IRRC asks the Board to review the EPA's concerns and amend the rulemaking or provide further explanation on implementation procedures to ensure compliance with the EPA requirements.

1. Reasonableness of requirements, implementation procedures and timetables for compliance by the public and private sectors; Possible conflict with or duplication of statutes or existing regulations.

Revision to the State Implementation Plan (SIP) and review and approval by the United States Environmental Protection Agency (EPA)

1. Comment: IRRC notes that the EPA stresses two things: that for RACT II case-by-case sources, additional analysis under RACT III is still required, even if no significant changes in control technologies have occurred since RACT II; and that the additional analysis for RACT III must be part of the regulatory record. IRRC asks the Board to review the EPA's concerns and amend the rulemaking or provide further explanation on implementation procedures to ensure compliance with the EPA requirements.

Response: The Department appreciates IRRC's concerns regarding the EPA's comments on the need for additional analysis to determine whether the case-by-case determinations made under §§ 129.96—129.100 (RACT II) for the 1997 and 2008 8-hour ozone NAAQS remain RACT for the 2015 8-hour ozone NAAQS under §§ 129.111—129.115 (RACT III). After further discussions with the EPA, the Department has amended § 129.114(i) from the proposed rulemaking to this final-form rulemaking to establish requirements consistent with the EPA's comments for additional analysis to be included in these RACT case-by-case evaluations. The Department believes that the amendments to § 129.114(i) provide the conditions to support those instances where the Department or appropriate approved local air pollution control agency may determine that the previously established RACT II controls and limits remain RACT for the 2015 8-hour ozone NAAQS.

Please see the response to Comment #41 regarding the details of the final-form amendments to § 129.114(i).

2. Comment: IRRC notes that the EPA poses questions related to what implementation procedures the Department will follow for public participation and comment on the case-by-case RACT determinations. IRRC asks the Board to review the EPA's concerns and amend the rulemaking or provide further explanation on implementation procedures to ensure compliance with the EPA requirements.

Response: The Department appreciates IRRC's concerns regarding what procedures the Department will follow for public participation and comment on the case-by-case RACT determinations. By way of clarification, the Department notes that the EPA asks what process the Department will provide to allow the public to comment upon whether the RACT II requirements and RACT II emission limitations remain RACT for the 2015 8-hour ozone NAAQS.

The Department has amended proposed § 129.114 to add final-form requirements to address the EPA's comments regarding the procedures the Department will follow for the case-by-case RACT determinations. The Department notes that in this final-form rulemaking, proposed § 129.114(j) is re-lettered as § 129.114(l), proposed § 129.114(k) is re-lettered as § 129.114(m),

proposed § 129.114(l) is re-lettered as § 129.114(n); proposed § 129.114(m) is re-lettered as § 129.114(o); and proposed § 129.114(n) is re-lettered as § 129.114(p).

The Department has amended final-form § 129.114(j) to provide that the Department or appropriate approved local air pollution control agency will review the analyses submitted under final-form § 129.114(i), solicit public comment on the analyses and the Department's supporting documentation, prepare a summary of the public comments and responses to the public comments, and, as appropriate, issue the necessary plan approvals and operating permit modifications in conformance with 25 Pa. Code Chapter 127 (relating to construction, modification, reactivation and operation of sources).

Final-form § 129.114(j) reads as follows:

(j) The Department or appropriate approved local air pollution control agency will:

- (1) Review the analyses submitted in accordance with subsection (i).
- (2) Publish notice in the Pennsylvania Bulletin and newspapers of general circulation for a minimum 30-day public comment period and an opportunity for a public hearing for the analyses submitted under subsection (i) and supporting documentation.
- (3) Prepare a summary of the public comments received on the analyses and responses to the comments.
- (4) As appropriate, issue the necessary plan approvals and operating permit modifications in conformance with 25 Pa. Code Chapter 127 (relating to construction, modification, reactivation and operation of sources).

The public comment steps for the analyses specified in final-form § 129.114(j)(2) and (3) are provided to satisfy the public participation requirements under section 110 of the Clean Air Act (CAA) (42 U.S.C.A. § 7410) and 40 CFR 51.102 (relating to public hearings) for submitting materials to the Administrator of the EPA for approval as a revision to the Commonwealth's SIP under final-form § 129.114(k). If a plan approval or operating permit modification is issued under final-form § 129.114(j)(4), the plan approval or operating permit modification will undergo public comment as part of the issuing process in conformance with 25 Pa. Code Chapter 127. Further, the Department assures IRRC that for analyses demonstrating that RACT II conditions still remain RACT for the 2015 8-hour ozone standard as well as for those case-by-case RACT III permits that are new RACT determinations and do not retain prior RACT II conditions as RACT III conditions, the public participation comment process provided for review and comment on the case-by-case RACT III SIP revision submittals and supporting analyses and documentation satisfies the public participation requirements under section 110 of the CAA and 40 CFR 51.102.

Please see the response to Comment #43 for discussion of final-form § 129.114(k) regarding the Department's SIP submittal process for the analyses submitted under final-form § 129.114(i).

3. Comment: IRRC notes that the EPA expresses concerns regarding how these RACT II permits will be incorporated into the SIP for purposes of RACT III and implementation of the 2015 8-hour ozone NAAQS. IRRC asks the Board to review the EPA's concerns and amend the rulemaking or provide further explanation on implementation procedures to ensure compliance with the EPA requirements.

Response: The Department appreciates IRRC's concerns regarding the EPA's comments on how the previously approved RACT II permits will be incorporated into the SIP for purposes of RACT III and implementation of RACT for the 2015 8-hour ozone NAAQS.

Final-form § 129.114(k) provides that the Department will submit the analyses, supporting documentation and summary of public comments and responses described in final-form § 129.114(j)(2) and (3) as well as the plan approvals and operating permit modifications issued under final-form § 129.114(j)(4) to the Administrator of the EPA for approval as a revision to the Commonwealth's SIP. These submissions will include all supporting information necessary for the record to demonstrate that the alternative RACT requirement or RACT emission limitation approved by the Department or appropriate local air pollution control agency under § 129.99(e) (relating to alternative RACT proposal and petition for alternative compliance schedule) (RACT II) assures compliance with the provisions in final-form § 129.114(a)—(c) and (e)—(h) (RACT III), that there is no further reduction in the emission limitations or tightening of the restrictions that is technically or economically feasible, and that no change has occurred at the source that would call into question whether the emission limitations in the RACT II permit remain RACT for the 2015 8-hour ozone NAAQS. The supporting documentation will include the applicable RACT II determinations, which will be made available to the public during the public comment period described under final-form § 129.114(j) and incorporated as part of the SIP submittal to the EPA.

As noted in the response to Comment #2, the public comment steps for the analyses specified in final-form § 129.114(j)(2) and (3) are provided to satisfy the public participation requirements under section 110 of the CAA and 40 CFR 51.102 for submitting a revision to the Administrator of the EPA for approval as a revision to the Commonwealth's SIP under final-form § 129.114(k). If a plan approval or operating permit modification is issued under final-form § 129.114(j)(4), the plan approval or operating permit modification will undergo public comment as part of the issuing process in conformance with 25 Pa. Code Chapter 127. Additionally, the Department assures IRRC that for those case-by case RACT III permits that are issued under final-form § 129.114(j)(4), the public participation comment process provided for review and comment on the case-by-case RACT III SIP revision submittals and supporting analyses and documentation will satisfy the public participation requirements under section 110 of the CAA and 40 CFR 51.102.

Please also see the response to Comment #4 for information about compliance dates; the response to Comment #7 for information about averaging plans; and the response to Comment #49 for information about the data required for calculating costs.

4. Comment: IRRC notes that the EPA states that any extension of the compliance date beyond the January 1, 2023, deadline is contrary to the EPA's implementing regulations and is not approvable for purposes of RACT. IRRC asks the Board to please identify the legal authority or

guidance which the Department is relying upon for extending the deadline for RACT compliance beyond January 1, 2023.

Response: The Department understands IRRC's concern and has amended this final-form rulemaking. The Department requires alternative compliance schedules, averaging plan proposals and case-by-case proposals for alternative RACT requirements and RACT emission limitations to be submitted to the Department or appropriate approved local air pollution control agency before the implementation date of January 1, 2023. Sources otherwise subject to the presumptive RACT limit and other RACT requirements for certain source categories in this final-form rulemaking will have to plan to begin complying with RACT III on the implementation date.

To this end, the Department will be conducting direct outreach to the regulated community well in advance of the January 1, 2023, implementation date due to the short turnaround time between the expected promulgation date of this final-form rulemaking and the implementation date. The Department and the EPA both recognize that while the implementation date of January 1, 2023, is required by the EPA's 2015 8-hour ozone NAAQS implementation rule (40 CFR 51.1316(b)(3)), there are practical timing considerations for the owners and operators of sources that will need to install and operate control technologies in order to satisfy their applicable RACT III requirements. This includes submission of a plan approval from the owner or operator to the Department or appropriate approved local air pollution control agency, public participation and comment on the proposal, and ordering and installing the approved control technology as well as the installation of the new control technology or replacement of the existing control technology.

Therefore, the requirements for alternative compliance schedules in this final-form rulemaking remain. Where an alternative compliance schedule, averaging plan proposal or case-by-case proposal is not submitted by the owner or operator to the Department or appropriate approved local air pollution control agency by December 31, 2022, or the subject owner or operator is not otherwise implementing presumptive RACT III requirements or RACT III emission limitations established for certain source categories on and after the implementation date, the Department will then consider this to be a compliance matter subject to the Department's authority under the Pennsylvania Air Pollution Control Act (APCA) (35 P.S. §§ 4001—4015), to issue notices of violation and conduct enforcement, as appropriate. This is the same as the Department's approach to implementing RACT II, which the EPA approved on May 9, 2019 (84 FR 20274).

5. Comment: IRRC notes that the EPA comments that proposed § 129.113(n) appears to be new language added by the Department to alert source owners and operators using an averaging plan that the averaging plan will be submitted to the EPA for approval. This language is probably intended to avoid the issue leading to the conditional approval for averaging plans in RACT II. The EPA asks how will the Department determine whether the emissions from the two sources in the averaging plan are less than the emissions that would be emitted if both sources complied with presumptive RACT? Proposed § 129.113(d) requires that the permit applicant must demonstrate how it will show that emissions from the averaging plan are less than emissions that would be emitted if the sources in the averaging plan complied with their presumptive RACT

limits. The EPA asks if the averaging plan will include terms requiring that this method of demonstrating compliance be part of a permit and enforceable.

Response: By way of clarification, while the EPA references in its comment two sources included in the averaging plan, the Department notes that the averaging plan could include more than two sources.

In response to IRRC regarding the EPA's question concerning the determination of whether the emissions from the sources included in the averaging plan are less than the emissions if the sources individually complied with their applicable presumptive RACT emission limitations, the Department requires 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 be less than or equal to the amount of 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 § 129.112 on a source-specific basis. This demonstration is done on a mass basis consistent with the appropriate averaging period for each presumptive NO_x emission limitation. The exact calculations may vary somewhat among the averaging plans, so the final-form rulemaking does not specify the precise details in order to preserve flexibility in differing circumstances.

In response to IRRC regarding the EPA's question if the averaging plan will be part of a permit and enforceable, the Department notes that each averaging plan will be reviewed by the Department on a case-by-case basis. The provisions of each averaging plan, including terms and conditions regarding compliance, will be included in a plan approval or operating permit issued by the Department. Those terms and conditions will be submitted to the EPA as a SIP revision. Averaging plans submitted to the appropriate approved local air pollution control agencies will also follow this procedure.

Ability of the regulated community to comply with the rulemaking and the Commonwealth's obligation to implement its SIP in a timely fashion

6. Comment: IRRC notes that a major concern raised by the regulated community relates to the timing of the finalization of the rulemaking, the effective date of the rulemaking and their ability to comply with the revisions that are being made. These commentators contend that the current schedule associated with this rulemaking will not allow sources sufficient time to assess the impact of the regulation on their operations.

Response: In response to IRRC's reiteration of the commentators' concerns, the Department notes that the implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. See 83 FR 62998 (December 6, 2018); see also 40 CFR 51.1316(b)(3). In this final-form rulemaking, the Department requires alternative compliance schedules, averaging plan proposals and case-by-case proposals be submitted to the Department before the implementation date of January 1, 2023. The owners and operators of sources otherwise subject to the presumptive RACT emission limitation and other RACT requirements for certain source categories established in this final-form rulemaking will have to plan to begin complying with RACT III on the implementation date.

To this end and as discussed at the April 7, 2022, Air Quality Technical Advisory Committee meeting, the Department will be conducting direct outreach to the regulated community well in advance of the January 1, 2023, implementation date due to the short turnaround time between the promulgation of this final-form rulemaking and the implementation date. The Department and the EPA both recognize that while the implementation date of January 1, 2023, is required by the EPA's 2015 ozone NAAQS implementation rule, there are practical timing considerations for the owners and operators of sources that will need to install and operate control technologies in order to satisfy their applicable RACT III requirements. This includes submission of a plan approval from the owner or operator to the Department, public participation, ordering and installing the approved control technology as well as the installation of the new control technology or replacement of the existing control technology.

In those instances when an alternative compliance schedule, averaging plan proposal or case-by-case proposal is not submitted by the owner or operator to the Department by December 31, 2022, or the subject owner or operator is not otherwise implementing presumptive RACT III requirements or RACT III emission limitations established for certain source categories on and after the implementation date, the Department will then consider this to be a compliance matter subject to the Department's authority under the APCA to issue notices of violation and conduct enforcement, as appropriate. This approach is the same as the Department's approach to implementing RACT II, which the EPA approved on May 9, 2019 (84 FR 20274).

Please also see the responses to Comments #4, #43, #64, #120.

7. Comment: In addition to the concerns raised in Comment #6, IRRC further notes that some industry commentators, whose operations make it difficult to shut down to install control technologies, believe that they will have difficulty meeting the stricter requirements.

Response: By way of explanation, the Department notes that some commentators request that the final RACT III rulemaking contain language that affords the Department significant discretion with respect to alternative compliance schedules, in particular to industries whose operations make it difficult to shut down in order to install additional controls.

In response to IRRC, the Department acknowledges the commentators' concern, however, the implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. See 83 FR 62998; see also 40 CFR 51.1316(b)(3).

Please also see the Department response to Comments #4 and #6 for more detail on how the Department will assist the affected industries with implementation of the requirements of this final-form rulemaking.

8. Comment: IRRC notes that while some of the commentators have offered alternative schedules for compliance, IRRC reiterates that in the summary of comments submitted by the EPA, any compliance date beyond January 1, 2023, would not be in compliance with the EPA regulations.

Response: Please see the responses to Comments #4, #6, and #65.

9. Comment: IRRC asks the Board to review the concerns of the regulated community related to timely compliance and the unique nature of their operations, in conjunction with the EPA requirements for the Commonwealth's SIP and, if possible, provide regulatory flexibility for these organizations. Regardless of any flexibility that may or may not be possible, IRRC urges the Board and the Department to continue to do the work they have been doing to educate the affected industries on what will be expected of them once this rulemaking is finalized.

Response: Please see the responses to Comments #4 and #6.

2. Direct and indirect costs to the Commonwealth, its political subdivisions and to the private sector; The nature and estimated costs of legal, consulting or accounting services which the public or private sector may incur.

10. Comment: First, IRRC notes that comments submitted by the regulated community suggest that the fiscal analysis in the Regulatory Analysis Form (RAF) underestimates the cost of compliance with the rulemaking. For example, it is noted that the RAF does not include an estimate for sources that will need to spend time and resources on legal and technical advisory services to comply with presumptive limits or a case-by-case demonstration.

Response: In response to IRRC, the Department believes that \$4,000 to \$6,000 is a reasonable estimate that covers the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal, as well as application fees. The estimated cost does not include any legal or consultation fees that a company may choose to incur. The cost range provided by the commentator of \$4.4 to \$8.8 million is based on the assumption that 250—500 facilities will require alternative compliance provisions. The Department believes this to be an overestimation as the owners and operators of fewer than 200 facilities submitted either averaging plans or case-by-case proposals under RACT II. The Department anticipates that the number of facilities for which an averaging plan or case-by-case proposal will be submitted under RACT III will likely be fewer than 200.

Regarding the nature and estimated costs of legal, consulting or accounting services which may be incurred by the public or private sector, the Department has addressed this issue in response to Question 19 of the RAF for the final-form rulemaking. Specifically, the Department explains that “[n]o new legal, accounting or consulting procedures are anticipated.” The Department anticipates that most, if not nearly all, owners and operators of sources that elect to submit a case-by-case RACT application will rely on the analysis they performed for RACT II (§§ 129.96—129.100). This means that the majority of the accounting, legal and consulting costs have already been incurred. Based on the estimated number of source owners and operators that will be relying on services and analysis already performed as part of RACT II, the Department believes the associated costs will be 80% to 90% less than those incurred in RACT II.

Further, the Department notes that final-form § 129.114(i) provides owners and operators with the opportunity to submit an analysis, where applicable, demonstrating that RACT II conditions remain RACT for the 2015 8-hour ozone standard. This is an administratively efficient and less resource intensive approach than conducting a full case-by-case analysis for an alternative RACT

proposal. For the owners and operators of eligible subject sources, this approach will likely reduce the consulting costs that an owner or operator would otherwise incur. Additionally, there is no fee due to the Department to submit an analysis under final-form § 129.114(i).

11. Comment: IRRC further notes that the commentators also contend that the RAF and the Technical Support Document (TSD) submitted with the rulemaking underestimate the number of facilities that will have to install additional RACT and fail to account for the cost of new equipment that will be required to meet the new limits imposed by the rulemaking. IRRC requests that the Board provide additional documentation and reasoning to justify the \$25 million number or revise this estimate accordingly and include these cost estimates in Section F of the preamble to the final-form rulemaking. The Board has only provided the estimated benefit dollars in the preamble and not the reasoning.

Response: In response to IRRC, the Department determined that the owners and operators of approximately 115 engines and turbines would likely be required to install add-on control technology to meet the presumptive NO_x RACT III emission limitations. Since the publication of the proposed rulemaking, the Department has updated the estimates to reflect that implementation of the final-form control measures could reduce NO_x emissions by as much as 9,800 TPY from engines, turbines and municipal waste combustors. The value of \$25,000,000 has been updated to approximately \$36.7 million per year and was derived from multiplying the estimated 9,800 TPY of NO_x emission reductions by the \$3,750 per ton of NO_x emissions reduced threshold.

Please also see the response to Comment #54.

12. Comment: IRRC notes that commentators state that lower presumptive emissions required by the rulemaking will necessitate case-by-case alternative RACT limits and compliance schedules that the Department will have to review and approve. However, the cost to the Department associated with the additional petitions has not been quantified in the RAF.

Response: The Department does not anticipate that it will incur significant additional costs from the implementation of this final-form rulemaking. Department staff will be working to review and process alternative compliance schedules, NO_x averaging plans and case-by-case proposals as was done for RACT II. As described in the Department response to Comment #10, the Department has provided an administratively efficient and less resource intensive process under final-form § 129.114(i) that it anticipates will be used by some subject owners and operators to demonstrate that their RACT II conditions remain RACT for the 2015 ozone standard. While this process in final-form § 129.114(i)—(k) is anticipated to provide cost savings to the regulated community, the Department will be handling the publication of the newspaper notices for this process and, therefore, will incur costs for the publication of the required newspaper notices. Accordingly, the Department has revised the RAF to reflect an estimate of these costs to the Department.

13. Comment: IRRC notes that the RAF quantifies the expected reduction of NO_x emissions at approximately 9,000 tons per year (TPY) from engines, turbines and municipal waste combustors (MWCs), but a quantification of the amount of expected VOC emission reductions

was not provided in the RAF. IRRC asks the Board to quantify the expected reduction of VOC emissions from this rulemaking. IRRC also asks the Board to quantify the costs of meeting the lower VOC standards.

Response: The Department estimates the expected amount of VOC emission reductions to be approximately 825 TPY. The Department does not anticipate any additional costs to the regulated industry to meet the lower VOC standards contained in this final-form rulemaking. Optimization of existing VOC controls should be sufficient to meet the VOC standards in this final-form rulemaking. Additionally, due to changes made from proposed to this final-form rulemaking, the Department estimates NO_x emission reductions from engines, turbines and MWCs to be approximately 9,800 TPY. The RAF for this final-form rulemaking has been revised accordingly.

14. Comment: IRRC notes that Question #23 of the RAF states that the total estimated cost to the regulated community will be \$38,500,000 for the last half of fiscal year 2022-2023 and then \$77,000,000 per year thereafter. It is IRRC's understanding that these estimated costs were based on an earlier draft of this proposed rulemaking and the actual cost estimates are lower and properly calculated under Question #19 of the RAF. IRRC requests that Question #23 of the RAF be updated.

Response: IRRC's understanding is correct. The Department has estimated the total cost to the regulated community to be approximately \$36.7 million per year. The responses to Questions #19 and #23 in the RAF for this final-form rulemaking have been revised accordingly.

3. Glass melting furnaces. – Possible conflict with or duplication of statutes or existing regulations; Need; Reasonableness; Fiscal impact; Implementation procedures.

15. Comment: IRRC notes that a commentator who operates a flat glass plant has submitted comments stating that this rulemaking should not impose presumptive RACT limits on their operation because their business is currently subject to comprehensive, industry-specific regulations for glass melting furnaces found at §§ 129.301—129.310 (relating to control of NO_x emissions from glass melting furnaces). This commentator contends that glass melting furnaces were not subject to RACT II and the Preamble to this rulemaking offers no explanation why limits are now being imposed.

Response: In response to IRRC, the Department explains that each time the EPA revises a NAAQS under section 109 of the CAA, the Commonwealth is required to meet the applicable RACT obligations for covered sources under sections 182 and 184 of the CAA (42 U.S.C.A. §§ 7511a and 7511c). The EPA's implementing rules for the 1997, 2008 and 2015 8-hour ozone NAAQS further provide that State SIPs implementing the 8-hour standard must assure that RACT is met for that 8-hour standard, either through a certification that previously required RACT controls implemented for a previous 8-hour standard represent RACT for the new 8-hour ozone standard or through a new RACT determination. See 70 FR 71612, 71652 (November 29, 2005), 80 FR 12264, 12280 (March 6, 2015) and 83 FR 62998, 63002 (December 6, 2018). The EPA has expressed concerns regarding the certification of §§ 129.301—129.310 as RACT for

the 1997 and 2008 8-hour ozone NAAQS for purposes of the Commonwealth's RACT SIP Certification for the 1997 and 2008 8-hour ozone NAAQS.

Although the glass melting furnace industry is regulated under §§ 129.301—129.310, the EPA did not expressly approve these regulations as RACT for the glass melting furnaces for purposes of the 1997 and 2008 8-hour ozone NAAQS in its approval of the SIP revision at 76 FR 34021—34023 (August 22, 2011). The EPA does not consider these regulations RACT for glass melting furnaces due to the inclusion of start-up, shutdown and malfunction (SSM) exceptions, which are not allowable exceptions for the purposes of satisfying RACT under section 110(a)(2)(A) of the CAA (42 U.S.C.A. § 7410(a)(2)(A)). RACT requires that an emissions limitation or requirement applies continuously at all times the source is operating with no exceptions for noncomplying emissions.

Consequently, the Department determined that certain provisions, including § 129.303(a) in the existing glass melting furnace regulations, preclude §§ 129.301—129.310 from meeting the presumptive NO_x RACT standards in § 129.112(i) for the 2015 8-hour ozone NAAQS. The NO_x RACT emission limitations and requirements being implemented for the 2015 ozone NAAQS are at least as stringent as the NO_x RACT emission limitations and requirements for the 1979, 1997 and 2008 ozone NAAQS. To the extent that a prior RACT emission limitation or requirement established for the 1979, 1997 or 2008 ozone NAAQS is more stringent, the owner and operator of the affected source shall comply with the more stringent emission limitation or requirement.

Under this final-form rulemaking, the owner or operator of a glass melting furnace source that cannot meet the presumptive NO_x RACT limit in § 129.112(i) may opt to submit a case-by-case proposal under § 129.114 of what the owner or operator considers RACT for its source for the 2015 8-hour ozone NAAQS.

The EPA has also expressed concerns regarding the certification of §§ 129.301—129.310 as RACT for the 1997 and 2008 8-hour ozone NAAQS for purposes of the Commonwealth's RACT SIP Certification for the 1997 and 2008 8-hour ozone NAAQS. The EPA RACT SIP certification requirements are implemented in 70 FR 71612, 80 FR 12264 and 83 FR 62998. Final-form § 129.112(m) has been amended to reflect that the requirements and emission limitations for glass melting furnaces in § 129.112(i) would supersede existing requirements under §§ 129.301—129.310 unless the requirements or emission limitations of §§ 129.301—129.310 are more stringent. If an owner or operator cannot meet a presumptive RACT emission limit established under § 129.112(i), the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation. To the extent that there is a conflict between § 129.112(i) and §§ 129.301—129.310, the owner or operator shall comply with the more stringent applicable standard to satisfy RACT for the 2015 8-hour ozone NAAQS.

Once the Commonwealth submits the final-form regulations to the EPA as a revision to the Commonwealth's SIP, and receives approval from the EPA that these final-form regulations are RACT for the 2015 8-hour ozone NAAQS, the Commonwealth will be able to complete its required RACT certification SIP submittals. Certification by the EPA of § 129.112(i) as RACT

for glass melting furnaces for the 2015 8-hour ozone NAAQS will be presumed to certify RACT for glass melting furnaces for the 1997 and 2008 8-hour ozone NAAQS.

The Department disagrees with the commentator's assertion that glass melting furnaces are the only source category subject to presumptive RACT III requirements that are also subject to other source category specific regulations. For example, Portland cement kilns, which are regulated under 25 Pa. Code §§ 145.141—145.146 (relating to emissions of NO_x from cement manufacturing), have presumptive NO_x RACT III requirements established in § 129.112(h).

Please also see the responses to Comments #91, #92 and #93.

16. Comment: IRRC notes that the same commentator referenced in comment #15 states that the regulatory requirements for their operation imposed under this rulemaking will conflict with the existing regulations. If their operation will be subject this rulemaking, they request that operational flexibility regarding start-up, shutdown and idling of their furnaces currently provided in existing regulations be added to this proposal.

Response: In response to IRRC, the Department determined that the existing glass melting furnace regulations at §§ 129.301—129.310 do not meet the presumptive RACT requirements contained in this final-form rulemaking. Sections 129.301—129.310 were approved by the EPA as a revision to the Commonwealth's SIP at 76 FR 34021-34023 (August 22, 2011), but the EPA did not approve the regulations as RACT in its approval of the SIP revision due to the inclusion of start-up, shutdown and malfunction (SSM) exceptions, which are not allowable exceptions for the purposes of satisfying RACT under section 110(a)(2)(A) of the CAA (42 U.S.C.A. § 7410(a)(2)(A)).

The EPA has also expressed concerns regarding the certification of §§ 129.301—129.310 as RACT for the 1997 and 2008 8-hour ozone NAAQS. Final-form § 129.112(m) has been amended to reflect that the requirements and emission limitations for glass melting furnaces in § 129.112(i) would supersede existing requirements under §§ 129.301—129.310 unless the requirements or emission limitations of §§ 129.301—129.310 are more stringent. If an owner or operator cannot meet a presumptive RACT emission limit established under § 129.112(i), the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation. To the extent that there is a conflict between § 129.112(i) and §§ 129.301—129.310, the owner or operator shall comply with the more stringent applicable standard to satisfy RACT for the 2015 8-hour ozone NAAQS.

Certification by the EPA of § 129.112(i) as RACT for glass melting furnaces for the 2015 8-hour ozone NAAQS will be presumed to certify RACT for glass melting furnaces for the 1997 and 2008 8-hour ozone NAAQS.

Please also see the Department responses to Comments #91 and #93.

17. Comment: IRRC notes that this commentator also requests additional time for compliance with the rulemaking.

Response: By way of explanation, the Department notes that the commentator requests that the Department provide more appropriate time frames for installation of controls if glass melting furnaces are included in RACT III. Flat glass furnaces are designed to run continuously. Once the furnace cools, the refractory is damaged and the furnace needs to be rebuilt before it can be placed back in operation. The RACT III rulemaking presents a significant concern to the commentator because the installation of control technology to reduce NO_x emissions will require any affected furnace to be shut down to install the controls. The commentator states that the proposed rulemaking includes submitting a petition and limit by the 3-year maximum time frame which makes the RACT III proposal unreasonable and unduly burdensome. The commentator requests a longer time frame to install the control.

In response to IRRC, the Department notes that the implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. Please see the response to Comment #6 for more detail on how the Department will assist the affected industries with implementation of the requirements of this final-form rulemaking.

18. Comment: IRRC notes that the commentator disagrees with the cost estimates provided for their operation in the TSD.

Response: In response to IRRC, the Department notes that the EPA Control Cost Manual is an accepted source for the determination of economic feasibility for NO_x control technologies. These determinations of economic feasibility are not dependent on the source type. In this case, presumptive RACT is established as a NO_x emission limitation and does not mandate an emission control strategy. For example, oxy-firing can be used to meet presumptive NO_x RACT emission limitations without the necessity to install particulate emission control technology.

The Department evaluated cost information provided by the commentator, which also relied in part on the EPA Control Cost Manual. The Department also reviewed the analysis for various emission control scenarios submitted by the commentator for the regional haze four-factor analysis. The Department determined that based on the information provided, the control devices included in the analysis are cost-effective as RACT for the control of NO_x emissions from glass melting furnaces. If an owner or operator cannot meet a presumptive RACT emission limit, the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation.

Please also see the Department responses to Comments #15 and #16 for discussion about how the existing glass melting furnace regulations at §§ 129.301—129.310 do not meet presumptive RACT requirements for the 2015 8-hour ozone NAAQS.

4. Protection of the public health, safety and welfare and the effect on this Commonwealth's natural resources.

19. Comment: IRRC notes that comments from an environmental advocacy organization state that this rulemaking is overdue and urge its final adoption as soon as possible.

Response: In response to IRRC, the Department acknowledges the comment. The Department has worked diligently to finalize this comprehensive rulemaking as quickly as possible.

20. Comment: IRRC notes that the comments also suggest stricter emissions limits for certain types of sources, such as steel producing facilities.

Response: In response to IRRC, the Department has determined that due to the nature and complexity of certain sources, such as steel mills and coke ovens, it is not appropriate to establish presumptive RACT requirements or RACT emission limitations. See 44 FR 53761, 53762 and 53763 (September 17, 1979); see also 57 FR 18070, 18073 and 18074 (April 28, 1992). Owners and operators of sources with no presumptive RACT requirements or RACT emission limitations are required to submit a case-by-case proposal for an alternative RACT requirement or RACT emission limitation (alternative RACT proposal). If the facility is located in Allegheny County, the alternative RACT proposal is submitted to and reviewed by the Allegheny County Health Department (ACHD).

Please note that case-by-case proposals for alternative RACT requirements or RACT emission limitations submitted to ACHD must be submitted by the Department to the EPA as a SIP revision. These proposals must meet the same requirements and undergo the same SIP review process as alternative RACT proposals submitted to the Department. Additionally, the Department provides support to ACHD during the review of alternative RACT proposals.

21. Comment: IRRC notes that the comments also suggest stricter emissions limits for certain types of sources, such as coal-fired power plants.

Response: By way of explanation, the Department notes that the EPA commented that because there is no presumptive RACT for large coal-fired electric generating units (EGUs) with selective catalytic reduction (SCR) controls in § 129.112, § 129.114(a) would not seem to allow those sources to request a case-by-case RACT determination under the RACT III requirements. When informing the public about the proposed case-by-case RACT II permits for coal-fired EGUs with SCRs, the Department plans to be clear that it intends to use the same limits to satisfy RACT for the 2015 ozone NAAQS, and that the RACT II comment period will be the last opportunity to comment on whether the RACT II limits also meet the RACT III requirements.

In response to IRRC, the Department explains that a coal-fired combustion unit with a rated heat input greater than 250 million Btu/hour, including an EGU with SCR, has no presumptive NO_x RACT requirement or emission limitation specified in § 129.112. Therefore, § 129.114(a) is not applicable. Owners and operators of these large coal-fired combustion units are required to propose a NO_x RACT requirement or RACT emission limitation under § 129.114(b).

The owners and operators of large coal-fired combustion units that are EGUs equipped with SCR were required to submit an alternative NO_x RACT proposal to satisfy the requirement of § 129.99. Therefore, these owners and operators may submit an analysis under § 129.114(i) to demonstrate that their limitations issued under §§ 129.96—129.100 (RACT II) remain RACT for §§ 129.111—129.115. Analyses submitted under § 129.114(i) will be subject to public comment

to meet the SIP public participation requirements under section 110 of the CAA and 40 CFR 51.102.

Because of operating parameter variability and other plant-specific characteristics of large coal-fired combustion units, the Department concludes that a case-by-case approach for NO_x RACT is more appropriate than setting a presumptive NO_x RACT emission limitation for all large coal-fired combustion units. Case-by-case RACT determinations include a top-down analysis. The Department will review the proposed case-by-case determinations and incorporate the final determinations and associated conditions into the facility's Title V operating permit upon consideration of public comments. The RACT determinations incorporated into the Title V operating permit will then be submitted to the EPA as part of the SIP revision. A coal-fired combustion unit with a rated heat input equal to or greater than 250 million Btu/hour that is not a circulating fluidized bed coal-fired combustion unit is currently required to submit an alternative RACT proposal under § 129.99 (relating to alternative RACT proposal and petition for alternative compliance schedule).

22. Comment: IRRC notes that the comments also suggest stricter emissions limits for certain types of sources, such as municipal waste combustors. If any of the recommendations are adopted, the EQB should quantify the fiscal impact associated with the more stringent requirements and include that information in the RAF. If the recommendations are adopted, the EQB should educate affected sources about the changes as soon as possible to assist with compliance obligations.

Response: In response to IRRC, the Department explains that proposed § 129.112(f) has been amended in this final-form rulemaking from 150 ppmvd NO_x @ 7% oxygen to 110 ppmvd NO_x @ 7% oxygen. The supporting analysis for establishing this presumptive NO_x RACT limitation can be found in Section IV(E) of the TSD for this final-form rulemaking. The fiscal impact is addressed in the response to Question 19 of the RAF. The Department has conducted direct outreach to owners and operators of municipal waste combustors to apprise them of this change.

23. Comment: IRRC notes that the comments also call for greater protection for an environmental justice community in Chester County.

Response: By way of clarification, the Department notes that a commentator requests that a limit be set for the Delaware Valley Resource Recovery Facility that requires the installation and effective operation of NO_x controls at that facility, which currently has no pollution control technology for NO_x. The commentator further requests that the limit should be based on the most effective control technology possible and, at minimum, Covanta should be required to conduct a study assessing the most effective NO_x controls that can be installed on the plant.

In response to IRRC and the commentator, the Department notes that the Delaware Valley Resource Recovery Facility shall comply with the final-form presumptive RACT emission limitation for MWCs of 110 ppmvd NO_x @ 7% oxygen. To meet a presumptive NO_x RACT emission limit of 110 ppmvd NO_x @ 7% oxygen, the installation and operation of add-on NO_x emission control technology may be required.

Please also see the response to Comment #72.

5. Section 129.111. Applicability. – Clarity; Implementation procedures.

24. Comment: First, IRRC notes that under § 129.111(a), several commentators believe the phrase, “that were in existence on or before August 3, 2018,” as it relates to major emitting facilities, is vague. Would this standard apply to a facility that was built, but not yet operating as of that date? IRRC recommends this subsection be clarified in the final-form regulation.

Response: In response to IRRC, the Department appreciates the commentators’ concern and has amended this final-form rulemaking to provide clarity. The Department amends § 129.111(a) and (b) from the proposed to this final-form rulemaking to delete the words “in existence” and add the words “commenced operation.” While the Department does not define the term “commenced operation” in § 121.1, the words “commenced operation” are used in the definition of the term “new source” and also widely used in plan approvals issued by the Department’s Air Quality Program. The final-form language for § 129.111(a) and (a)(1)—(2) reads as follows (*italics emphasize certain changes from proposed to final-form language*):

§ 129.111. Applicability.

(a) Except as specified in subsection (c), the NO_x requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a major NO_x emitting facility *that commenced operation on or before August 3, 2018*, and the VOC requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a major VOC emitting facility *that commenced operation on or before August 3, 2018*, for which a requirement or emission limitation, or both, has not been established in §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107. The owner or operator shall identify and list the sources and facilities *subject to this subsection* in the written notification required under § 129.115(a) (relating to written notification, compliance demonstration and recordkeeping and reporting requirements) *as follows*:

(1) The sources and facilities *that commenced operation on or before August 3, 2018*, for which a requirement or emission limitation has not been established in §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.

(2) The sources and facilities *that commenced operation on or before August 3, 2018*, and are subject to §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.

The final-form language for § 129.111(b) and (b)(1)—(2) reads as follows (*italics emphasize certain changes from proposed to final-form language*):

(b) Except as specified in subsection (c), the NO_x requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a NO_x emitting facility *that commenced operation on or before August 3, 2018*, and the VOC requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a VOC emitting facility *that commenced operation on or before August 3, 2018*, when the installation *and operation* of a new source *after August 3, 2018*, or a modification or change in operation *after August 3, 2018*, of a source *that commenced operation on or before August 3, 2018*, results in the source or facility meeting the definition of a major NO_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, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107. The owner or operator shall identify and list the sources and facilities *subject to this subsection* in the written notification required under § 129.115(a) *as follows*:

(1) The sources and facilities for which a requirement or emission limitation has not been established in §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.

(2) The sources and facilities subject to §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.

The final-form language for § 129.111(d) reads as follows (*italics emphasize certain changes from proposed to final-form language*):

(d) *Except as specified in subsection (c)*, this section and §§ 129.112—129.115 do not apply to the owner and operator of a facility *that commenced operation on or before August 3, 2018*, that is not a major NO_x emitting facility or a major VOC emitting facility on or before *December 31, 2022*.

The final-form language for § 129.111(e) reads as follows (*italics emphasize certain changes from proposed to final-form language*):

(e) *If the owner and operator of a facility that complied with subsection (d) meets the definition of a major NO_x emitting facility or a major VOC emitting facility after December 31, 2022, the owner and operator shall comply with subsection (b).*

Please see the response to Comment #45 for additional discussion of the applicability section.

25. Comment: Second, IRRC notes that § 129.111(c) provides exemptions for facilities that have the potential to emit less than a certain amount of NO_x or VOCs. A commentator states that an owner or operator that originally determined that a source is exempt may later determine that the source is not exempt. For this reason, the commentator suggests that the final rulemaking

include provisions that provide compliance date obligations for these sources under this particular circumstance. IRRC asks the Board to explain in the Preamble to this final-form rulemaking how this provision will be implemented under the scenario described above, and if appropriate, amend the final rulemaking accordingly.

Response: In response to IRRC, the Department explains that the source exemptions listed in § 129.111(c) are based on potential emissions or potential to emit (PTE). A source that qualifies for an exemption under § 129.111(c) either does not have the physical capability to emit 1 TPY or more of VOCs or NO_x or has a legal restriction that prohibits it from emitting 1 TPY or more of NO_x or VOCs. A change that would allow the source to emit 1 TPY or more of VOCs or NO_x would be a modification subject to BAT requirements. A modification that occurs after December 31, 2022, would not be subject to the RACT requirements and RACT emission limitations of §§ 129.112—129.115 except as specified in § 129.111(e).

The Department notes, however, that this modification may become subject to future RACT requirements or RACT emission limitations, or both, that are implemented to address a future ground-level ozone NAAQS or revision to an existing ground-level ozone NAAQS. These owners and operators would be evaluated for RACT applicability at that time.

Please see the responses to Comments #45 and #60 for additional discussion of the applicability section.

Please also see section F, *Summary of Comments and Responses on the Proposed Rulemaking*, of the preamble to this final-form rulemaking under the discussion of § 129.111. *Applicability*.

6. Section 129.112. Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule. – Clarity; Reasonableness; Whether the regulation is supported by acceptable data.

26. Comment: IRRC’s first concern is with § 129.112(c)(8). IRRC notes that a commentator has suggested that “flare” be added to the list of equipment that must be installed, operated and maintained in accordance with the manufacturer’s specifications and with good operating practices. The commentator asserts that this piece of equipment is subject to presumptive RACT. If the addition of “flare” to this subsection improves the clarity of this provision, IRRC suggests that it be added to the final-form rulemaking.

Response: In response to IRRC, the Department agrees with the commentator. Final-form § 129.112(c)(8) is amended to add the word “flare” as follows (*italics emphasize certain changes from proposed to final-form language*):

(c) The owner and operator of a source listed in this subsection that is located at a major NO_x emitting facility or major VOC emitting facility subject to § 129.111 shall install, maintain and operate the source in accordance with the manufacturer’s specifications and with good operating practices:

(8) An incinerator, thermal oxidizer, catalytic oxidizer *or flare* used primarily for air pollution control.

27. Comment: IRRC's second concern under § 129.112 is with § 129.112(g)(2)(iii)(A). IRRC notes that the specified standard of 85 ppmvd NO_x as a presumptive RACT emission limitation is questioned by a commentator that believes that existing technology does not allow for this level of compliance. The commentator believes this standard will result in numerous alternative RACT submittals. IRRC asks the Board to explain the rationale for this standard in the Preamble to this final-form rulemaking.

Response: In response to IRRC, the Department notes that proposed § 129.112(g)(2)(iii) is renumbered in this final-form rulemaking to § 129.112(g)(2)(iv). The emission limit of concern is now renumbered to § 129.112(g)(2)(iv)(A). During its review of the public comment, the Department analyzed additional information provided by a turbine manufacturer as well as additional stack test data. The Department determined that the commentator is correct that existing control technology on the subject turbines does not allow for installation of additional control technology and, therefore, the NO_x emissions from the subject turbines cannot be controlled to the proposed limitation of 85 ppmvd NO_x @ 15% oxygen. The presumptive standard in § 129.112(g)(2)(iv)(A) is amended in this final-form rulemaking to 120 ppmvd NO_x @ 15% oxygen when firing natural gas or a noncommercial gaseous fuel.

28. Comment: IRRC's third concern under § 129.112 is with § 129.112(g)(1)(vi)(A) and (B). IRRC notes that commentators have stated that the standards established for bituminous waste, such as gob, and anthracite waste, such as culm, are appropriate when measured as a 30-day rolling average. However, measuring those standards against an operating day compared to a 30-day rolling average is inappropriate because of the way in which combustion units using gob and culm as a fuel source operate. IRRC asks the Board to explain in the Preamble to this final-form rulemaking the rationale for measuring emission limits for an operating day as required under § 129.112(g)(1)(viii), instead of a 30-day rolling average.

Response: In response to IRRC, the Department provides that presumptive RACT requirements apply at all times, including start-up, shutdown, and low load operation. Based on existing data, the Department determined that the majority of circulating fluidized bed (CFB) boilers firing waste coal are capable of meeting the proposed RACT III presumptive NO_x emission limitation during periods of start-up, shutdown, and low load operation. If an owner or operator cannot meet the applicable presumptive RACT emission limitation, the owner or operator has the option to submit a case-by-case proposal for an alternative RACT emission limitation. Please see Section IV(F) of the TSD for this final-form rulemaking.

Please also see the response to Comment #93 regarding the EPA's SSM Policy.

Please also see section F, *Summary of Comments and Responses on the Proposed Rulemaking*, of the preamble to this final-form rulemaking under the discussion of § 129.112. *Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule, Subsection (g)(1)—Combustion Units or Process Heaters.*

29. Comment: Fourth, IRRC notes that a commentator has questioned how the owner or operator of a unit firing multiple fuels can comply with the requirements of § 129.112(g)(4) if beneficially reused process gases are used as fuels. IRRC asks the Board to explain in the Preamble to this final-form rulemaking how this provision will be implemented under this scenario.

Response: By way of clarification, the Department explains that the commentator states that for sources that are multi-fuel firing units that are not clearly addressed in § 129.112(g)(4) by not having a presumptive emission limit, the calculation in § 129.112(g)(4) should be able to be used. Example fuels are Blast Furnace Gas and Coke Oven Gas which are cleaned process byproduct fuels that are beneficially reused.

In response to IRRC, the Department did not have sufficient data to determine a presumptive NO_x RACT emission limitation for the process byproduct fuels listed by the commentator. The owner or operator of a source firing a fuel not covered under the presumptive RACT emission limitations is required to submit a case-by-case proposal for an alternative RACT emission limitation in accordance with § 129.114(b) or § 129.114(c). The owner or operator may propose a method of compliance similar to the calculation in § 129.112(g)(4)(i) as part of the case-by-case RACT proposal.

Please see section F, *Summary of Comments and Responses on the Proposed Rulemaking*, of the preamble to this final-form rulemaking under the discussion of § 129.112. *Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule, Subsection (g)(4)—Combustion Unit or Process Heater Firing Multiple Fuels.*

30. Comment: IRRC notes that the commentator cited in Comment #29 also suggests that as an alternative to broadening § 129.112(g)(4) to include beneficially reused process gases, § 129.112(k) could be revised to incorporate a multi-fuel fired unit approach.

Response: In response to IRRC, as noted in the response to Comment #29, the Department did not have sufficient data to determine a presumptive NO_x RACT emission limitation for the process byproduct fuels listed by the commentator. Section 129.112(k) establishes the presumptive RACT emission limitation of 0.10 lb NO_x/million Btu heat input for the owner and operator of a direct-fired heater, furnace, oven or other combustion source with a rated heat input equal to or greater than 20 million Btu/hour subject to § 129.111. If an owner or operator of a subject source firing process byproduct fuels cannot meet the applicable limit in § 129.112(k), the owner or operator is required to submit a case-by-case proposal for an alternative RACT emission limitation in accordance with § 129.114(b) or § 129.114(c). The owner or operator may propose a method of compliance similar to the calculation in § 129.112(g)(4)(i) as part of the case-by-case RACT proposal submitted under § 129.114(b) or § 129.114(c).

31. Comment: Finally, under § 129.112(k), IRRC notes that a commentator states that the rulemaking applies the same NO_x limit for a direct-fired heater, furnace, or oven as the limit for indirect-fired furnaces established under RACT II. The commentator asks for clarification on the basis for this decision. IRRC asks the Board to include the rationale for this standard in the supporting documents and Preamble submitted with the final-form rulemaking.

Response: In response to IRRC, the Department provides that presumptive RACT emission limitations were not established in RACT II for direct-fired units. Under RACT II, owners and operators of direct-fired units were required to submit a case-by-case proposal for an alternative RACT emission limitation. The addition of presumptive NO_x RACT limitations for direct-fired units in the RACT III rulemaking gives owners and operators more flexibility to comply with RACT requirements and RACT emission limitations. If an owner or operator cannot meet the applicable presumptive RACT emission limitation under RACT III, the owner or operator may submit a case-by-case proposal under § 129.114(d) for an alternative RACT emission limitation.

The owner or operator may also be eligible to submit an analysis under § 129.114(i) to the Department or appropriate approved local air pollution control agency to demonstrate that the RACT emission limitation approved under § 129.99(e) (RACT II) remains RACT for RACT III. The process provided under § 129.114(i) is less resource intensive than preparing a case-by-case proposal under § 129.114(d) for an alternative RACT emission limitation.

Please see section F, *Summary of Comments and Responses on the Proposed Rulemaking*, of the preamble to this final-form rulemaking under the discussion of § 129.112. *Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule, Subsection (k)—Direct-Fired Heaters, Furnaces and Ovens.*

7. Section 129.113. Facility-wide or system-wide NO_x emissions averaging plan general requirements. – Reasonableness; Need; Protection of the public health, safety and welfare and the effects on this Commonwealth’s natural resources.

32. Comment: IRRC notes that a commentator believes the ability of an owner or operator to file for an averaging plan under § 129.113 should not be contingent on one unit not being able to meet the NO_x RACT limit. Facility-wide and system-wide averaging plans should be able to be submitted at the discretion of the owner or operator as part of an overall strategy to achieve and maintain the emissions specified in the regulation. IRRC suggests that if the commentator’s remarks provide greater regulatory flexibility and still satisfy the EPA and SIP requirements, and are still protective of the health, safety and welfare and natural resources of the Commonwealth, then the final-form rulemaking should be amended accordingly. If the commentator’s remarks are not feasible, IRRC asks the Board to explain why this is so in the Preamble to this final-form rulemaking.

Response: In response to IRRC, the Department disagrees with the commentator that the owner or operator of an affected source should be able to choose the emissions averaging compliance option if each source under the averaging plan can comply with the respective applicable presumptive RACT emission limitation. The averaging plan is provided as an alternative compliance option to meeting applicable source-specific presumptive RACT NO_x emission limitations if one or more of the individual affected units cannot meet the applicable presumptive RACT NO_x emission limitation. If all affected units can individually meet the applicable presumptive RACT NO_x emission limitations, then no averaging plan is warranted. Further, compliance with the applicable presumptive RACT NO_x emission limitations is the most cost-effective compliance method available to the owner and operator of an affected source.

Submission of an averaging plan entails costs for developing the plan and submitting it to the Department, thus being less cost-efficient than compliance with presumptive RACT limitations where such standards are achievable.

No change is made to the final-form rulemaking in response to this comment.

Please see section F, *Summary of Comments and Responses on the Proposed Rulemaking*, of the preamble to this final-form rulemaking under the discussion of § 129.113. *Facility-wide or system-wide NO_x emissions averaging plan general requirements*.

33. Comment: IRRC notes that the same commentator cited in Comment #31 also states that limiting the system-wide averaging to the same ozone attainment area imposes a restriction that is unnecessary and could force the early retirement of an affected unit. IRRC suggests that if the commentator's remarks provide greater regulatory flexibility and still satisfy the EPA and SIP requirements, and are still protective of the health, safety and welfare and natural resources of the Commonwealth, then the final-form rulemaking should be amended accordingly. If the suggestions of the commentator are not feasible, IRRC asks the Board to explain why that is so in the Preamble to this final-form rulemaking.

Response: In response to IRRC, the Department explains that system-wide averaging is required to be among sources under common control of the same owner or operator within the same ozone nonattainment area in order to conform to the CAA and the D.C. Circuit Court of Appeals ruling in *NRDC v. EPA*, 571 F.3d 1245 (D.C. Cir. 2009). See 83 FR 62998, 63007 (December 6, 2018); see also *South Coast Air Quality Management Dist. v. EPA*, 882 F.3d. 1138, 1154 (D.C. Cir. 2018) ("*South Coast IP*"). All areas located in unclassifiable/attainment areas in an OTR state are considered to be the same ozone nonattainment area. The unclassifiable/attainment areas of this Commonwealth are separate from the designated nonattainment areas. As an example, an owner or operator cannot average a source from outside the five Southeast Pennsylvania Counties with a source from inside the five Southeast Pennsylvania Counties. Allowing system-wide averaging to include units from different ozone nonattainment areas would have the potential to increase or keep emissions higher in separate maintenance areas for the ozone NAAQS.

No change is made to the final-form rulemaking in response to this comment.

Please see section F, *Summary of Comments and Responses on the Proposed Rulemaking*, of the preamble to this final-form rulemaking under the discussion of § 129.113. *Facility-wide or system-wide NO_x emissions averaging plan general requirements*.

34. Comment: IRRC notes that a commentator has asked for clarification on how the Department will administer the aggregation for a facility, subject to a concentration-based NO_x limit under § 129.113(d), if that facility has two sources that are subject to the rulemaking. IRRC asks the Board to provide clarification on how this subsection will be administered in the Preamble to this final-form rulemaking.

Response: In response to IRRC, the Department explains that aggregate emissions are determined on a mass basis. The averaging plan provided under § 129.113(d) is required to show that mass NO_x emissions emitted by the air contamination sources included in the facility-wide or system-wide NO_x emissions averaging plan are not greater than the mass NO_x emissions that would be emitted by the group of included sources if each source complied with the applicable presumptive NO_x RACT emission limitation in § 129.112 on a source-specific basis. Please note that all averaging plans must be submitted to and approved by the EPA as revisions to the Commonwealth's SIP.

Please see section F, *Summary of Comments and Responses on the Proposed Rulemaking*, of the preamble to this final-form rulemaking under the discussion of § 129.113. *Facility-wide or system-wide NO_x emissions averaging plan general requirements*.

8. Section 129.115. Written notification, compliance demonstration and recordkeeping and reporting requirements. – Implementation procedures; Clarity.

35. Comment: IRRC notes that § 129.115(b)(4) requires owners and operators of combustion units and process heaters to demonstrate compliance on a daily averaging period. Commentators state that existing requirements under § 129.97(g)(1) (RACT II) allow owners and operators of combustion units and process heaters to demonstrate compliance using a 30-operating day averaging period. These commentators believe that the daily averaging requirement of § 129.115(b)(4) is a significant tightening of the presumptive limits for combustion units and process heaters.

Response: The Department evaluated available and relevant continuous emissions monitoring data and determined that certain source categories using a CEMS, including combustion units and process heaters, are capable of meeting the presumptive NO_x RACT emission limitations using a daily averaging basis. If an owner or operator of a subject source with a CEMS cannot meet the applicable presumptive RACT emission limitation using a daily averaging basis, the owner or operator has the option to submit a case-by-case proposal for an alternative RACT emission limitation.

Further, the Department notes that the regulations in §§ 129.96—129.100 (RACT II) established RACT requirements and emission limitations to meet the Commonwealth's RACT obligations under the CAA for the 1997 and 2008 8-hour ozone NAAQS. The 1997 8-hour ozone standard was set at 0.08 ppm and the 2008 8-hour ozone standard was set at 0.075 ppm. The regulations in §§ 129.111—129.115 are designed to achieve and maintain the more stringent 2015 8-hour ozone ozone standard of 0.070 ppm. To meet the Commonwealth's RACT obligations under the CAA for the 2015 8-hour ozone NAAQS, the Department determined that certain source categories should demonstrate compliance with the applicable RACT emission limitations using a daily averaging period.

The Department notes that the preliminary analysis of the 2021 ambient air ozone season monitoring data shows that all ozone samplers in this Commonwealth are monitoring attainment of the 2015 8-hour ozone NAAQS except these two: the Bristol sampler in Bucks County and the Philadelphia Air Management Services Northeast Airport sampler in Philadelphia County; all

ozone samplers in this Commonwealth are projected to monitor attainment of the 2008 and 1997 8-hour ozone NAAQS. Implementing the daily averaging period is therefore appropriate to assist the Commonwealth in achieving and maintaining the 2015 8-hour ozone NAAQS.

Please also see the response to Comment #117 for additional information.

36. Comment: IRRC notes that commentators state that presumptive limits cannot be met using a daily average under certain operating conditions, such as the start-up of a unit.

Response: In response to IRRC, the Department states that presumptive RACT requirements and RACT emission limitations apply at all times, including start-up, shutdown, and low load operation. This is necessary under section 110(a)(2)(A) of the CAA (42 U.S.C.A. § 7410(a)(2)(A)). The Department evaluated available and relevant continuous emissions monitoring data reported to the Department for several different source types and determined that certain source categories using CEMS, including combustion sources, combustion units and process heaters, are capable of meeting the proposed RACT III presumptive NO_x emission limitations on a daily averaging basis. If an owner or operator cannot meet the applicable presumptive RACT emission limitation, the owner or operator has the option to submit a case-by-case proposal for an alternative RACT emission limitation.

Please also see the response to Comment #93 regarding the EPA's SSM Policy.

37. Comment: IRRC notes that commentators request clarification on the term "daily average."

Response: The daily average procedures under RACT III for MWCs and for combustion units and process heaters equipped with a CEMS to monitor compliance will be implemented as follows:

The daily average for MWCs will continue to follow the daily average procedure as outlined in the Department's CSMM. The daily average for MWCs will be considered valid if it contains at least 18 valid hourly averages reported at any time during the calendar day. This is consistent with the procedure stipulated in the Quality Assurance Section of the CSMM and with what was stated by the commentator.

The daily average for combustion units or process heaters subject to RACT III will be implemented using a heat input weighted calculation similar to that of the 30-day rolling average emission rate under RACT II. The total pounds of pollutant emitted from the source for each operating hour during the calendar day will be summed. The total heat input to the source for each operating hour during the calendar day will be summed. The total pounds of pollutant emitted for the calendar day will be divided by the total heat input to the source during the calendar day. The daily average for the source must include all emissions that occur during the entire calendar day, including start-up, shutdown, low load operation or other circumstance.

Additionally, the Department has amended § 129.115(b)(3) and (4) from the proposed rulemaking to this final-form rulemaking to read as follows:

(3) For a municipal waste combustor with a CEMS, monitoring and testing in accordance with the requirements in Chapter 139, Subchapter C, using a daily average. The daily average will be considered valid if it contains at least 18 valid hourly averages reported at any time during the calendar day as required in the Quality Assurance Section of the Continuous Source Monitoring Manual.

(4) For a combustion unit or process heater subject to § 129.112(g)(1) with a CEMS, monitoring and testing in accordance with the requirements in Chapter 139, Subchapter C, using a daily average.

(i) The daily average shall be calculated by summing the total pounds of pollutant emitted for the calendar day and dividing that value by the total heat input to the source for the same calendar day.

(ii) The daily average for the source shall include all emissions that occur during the entire calendar day.

Please also see the responses to Comments #28 regarding the use of operating day and #35 regarding the use of daily averaging for certain source categories in RACT III.

Please also see section F, *Summary of Comments and Responses on the Proposed Rulemaking*, of the preamble to this final-form rulemaking under the discussion of § 129.112. *Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule, Subsection (g)(1)—Combustion Units or Process Heaters and § 129.115. Written notification, compliance demonstration and recordkeeping and reporting requirement.*

Miscellaneous clarity.

38. Comment: IRRC notes that a commentator suggested that § 129.112(e)(1) and (2) be amended to reflect changes in applicable Federal regulations published in the *Federal Register*. IRRC asks the Board to review this potential amendment for inclusion in the final-form regulation.

Response: In response to IRRC, the Department agrees with the commentator. Section 129.112(e) has been revised in the final-form rulemaking to read as follows.

(e) The owner and operator of a municipal solid waste landfill subject to § 129.111 shall comply with the following applicable presumptive RACT requirements. The owner or operator of a:

(1) Municipal solid waste landfill constructed, reconstructed or modified on or before July 17, 2014, that has not been modified or reconstructed since July 17, 2014, shall comply with the Federal Plan for Municipal Solid Waste Landfills in 40 CFR Part 62, Subpart OOO (relating to Federal plan requirements for municipal solid waste landfills that commenced construction on or before July 17, 2014 and have not been modified or reconstructed since July 17, 2014).

(2) Municipal solid waste landfill constructed, reconstructed or modified on or after July 18, 2014, shall comply with the New Source Performance Standards in 40 CFR Part 60, Subpart XXX (relating to standards of performance for municipal solid waste landfills that commenced construction, reconstruction, or modification after July 17, 2014), which are adopted and incorporated by reference in § 122.3 (relating to adoption of standards).

39. Comment: IRRC notes that commentators state that the standard of 0.6 gram NO_x/bhp-hr in § 129.112(g)(3)(iv)(A) should be 2.0 gram NO_x/bhp-hr. IRRC asks the Board to review this provision to ensure the correct standard is included in the final-form regulation.

Response: The Department appreciates IRRC's comment and has revised the final-form rulemaking to correct this typographical error. The proposed limit of 0.6 gram NO_x/bhp-hr in § 129.112(g)(3)(iv)(A) has been revised to a limit of 2.0 gram NO_x/bhp-hr.

40. Comment: IRRC notes that a commentator recommends that the newly defined term "combustion unit" be included under § 129.112(k) in the final-form regulation. IRRC asks the Board to review this potential amendment for inclusion in the final-form regulation.

Response: The Department appreciates IRRC's comment. The Department agrees with the commentator that the term "combustion source" can be included in § 129.112(k). The term "combustion source" specifically includes sources that produce heat or energy by direct heat transfer. Direct-fired heaters, furnaces and ovens produce heat or energy by direct heat transfer and are combustion sources. In contrast, a "combustion unit" is defined as a stationary equipment used to burn fuel primarily for the purpose of producing power or heat by indirect heat transfer. The Department has amended § 129.112(k) from the proposed to this final-form rulemaking to include the words "or other combustion source" after the words "direct-fired heater, furnace, oven" in this final-form rulemaking as follows (*italics emphasize certain changes from proposed to final-form language*):

(k) The owner and operator of a direct-fired heater, furnace, oven *or other combustion source* with a rated heat input equal to or greater than 20 million Btu/hour subject to § 129.111 shall comply with the presumptive RACT emission limitation of 0.10 lb NO_x/million Btu heat input.

Comments of the United States Environmental Protection Agency (EPA)

41. Comment: The EPA commented that proposed § 129.114(i) appears to be the regulatory provision by which the Department will allow existing case-by-case RACT II permits to be approved, with a streamlined review process, as RACT for the 2015 ozone NAAQS, with exemptions for electric arc furnaces, Portland cement plants (specifically Nazareth), glass melting furnaces, lime kilns, and direct fired heaters. The EPA's concern is that this language suggests that for the RACT II case-by-case sources, no additional analysis would be performed or required to determine whether the RACT II permit requirements meet RACT for the 2015

ozone NAAQS. The EPA believes that additional analysis is required before the case-by-case RACT II permits can be considered to meet the 2015 ozone NAAQS.

The EPA acknowledges that, for many sources with case-by-case permits, it is possible that since the Department's last analysis for RACT II, no significant changes in technically and economically feasible control technologies have occurred. However, the EPA stresses that the Department's rulemaking record must contain a robust analysis supporting this approach to be defensible. A record containing a general survey and analysis of changes in the cost or effectiveness of existing NO_x and VOC control technologies or the development of new technologies since the RACT II case-by-case determinations were issued, along with a new review of case-by-case RACT II determinations using those controls, should be undertaken to determine whether the RACT II controls and limits remain RACT for the 2015 ozone NAAQS for those categories of sources. This analysis must be in the record. The EPA also notes that this approach is best for "non-controversial sources," such as sources which were well below the dollar per ton of NO_x or VOC threshold used for the case-by-case RACT II analysis of economic feasibility. The EPA expects that certain sources or source categories may require some additional, case-specific analysis. For both categories of sources, the record should document that for each source or generic source category, the relevant control technologies and their costs have not changed significantly enough to alter the prior RACT II analysis, nor has the source had any significant changes to operations, emission levels, or any other site or source specific factors analyzed during the original determination for that source's RACT II permits. Under these conditions, a good case can be made that the previously established RACT II controls and limits continue to be RACT for the 2015 ozone NAAQS.

Response: The Department appreciates the EPA's concerns regarding the need for additional analysis to determine whether the case-by-case determinations made under §§ 129.96—129.100 (RACT II) for the 1997 and 2008 8-hour ozone NAAQS remain RACT for the 2015 8-hour ozone NAAQS under §§ 129.111—129.115 (RACT III). After further discussions with the EPA, the Department has amended § 129.114(i) from the proposed rulemaking to this final-form rulemaking to establish requirements consistent with the EPA's comments for additional analysis to be included in these RACT case-by-case evaluations. The Department believes that the amendments to § 129.114(i) provide the conditions to support those instances where the Department or appropriate approved local air pollution control agency may determine that the previously established RACT II controls and limits remain RACT for the 2015 8-hour ozone NAAQS.

Final-form § 129.114(i) addresses the EPA's comment that the source shall not have had any significant changes to operations, emission levels, or other site or source specific factors analyzed during the original determination for that source's RACT II permits. Final-form § 129.114(i) establishes the conditions that an owner or operator subject to § 129.114(a), (b) or (c) and to § 129.99 shall not have modified or changed a source that commenced operation on or before October 24, 2016, and shall not have installed and commenced operation of a new source after October 24, 2016. The date of October 24, 2016, is the date specified in § 129.99(i)(1) by which written RACT proposals to address the 1997 and 2008 8-hour ozone NAAQS were due to the Department or the appropriate approved local air pollution control agency from the owner

or operator of an air contamination source located at a major NO_x emitting facility or a major VOC emitting facility subject to § 129.96(a) or (b) (relating to applicability).

An owner or operator that is subject to § 129.114(a), (b) or (c) and to § 129.99 and meets the conditions stipulated in § 129.114(i), may, in place of proposing an alternative RACT requirement or RACT emission limitation under § 129.114(d), submit an analysis, certified by the responsible official, in writing or electronically to the Department or appropriate approved local air pollution control agency on or before December 31, 2022, that demonstrates that compliance with the alternative RACT requirement or RACT emission limitation approved by the Department or appropriate approved local air pollution control agency under § 129.99(e) for the 1997 and 2008 8-hour ozone NAAQS remains RACT for purposes of the 2015 8-hour ozone NAAQS under § 129.114(a)—(c) and (e)—(h), except for sources subject to § 129.112(c)(11) or (i)—(k). The excepted sources specified in § 129.112(c)(11) and (i)—(k) are electric arc furnaces, glass melting furnaces, lime kilns and direct-fired heaters, furnaces, ovens or other combustion sources. These source types did not have presumptive RACT requirements or RACT limitations established under §§ 129.96—129.100 (RACT II). The owners and operators of these source types shall comply with the applicable presumptive RACT requirement or RACT limitation, or both, established in § 129.112(c)(11) and (i)—(k). If an owner or operator cannot comply with the applicable requirement or limitation established in § 129.112(c)(11) and (i)—(k), the owner or operator may apply for an alternative RACT requirement or RACT limitation under § 129.114(d).

An owner or operator subject to § 129.114(a), (b) or (c) and to § 129.99 that has modified or changed a source that commenced operation on or before October 24, 2016, or has installed and commenced operation of a new source after October 24, 2016, shall comply with the requirements of § 129.114(d) and propose an alternative RACT requirement or RACT emission limitation. These owners and operators may not use the analysis option under § 129.114(i).

This includes the owner or operator of a major NO_x emitting facility that is subject to 129.111 and was subject to §§ 129.96—129.100 (RACT II) and after October 24, 2016, installed a new source with a PTE of equal to or greater than 5 TPY of NO_x that is not subject to § 129.112 or §§ 129.201—129.205 (relating to additional NO_x requirements) as well as the owner or operator of a major VOC emitting facility that is subject to § 129.111 and was subject to RACT II and after October 24, 2016, installed a new source with a PTE equal to or greater than 2.7 TPY of VOC that is not subject to § 129.112 or has modified equipment (e.g. boiler replacement). In this case, a case-by-case RACT analysis shall be performed on the new source or equipment.

Final-form § 129.114(i)(1) and (2) address the EPA's comments about "non-controversial sources," that is, sources which were well below the dollar per ton of NO_x or VOC threshold used for the case-by-case RACT II analysis of economic feasibility, as well as the EPA's comments regarding the need for additional case-specific analysis for certain sources or source categories. Final-form § 129.114(i)(1) and (2) establish the process and information needed for the owners and operators of both categories of sources to document for the record that for each source or generic source category, the relevant control technologies and their costs have not changed significantly enough to change the prior RACT II analysis.

The Department established cost-effectiveness thresholds of \$7,500 per ton of NO_x emissions reduced and \$12,000 per ton of VOC emissions reduced as “screening level values” for determining if the economic feasibility analyses previously submitted under § 129.99(e) for the 1997 and 2008 8-hour ozone NAAQS should be updated for the 2015 8-hour ozone NAAQS. The NO_x screening level value of \$7,500 is twice the amount of the RACT III cost-effectiveness benchmark for presumptive NO_x RACT (\$3,750). The RACT III cost-effectiveness benchmark for presumptive VOC RACT, \$7,500, is larger in absolute magnitude than the RACT III cost-effectiveness benchmark of \$3,750 for presumptive NO_x RACT, therefore the Department set the VOC screening level value at approximately one and one-half times the amount of the VOC RACT III cost-effectiveness benchmark. These screening level values are large enough to ensure that a cost-prohibitive control technology evaluated under § 129.99 with a cost-effectiveness that is equal to or greater than \$7,500 per ton of NO_x emissions reduced or \$12,000 per ton of VOC emissions reduced is still cost-prohibitive for the purposes of final-form § 129.114 without the need for re-evaluation of economic feasibility. If the cost-prohibitive control technology evaluated under § 129.99 had a cost-effectiveness that is less than \$7,500 per ton of NO_x emissions reduced or \$12,000 per ton of VOC emissions reduced, then the owner or operator shall re-evaluate the economic feasibility of the control technology to verify that it remains cost-prohibitive for purposes of the 2015 8-hour ozone NAAQS.

Final-form § 129.114(i)(1) provides that the owner or operator of a subject source or facility that evaluates and determines that there is no new pollutant specific air cleaning device, air pollution control technology or technique available at the time of the submittal of the analysis to the Department or appropriate approved local air pollution control agency shall include certain information in the analysis.

Under final-form § 129.114(i)(1)(i), if the owner or operator determines that each technically feasible air cleaning device, air pollution control technology or technique evaluated for the alternative RACT requirement or RACT emission limitation approved by the Department or appropriate approved local air pollution control agency under § 129.99(e) had a cost effectiveness equal to or greater than \$7,500 per ton of NO_x emissions reduced or \$12,000 per ton of VOC emissions reduced, the owner or operator shall include the following information in the analysis:

(A) A statement that explains how the owner or operator determined that there is no new pollutant specific air cleaning device, air pollution control technology or technique available.

(B) A list of the technically feasible air cleaning devices, air pollution control technologies or techniques previously identified and evaluated under § 129.92(b)(1)—(3) included in the written RACT proposal submitted under § 129.99(d) and approved under § 129.99(e).

(C) A summary of the economic feasibility analysis performed for each technically feasible air cleaning device, air pollution control technology or technique listed in clause (B) and the cost effectiveness of each technically feasible air cleaning device, air pollution control technology or technique as submitted previously under § 129.99(d) or as calculated consistent with the “EPA Air Pollution Control Cost Manual” (sixth edition), EPA/452/B-02-001, January 2002, as amended.

(D) A statement that an evaluation of each economic feasibility analysis summarized in clause (C) demonstrates that the cost effectiveness remains equal to or greater than \$7,500 per ton of NO_x emissions reduced or \$12,000 per ton of VOC emissions reduced.

(E) Additional information requested by the Department or appropriate approved local air pollution control agency that may be necessary for the evaluation of the analysis.

Under final-form § 129.114(i)(1)(ii), if the owner or operator determines that each technically feasible air cleaning device, air pollution control technology or technique evaluated for the alternative RACT requirement or RACT emission limitation approved by the Department or appropriate approved local air pollution control agency under § 129.99(e) had a cost effectiveness less than \$7,500 per ton of NO_x emissions reduced or \$12,000 per ton of VOC emissions reduced, the owner or operator shall include the following information in the analysis:

(A) A statement that explains how the owner or operator determined that there is no new pollutant specific air cleaning device, air pollution control technology or technique available.

(B) A list of the technically feasible air cleaning devices, air pollution control technologies or techniques previously identified and evaluated under § 129.92(b)(1)—(3) in the written RACT proposal submitted under § 129.99(d) and approved under § 129.99(e).

(C) A summary of the economic feasibility analysis performed for each technically feasible air cleaning device, air pollution control technology or technique listed in clause (B) and the cost effectiveness of each technically feasible air cleaning device, air pollution control technology or technique as submitted previously under § 129.99(d) or as calculated consistent with the “EPA Air Pollution Control Cost Manual” (sixth edition), EPA/452/B-02-001, January 2002, as amended.

(D) A statement that an evaluation of each economic feasibility analysis summarized in clause (C) demonstrates that the cost effectiveness remains less than \$7,500 per ton of NO_x emissions reduced or \$12,000 per ton of VOC emissions reduced.

(E) A new economic feasibility analysis for each technically feasible air cleaning device, air pollution control technology or technique listed in clause (B) in accordance with § 129.92(b)(4).

(F) Additional information requested by the Department or appropriate approved local air pollution control agency that may be necessary for the evaluation of the analysis.

Final-form § 129.114(i)(2) provides that the owner or operator of a subject source or facility that evaluates and determines that there is a new or upgraded pollutant specific air cleaning device, air pollution control technology or technique available at the time of the submittal of the analysis to the Department or appropriate approved local air pollution control agency shall do the following: perform a technical feasibility analysis and an economic feasibility analysis in accordance with § 129.92(b); submit the analyses to the Department or appropriate approved

local air pollution control agency for review; and provide additional information requested by the Department or appropriate approved local air pollution control agency that may be necessary for the evaluation of the analysis.

The above information, analyses and supporting documentation received by the Department as well as review memoranda prepared by the Department will be submitted to the EPA as part of the record for the case-by-case RACT III SIP revision submittals.

42. Comment: The EPA asks what public participation process will the Department provide for the public to comment upon whether the RACT II limits remain RACT for the 2015 ozone NAAQS for sources with an existing case-by-case RACT II permit seeking to keep that RACT requirement or limitation for RACT III?

If the language in proposed § 129.114(i) means that a source which is in compliance with a case-by-case RACT II permit issued under § 129.99(a)—(h) is in compliance with the RACT III requirements, what supporting information will be in the record for the RACT III rulemaking showing that for all of these sources, there is no further reduction in the limits or tightening of the restrictions that is technically or economically feasible, or that some change has not happened at each of the sources that would call into question whether the limits in the RACT II permit still meet RACT for the 2015 ozone NAAQS?

Additionally, how will these RACT II permits be incorporated into the SIP for purposes of RACT III and implementation of the 2015 ozone NAAQS?

Also, will these case-by-case RACT II sources have to apply using the process in proposed § 129.114 for that determination?

If so, proposed § 129.114(f) suggests that the Department or the appropriate approved local air pollution control agency will be putting case-by-case RACT II permits that satisfy the 2015 ozone NAAQS RACT requirements out for public comment at the state/local level, then submitting those permits to the EPA for approval into the SIP. Please explain the process for public comment on the determination that the previously issued case-by case RACT II permits continue to satisfy RACT for the 2015 ozone NAAQS.

Response: The Department appreciates the EPA's concerns regarding: how an owner or operator with a RACT II case-by-case permit will apply for a determination that their RACT II permit conditions remain RACT for the 2015 ozone NAAQS; what supporting information will be in the record for the RACT III rulemaking to document that the conditions of the RACT II permit remain RACT for the 2015 ozone NAAQS; what public participation process the Department will provide for the public to comment upon whether the RACT II requirements and limitations remain RACT for the 2015 ozone NAAQS for sources with an existing case-by-case RACT II permit seeking to keep that RACT requirement or limitation for RACT III; and how these RACT II permits will be incorporated into the SIP for purposes of RACT III and implementation of the 2015 ozone NAAQS.

In response to the EPA’s question regarding applying for a determination that RACT II conditions would satisfy RACT III requirements, the Department provides that an owner or operator that is subject to § 129.114(a), (b) or (c) and to § 129.99 and meets the conditions stipulated in § 129.114(i), may, in place of proposing an alternative RACT requirement or RACT emission limitation under § 129.114(d), submit an analysis, certified by the responsible official, in writing or electronically to the Department or appropriate approved local air pollution control agency on or before December 31, 2022, that demonstrates that compliance with the alternative RACT requirement or RACT emission limitation approved by the Department or appropriate approved local air pollution control agency under § 129.99(e) for the 1997 and 2008 8-hour ozone NAAQS (RACT II) remains RACT for purposes of the 2015 8-hour ozone NAAQS (RACT III) under § 129.114(a)—(c) and (e)—(h), except for sources subject to § 129.112(c)(11) or (i)—(k).

Please see the response to Comment #41 for additional detail about the process the owner or operator shall follow and what supporting information shall be submitted to the Department to demonstrate that compliance with their RACT II permit requirement or emission limitation remains RACT for purposes of the 2015 8-hour ozone NAAQS.

In regard to public participation processes, the Department has amended final-form § 129.114(j) to provide that the Department or appropriate approved local air pollution control agency will review the analyses submitted under final-form § 129.114(i), solicit public comment on the analyses and the Department’s supporting documentation, prepare a summary of the public comments and responses to the public comments, and, as appropriate, issue the necessary plan approvals and operating permit modifications in conformance with 25 Pa. Code Chapter 127. Final-form § 129.114(j) reads as follows:

(j) The Department or appropriate approved local air pollution control agency will:

- (1) Review the analyses submitted in accordance with subsection (i).
- (2) Publish notice in the Pennsylvania Bulletin and newspapers of general circulation for a minimum 30-day public comment period and an opportunity for a public hearing for the analyses submitted under subsection (i) and supporting documentation.
- (3) Prepare a summary of the public comments received on the analyses and responses to the comments.
- (4) As appropriate, issue the necessary plan approvals and operating permit modifications in conformance with 25 Pa. Code Chapter 127 (relating to construction, modification, reactivation and operation of sources).

The public comment steps for the analyses specified in final-form § 129.114(j)(2) and (3) are provided to satisfy the requirements for submitting a revision to the Administrator of the EPA for approval as a revision to the Commonwealth’s SIP under final-form § 129.114(k). If a plan approval or operating permit modification is issued under final-form § 129.114(j)(4), the plan

approval or operating permit modification will undergo public comment as part of the issuing process in conformance with 25 Pa. Code Chapter 127.

The Department will assure that the case-by-case RACT III SIP revision submittals and supporting analyses and documentation satisfy public participation requirements under section 110 of the CAA and 40 CFR 51.102.

In regard to what supporting information shall be submitted for the record demonstrating that RACT II permits remain RACT for the 2015 ozone NAAQS, final-form § 129.114(k) provides that the Department will submit the analyses, supporting documentation and summary of public comments and responses described in subsection (j)(2) and (3) as well as the plan approvals and operating permit modifications issued under subsection (j)(4) to the Administrator of the EPA for approval as a revision to the Commonwealth's SIP. These submissions will include all supporting information necessary for the record to demonstrate that the alternative RACT requirement or RACT emission limitation approved by the Department or appropriate local air pollution control agency under § 129.99(e) assures compliance with the provisions in final-form § 129.114 (a)—(c) and (e)—(h), that there is no further reduction in the limits or tightening of the restrictions that is technically or economically feasible, and that no change has occurred at the source that would call into question whether the limits in the RACT II permit remain RACT for the 2015 ozone NAAQS. The supporting documentation will include applicable RACT II determinations, which will be made available to the public during the public comment period and incorporated as part of the subsequent SIP submittal to the EPA.

43. Comment: The EPA notes that there appears to be no language limiting alternative final compliance dates (for example, proposed §§ 129.112(n)(2)(v) and 129.114(j)(2)(v)), which might allow for the implementation of RACT controls later than permitted by 40 CFR 51.1312(a)(3)(i) (i.e. no later than January 1 of the 5th year after designation, which is January 1, 2023). Any extension of the compliance date beyond the January 1, 2023, deadline is contrary to the EPA's implementing regulations and is not approvable for purposes of RACT. Please identify the legal authority or guidance which DEP is relying upon for extending the deadline for RACT compliance beyond January 1, 2023. If the Department believes there are no changes that could be made within the statutory timeline that are economically and technically feasible, the record should support that no change is RACT for the particular source. Changes made at a later date would then be considered "SIP strengthening."

Response: The Department understands the EPA's concern. In this final-form rulemaking, the Department requires alternative compliance schedules, averaging plan proposals and case-by-case proposals to be submitted to the Department no later than December 31, 2022. Sources otherwise subject to the presumptive RACT limit and other RACT requirements for certain source categories in this final-form rulemaking will have to plan to begin complying with RACT III on the implementation date.

Please see the response to Comment #4 for further information regarding compliance schedules.

44. Comment: The EPA notes that proposed § 129.114(i) states that:

(i) Compliance with the requirements in § 129.99(a)—(h) (relating to alternative RACT proposal and petition for alternative compliance schedule) assures compliance with the provisions in subsections (a)—(h), except for sources subject to § 129.112(b)(11), (h)(4) and (h)(5) or (i)—(k).

The EPA could not find § 129.112(b)(11). There also does not seem to be a § 129.112(h)(4) or (5), as § 129.112(h) ends at subsection (h)(3).

Response: The EPA is correct. The Department has amended § 129.114(i) from proposed to this final-form rulemaking to delete the references to § 129.112(b)(11), (h)(4) and (h)(5). The correct reference of § 129.112(c)(11) has been added to § 129.114(i). The reference to [§ 129.112] (i)—(k) remains.

45. Comment: The EPA comments that the RACT III requirements apply to major facilities in existence before August 3, 2018, and facilities which become major after August 3, 2018, due to a modification or change in operation of an existing source. The EPA believes that this language seems to say that if a facility was major before August 3, 2018, and adds a new NO_x or VOC emissions unit after that date, the source (new emissions unit) would be subject to RACT under the § 129.111(a) provision. However, the presumptive (§ 129.111(a)(1)) and alternative (§ 129.114(d)(1)) compliance dates for sources subject to RACT under § 129.111(a) are firm and may have already passed at the time of new construction. The implication of this regulatory text structure is that existing major sources must continually evaluate and immediately comply with RACT provisions for any new sources. The EPA's experience with the Department's implementation of RACT II indicates that PA probably does not intend for RACT to be continually reapplied to new sources at major facilities—otherwise the EPA would be seeing a growing number of case-by-case RACT II determinations for new projects occurring across PA. Based on the Department's answer to a question in its Responses to Frequently Asked Questions document for RACT II, it seems that the Department does not intend for RACT to be continually reapplied to sources.

Please clarify the Department's intent for these particular provisions. Specifically, in the response above, is the Department suggesting that new facilities that came into existence after July 20, 2012, are not subject to RACT at all? Or, would those new facilities be subject to a newer RACT standard? Depending on what the Department's intent is for RACT III applicability for this circumstance, some potential solutions would be:

- clarifying the language in § 129.111(b);
- narrowing the scope of § 129.111(a) applicability definition to exclude new sources at existing major facilities;
- defining a compliance date for new sources at existing major facilities in the presumptive and alternative RACT compliance date sections.

Response: The EPA is correct. The Department does not intend for the RACT III provisions to be continually reapplied to new sources at major facilities. The intent of the applicability date in § 129.111(a) and (b) is that RACT should be determined once for each existing major facility or

source in accordance with the requirements for the applicable 8-hour ozone NAAQS as the major facility or source exists on the applicability date. The applicability date in § 129.111(a) and (b), namely, August 3, 2018, is the effective date of the designations of the nonattainment areas in this Commonwealth for the 2015 8-hour ozone NAAQS. See 83 FR 25776, 25828 (June 4, 2018).

In response to the EPA's suggestion that the scope of applicability of § 129.111(a) be narrowed to exclude new sources at existing major facilities, the Department has amended the language of § 129.111(a)(1) and (2) to clarify that the requirements apply to the owner and operator of major sources and facilities subject to § 129.111(a) that commenced operation on or before August 3, 2018. Installation and operation of a new source after August 3, 2018, at a major facility covered by § 129.111(a) is excluded from being identified and listed in accordance with § 129.111(a)(1) and (2) in the notification required under § 129.115(a). The new source installed after August 3, 2018, or the new major facility that commences operation after August 3, 2018, would instead be subject, at a minimum, to a best available technology (BAT) determination which can be no less stringent than RACT established for the 2015 8-hour ozone NAAQS under §§ 129.111—129.115 (RACT III). The final-form language for § 129.111(a) and (a)(1)—(2) reads as follows (*italics emphasize certain changes from proposed to final-form language*):

§ 129.111. Applicability.

(a) Except as specified in subsection (c), the NO_x requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a major NO_x emitting facility *that commenced operation on or before August 3, 2018*, and the VOC requirements of this section and §§ 129.112—129.115 apply Statewide to the owner and operator of a major VOC emitting facility that *commenced operation* on or before August 3, 2018, for which a requirement or emission limitation, or both, has not been established in §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107. The owner or operator shall identify and list the sources and facilities *subject to this subsection* in the written notification required under § 129.115(a) (relating to written notification, compliance demonstration and recordkeeping and reporting requirements) *as follows*:

(1) The sources and facilities *that commenced operation on or before August 3, 2018*, for which a requirement or emission limitation has not been established in §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.

(2) The sources and facilities *that commenced operation on or before August 3, 2018, and are* subject to §§ 129.51, 129.52(a)—(k) and Table I categories 1—11, 129.52a—129.52e, 129.54—129.63a, 129.64—129.69, 129.71—129.75, 129.77 and 129.101—129.107.

In response to the EPA's questions regarding the applicability of RACT to the owners and operators of new [major] facilities that came into existence after July 20, 2012, the applicability date of §§ 129.96—129.100 (RACT II), the Department provides that the owner and operator of

a major facility or source that commenced operation after July 20, 2012, but on or before August 3, 2018, would not have been subject to, or evaluated for, RACT for the 1997 and 2008 8-hour ozone NAAQS under §§ 129.96—129.100 (RACT II); rather, the owner and operator of the major facility or source would have been subject, at a minimum, to a BAT determination which could be no less stringent than the RACT II requirements for the 1997 and 2008 8-hour ozone NAAQS. The owner or operator of a major facility or source that commenced operation after July 20, 2012, and is in operation on or before August 3, 2018, would be subject to § 129.111(a) and would be evaluated for and issued an operating permit with the applicable RACT III requirements or emission limitations, or both, for the 2015 8-hour ozone NAAQS for the major facility or source as it existed on or before August 3, 2018. If the owner or operator of this major facility then installs a new source after August 3, 2018, it is not the Department's intent to require an updated RACT III analysis for the 2015 8-hour ozone NAAQS for the facility, as explained above regarding the scope of applicability of § 129.111(a); rather, the new source would be subject to a BAT determination which can be no less stringent than RACT established for the 2015 8-hour ozone NAAQS under §§ 129.111—129.115 (RACT III).

In response to the EPA's suggestion that the language in § 129.111(b) be clarified, the Department provides that the owner or operator of a non-major facility that commenced operation after July 20, 2012, and is in operation on or before August 3, 2018, would not have been subject to RACT II under §§ 129.96—129.100 nor would they be subject to § 129.111(a), since the facility is not a major facility.

If the owner and operator of a non-major facility that commenced operation on or before August 3, 2018, then installs and commences operation of a new source after August 3, 2018, or makes a modification or change in operation after August 3, 2018, of a source that commenced operation on or before August 3, 2018, to the extent that the source or facility now meets the definition of a major NO_x emitting facility or major VOC emitting facility, this owner and operator is subject to the requirements of § 129.111(b). The owner or operator will be evaluated by the Department for applicable RACT III requirements for the 2015 8-hour ozone NAAQS and be issued an operating permit with the applicable RACT III requirements. Once this source or facility meets major status and has been evaluated for applicable RACT III requirements under §§ 129.111—129.115, installation of a subsequent new source or a subsequent modification or change in operation of an existing source after the date of issuance of the permit would be subject to a BAT analysis which could be no less stringent than the RACT III requirements.

As specified under final-form § 129.111(d), the owner and operator of a facility that commenced operation on or before August 3, 2018, that is not a major NO_x emitting facility or a major VOC emitting facility on or before December 31, 2022, would not be subject to §§ 129.111—129.115, except as specified in final-form § 129.111(e). Final-form § 129.111(e) specifies that if the owner and operator of a facility that complied with § 129.111(d) becomes major after December 31, 2022, the owner and operator of the now-major facility shall comply with § 129.111(b). This requirement precludes the situation in which an owner or operator of a major facility or source that is subject to § 129.111(a), or an owner or operator of a facility or source that is subject to § 129.111(b) that becomes major after August 3, 2018, then falls below the applicable major facility threshold on or before December 31, 2022, from being exempt from §§ 129.111—129.115 if the source or facility becomes major again after December 31, 2022.

The owner and operator of a source or facility that commences operation after August 3, 2018, would not be subject to §§ 129.111—129.115. These owners and operators would be evaluated according to applicable programs such as BAT or new source review. These owners and operators may become subject to future RACT requirements or RACT emission limitations, or both, that are implemented to address a future ground-level ozone NAAQS or revision to an existing ground-level ozone NAAQS. These owners and operators would be evaluated for RACT applicability at that time.

Please also see the Department response to Comment #60 for additional information about § 129.111.

46. Comment: The EPA commented that proposed § 129.113(n) appears to be new language added by Pennsylvania to alert source owners and operators using an averaging plan that the averaging plan will be submitted to the EPA for approval. This language is probably intended to avoid the issue leading to the conditional approval for averaging plans in RACT II. How will DEP determine whether the emissions from the two sources in the averaging plan are less than the emissions that would be emitted if both sources complied with presumptive RACT? Proposed § 129.113(d) requires that the permit applicant must demonstrate how it will show that emissions from the averaging plan are less than emissions that would be emitted if the sources in the averaging plan complied with their presumptive RACT limits. Will the averaging plan include terms requiring that this method of demonstrating compliance be part of a permit and enforceable?

Response: The Department appreciates the EPA’s concern. Please see the response to Comment #5 for information regarding provisions of averaging plans, which will be included as in a plan approval or operating permit.

47. Comment: The EPA notes that the RACT III proposed regulations have added language requiring the submission of information by every source subject to RACT that appears to address some of the missing information that caused difficulties for both the Department and the EPA in evaluating RACT II permits. For example, proposed § 129.115, entitled “Written notification, compliance demonstration and recordkeeping and reporting requirements,” requires that every source subject to RACT notify the state within 6 months of how it is going to comply with the RACT III requirements, and requires these sources to identify those air contamination sources that are [proposed § 129.115(a)(1)(i)] and those air contamination sources that are not [proposed § 129.115(a)(1)(ii)] subject to §§ 129.112—129.114. Proposed § 129.115(a)(4) also requires information on source description and how the owner or operator shall comply with RACT III or the reason a source is exemption from RACT III requirements.

This is more information than the regulations required for RACT II and RACT I. However, given that RACT I and II did not require the same information, this difference would seem to put the Department and the approved local air pollution control agencies in the position of figuring out whether any new emission sources have been added to the facility since the RACT I and II process, or whether sources have changed in any meaningful ways, such as a fuel switch, new control device, etc. The EPA suggests that a provision should be added to this section requiring

the source to clearly identify any changes to emission sources which have occurred since RACT II, at the least, and the effect that the change has on emissions from the facility, if any. The provision should also require an analysis of the impact of any such changes on prior RACT requirements. Having the sources provide this information will hopefully simplify the Department's review of these notices. This is especially true for the sources that received a case-by-case RACT II permit, to simplify the Department's analysis of whether there have been any changes at the facility which might require a new analysis for RACT III.

Response: The purpose of this notification provision in § 129.115(a) is for the Department to determine which facilities and sources are subject to RACT III requirements, which sources are exempt from RACT III requirements, and if the owners and operators are complying with presumptive or case-by-case requirements. This notification is not meant to be a full RACT analysis.

Before an owner or operator of a facility can begin to construct, modify or operate a source, emissions unit or equipment emitting air contaminants in Pennsylvania, the owner or operator is required to obtain prior written approval from the Department's Air Quality Program as specified in 25 Pa. Code § 127.11 (relating to plan approval requirements). Thus, the Department is already aware of new and modified sources that have occurred since the implementation of RACT II due to this requirement for the owner and operator of the facility to obtain prior written approval from the Air Quality Program. Therefore, it is not necessary that the owner or operator submit this specific information as part of the written notification required by § 129.115(a).

48. Comment: The EPA asks what dollar per ton figure for VOC and NO_x were used to determine economic feasibility. The EPA believes that the numbers appear to be \$3,750/ton for NO_x and \$7,500/ton for VOC, but the explanation in the TSD on page 12 is confusing.

Response: The EPA is correct. The benchmarks used to determine economic feasibility for presumptive RACT in this round (§§ 129.111—129.115) are \$3,750 per ton of NO_x emissions removed and \$7,500 per ton of VOC emissions removed. Please also see pages 12 and 13 of the TSD for this final-form rulemaking for updated language.

49. Comment: The EPA is asking for clarification on whether the Department used the most up-to-date chapters in the EPA Air Pollution Control Cost Manual when calculating costs. For example, the Department cites a 2002 edition in one place ([DEP] evaluated cost-effectiveness using the guidance provided in the EPA Air Pollution Control Cost Manual, EPA/452/B-02-001, 6th Edition, January 2002, as amended,) but on page 12 of the TSD, reference is made to the 7th edition of the Cost Manual.

Response: The EPA is currently updating the Air Pollution Control Cost Manual. The 7th edition contains certain source categories and controls. The Department used the most recent chapters available from either the 6th edition or 7th edition when calculating the control costs.

50. Comment: The EPA commented that the prior NO_x emission standard for MWCs in § 129.97 is proposed to be reduced from 180 parts per million volume (ppmv) to 150 ppmvd. The Department's analysis determined that additional controls (e.g. selective catalytic

reduction/selective non-catalytic reduction (SCR/SNCR)) were technically or economically infeasible, or both. However, the record does not explain what measures will be necessary for the sources to meet the new limits and does not demonstrate that 150 ppmvd is the lowest rate that is technically and economically feasible. Several of the sources appear to be capable of operating at lower emission rates. Please explain what analysis was performed to determine that 150 ppmvd is RACT for these units.

Response: The Department notes that the current limit for MWCs in § 129.97 is 180 parts per million volume dry (ppmvd). Proposed § 129.112(f) has been revised from 150 ppmvd NO_x @ 7% oxygen to a more stringent limit of 110 ppmvd NO_x @ 7% oxygen in this final-form rulemaking. The supporting analysis, and measures that could be used for the owners and operators to meet the presumptive NO_x RACT emission limitations, are found in Section IV(E) of the TSD for this final-form rulemaking. If an owner or operator cannot meet the presumptive emission limit, the owner or operator has the option to submit a case-by-case proposal for an alternative RACT emission limitation.

51. Comment: The EPA commented that because there is no presumptive RACT for large coal-fired electric generating units (EGUs) with SCR in § 129.112, § 129.114(a) would not seem to allow those sources to request a case-by-case RACT determination under the RACT III requirements. The Department should clearly notify the public when public noticing proposed case-by-case RACT II permits for coal-fired EGUs with SCRs that it intends to use the same limits to satisfy RACT for the 2015 ozone NAAQS, and that the RACT II comment period will be the last opportunity to comment on whether the RACT II limits also meet the RACT III requirements.

Response: The Department acknowledges EPA's concerns. Please see the response to Comment #21 from IRRC.

Comments from Industry and the Public

52. Comment: A commentator stated that Pennsylvania is long overdue in submitting a proposed RACT III SIP revision. Such a revision was required to be submitted to the EPA by August 3, 2020—over 14 months ago—and yet Pennsylvania has not yet finalized a submission to the EPA. Accordingly, Pennsylvania must act quickly to finalize new presumptive emission limits.

Response: The Department acknowledges the comment. The Department has worked diligently to finalize this comprehensive rulemaking as quickly as possible.

53. Comment: Some commentators state that in the response to Question #19 of the RAF for the proposed rulemaking, the Department indicates that the potential estimated costs for alternative compliance provisions could be on the order of \$4,000 to \$6,000 per facility. One of the commentators believes that estimate is very low and says most plants, regardless of whether they need to implement alternative compliance provisions, are estimated to spend on the order of \$15k to \$20k for some sort of combination of internal and external consulting costs and plan approval fees. This commentator attached a calculation to its comment letter with a total cost range of \$4.4 to \$8.8 million.

Response: Please see the response to Comment #10.

54. Comment: Some commentators state that in the response to Question #19 of the proposed rulemaking RAF, the Department estimates that the cost of add-on controls to the regulatory community will be \$25 million but does not show how this number is derived. In the separate TSD there are several appendices which have various pollution control cost estimates, most on the order of \$2 million to \$4 million. That seems reasonable, but if one divides \$25 million by \$2 million and \$4 million, on this basis there would be a total of 6 to 13 facilities out of 500 potentially impacted who would need to install additional controls. While most sources should not need to install additional controls, it seems unlikely that the number would only be limited to 6 to 13 out of 500 (1.2% to 2.6%) facilities.

Another commentator states that the cost-benefit analyses of the proposed RACT III rulemaking RAF significantly understate expected compliance costs. This commentator requests that the RAF for the final-form rulemaking be updated to clarify the number of facilities the Department expects to need to install additional controls, as well as to clearly identify costs.

Response: The Department determined that the owners and operators of approximately 115 engines and turbines would be required to install add-on control technology to meet the presumptive NO_x RACT III emission limitations. Since the publication of the proposed rulemaking, the Department has updated the estimates of anticipated NO_x emission reductions that would be achieved through implementation of the final-form control measures. The Department anticipates that implementation of these control measures could reduce NO_x emissions by as much as 9,800 TPY from engines, turbines and municipal waste combustors. The proposed value of \$25,000,000 has been updated to approximately \$36.7 million per year and was derived from multiplying the estimated 9,800 TPY of NO_x emission reductions by the \$3,750 per ton of NO_x emissions reduced threshold.

55. Comment: Another commentator states that lower presumptive emission limitations will result in a greater number of case-by-case alternative RACT proposals. The associated cost to the Department has not been quantified in the RAF.

Response: The Department does not anticipate that it will incur any significant additional costs from the implementation of this final-form rulemaking. Existing Department staff will be working to review and process alternative compliance schedules, NO_x averaging plans and case-by-case proposals as was done for RACT II. As described in the Department response to Comment #10, the Department has provided an administratively efficient and less resource intensive process under final-form § 129.114(i) that it anticipates will be used by some eligible owners and operators to demonstrate that their RACT II conditions remain RACT for RACT III. While this process in final-form § 129.114(i)—(k) is anticipated to provide cost savings to the regulated community, the Department will be handling the newspaper publications for this process and, therefore, will incur costs for the publication of required newspaper notices. Accordingly, the Department has revised the RAF to reflect an estimate of these newspaper publishing costs to the Department.

56. Comment: A commentator requests that Pennsylvania implement more stringent standards and require continuous emissions monitoring systems (CEMS) on existing emission sources.

Response: RACT implementation regulations and guidance issued by the EPA dictate that the standards and other requirements implemented be both technically and economically feasible. The Department believes that the monitoring, recordkeeping and reporting requirements included in this final-form rulemaking are sufficient to show compliance with the emission standards and other requirements. The Department has amended § 129.115(f) from proposed rulemaking to this final-form rulemaking to further clarify that the monitoring and recordkeeping and reporting provisions of 25 Pa. Code Chapter 127 apply as well as those provisions specified in the applicable plan approval or operating permit for the source or facility.

57. Comment: A commentator notes that one unique cost threshold or benchmark for all sources is not suitable for many reasons. This commentator recommends the Department revise its proposed NO_x limits using higher \$/ton benchmarks so that its RACT levels are comparable to those used in other states. The Department should also use the RACT tool and associated cost-effectiveness levels that the Ozone Transport Commission's (OTC) Stationary and Area Sources Committee (SAS) RACT workgroup is developing to establish presumptive and case-by-case RACT determinations. During RACT rulemaking development in 2008, the New Jersey Department of Environmental Protection (NJDEP) estimated an acceptable range of \$5,000 to up to \$57,500 per ton of NO_x removed for a facility-specific NO_x control plan or an alternative maximum allowable NO_x emission rate. (See economic impact section of New Jersey proposed rulemaking available at <http://www.nj.gov/dep/rules/proposals/080408a.pdf>).

Response: The presumptive RACT requirements and RACT emission limitations used by the Department are comparable to presumptive RACT standards in neighboring states.

The commentator's assertion that the NJDEP used the range of \$5,000 to \$57,500 as the thresholds for determining the cost-effectiveness of a facility-specific NO_x control plan or an alternative maximum allowable NO_x emission rate is incorrect. Rather, these dollar values represent NJDEP's range of estimates for the cost to prepare and complete an application for a facility-specific case-by-case permit depending upon the technical "complexity of the application." (See page 74 of <https://www.nj.gov/dep/rules/proposals/080408a.pdf>)

Regarding cost-effectiveness thresholds used by other Ozone Transport Region (OTR) states, the New York State Department of Environmental Conservation (NYDEC) extrapolated their cost-effectiveness thresholds for 2020 from their cost-effectiveness thresholds for implementation of RACT requirements in 1994. In 1994, the NYDEC used \$5,000/ton VOC emissions reduced for severe ozone nonattainment areas, \$3,000/ton VOC emissions reduced for marginal ozone nonattainment areas and \$3,000/ton NO_x emissions reduced statewide for RACT implementation. The NYDEC used these values to determine cost effectiveness thresholds for 2020. (https://www.dec.ny.gov/docs/air_pdf/dar20.pdf). However, the NYDEC did not provide any justification for selecting these thresholds in 1994. The Department used the same methodology but provided adequate justification in its proposed rulemaking TSD for its 1991 RACT I implementation benchmarks.

The Department has been unable to identify the cost-effectiveness benchmarks used by other neighboring state air pollution control agencies to establish cost-effective RACT emission limitations for implementation of control measures to meet the 2015 Ozone NAAQS in their state.

58. Comment: Members of the Mid-Atlantic/Northeast Visibility Union (MANE-VU) agreed to include a strategy in their Regional Haze State Implementation Plans that ensures that EGUs equal to or larger than 25 megawatts (MW) are operating existing NO_x controls effectively on a year-round basis. In case-by-case RACT approvals for coal boilers, the Department should require operation of NO_x controls on a year-round basis. The Department should also require measures to improve efficiency of NO_x controls, such as increasing reagent (ammonia or urea) flow rate and increasing frequency of catalyst replacement, if feasible.

Response: Comments regarding alternative RACT proposals may be made during the public comment period provided for each proposal. The proposed rulemaking did not include presumptive NO_x requirements in § 129.112 for coal-fired combustion units with a heat input rating greater than 250 million Btu/hr, which is approximately equivalent to 25 MW for coal-fired EGUs. (Heat rate or efficiency of coal-fired EGUs is typically calculated as 10,000 Btu/kWh. This converts 250 million Btu/hr to 25 MW.) Therefore, this comment is outside the scope of the proposed rulemaking.

Section 129.111 - Applicability

59. Comment: The commentator asks if the Department will revise the definitions of “major NO_x emitting facility” and “major VOC emitting facility” to exclude the 25 TPY thresholds for Bucks, Chester, Delaware, Montgomery, and Philadelphia counties like was done for RACT II. Otherwise, the commentator asks if it is the Department’s intention to bring facilities in these counties that may not have been subject to RACT II (i.e., because NO_x PTE is < 100 TPY but > 25 TPY or VOC PTE is < 50 TPY but > 25 TPY) into the applicability for RACT III.

Response: The Department’s intent is that the major facility applicability thresholds established for Bucks, Chester, Delaware, Montgomery and Philadelphia Counties under RACT II also apply for RACT III. Therefore, the definitions of major NO_x emitting facility and major VOC emitting facility are revised in this final-form rulemaking to clarify that the applicability thresholds for Bucks, Chester, Delaware, Montgomery or Philadelphia County for purposes of §§ 129.96—129.100 and 129.111—129.115 are 100 TPY for NO_x emissions and 50 TPY for VOC emissions. The definitions of major NO_x emitting facility and major VOC emitting facility are revised from proposed to this final-form rulemaking to read as follows:

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:

* * *

(v) For purposes of §§ 129.91—129.95 (relating to stationary sources of NO_x and VOCs), twenty-five TPY and is located in Bucks, Chester, Delaware, Montgomery or Philadelphia County.

(vi) For purposes of §§ 129.96—129.100 and §§ 129.111—129.115 (relating to additional RACT requirements for major sources of NO_x and VOCs; and additional RACT requirements for major sources of NO_x and VOCs for the 2015 ozone NAAQS), one hundred TPY Statewide.

Major VOC emitting facility—A facility which emits or has the potential to emit VOCs 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:

* * *

(iv) For purposes of §§ 129.91—129.95, twenty-five TPY and is located in Bucks, Chester, Delaware, Montgomery or Philadelphia County.

(v) For purposes of §§ 129.96—129.100 and §§ 129.111—129.115, fifty TPY Statewide.

60. Comment: Some commentators request that the Department define and clarify “in existence” in the applicability section of RACT III. The use of a term that is not otherwise defined in the State or CAA regulations makes the RACT applicability date unclear for some air emissions units and adds unnecessary confusion to implementation of this regulatory provision. Under RACT II, the Department provided comment that “in existence” means installed. “Installed” is also not defined, so it is unclear if “installed” means “began operation” or “began installation.”

The commentators proposed the following language: *§ 129.111(a) ... that were in existence on or before August 3, 2018 (The term “in existence” for the purposes of applicability under § 129.111 is defined as when an emissions unit has completed construction/installation and commenced operation as a source of air emissions).*

Response: The Department appreciates the commentators’ concern and has amended this final-form rulemaking to provide clarity. Please find the amended language in the response to Comment #24. Please also see the response to Comment #45 for additional discussion of the applicability section.

61. Comment: A commentator is concerned about RACT III applicability which does not exclude sources subject to § 129.74 (relating to control of VOC emissions from fiberglass boat manufacturing materials), while RACT II did. Is it the Department’s intention through this exclusion that fiberglass boat manufacturing operations (for example, gel coat and resin material application operations) must be evaluated under RACT III, potentially on a case-by-case basis? What is the reason for removing this exemption from the RACT III rulemaking?

Response: The Department appreciates the comment. Subsections 129.111(a) and (b) have been revised from proposed to this final-form rulemaking to include § 129.74 in the list of excepted sections. Section 129.74 implements RACT requirements and RACT emission limitations consistent with the EPA’s applicable Control Techniques Guidelines (CTG) (EPA 453/R-08-004, 2008/09 Control Techniques Guidelines for Fiberglass Boat Manufacturing Materials) and

sources subject to § 129.74 are exempted from the major source RACT requirements in §§ 129.96—129.100 and §§ 129.111—129.115.

Please see the response to Comment #60 for detail of the final-form regulatory language.

62. Comment: A commentator states that in § 129.111, the implication is that major NO_x sources follow NO_x requirements, and major VOC sources follow VOC requirements. However, in some sections the language may contradict this, such as in § 129.112(a) (page 4344 of the [proposed rulemaking] notice) and subpart (k) (page 4347 of the [proposed rulemaking] notice).

Thus, it could be inferred that if § 129.111 applies to an entity, they may have to meet this presumptive NO_x RACT limit even if they were a minor source of NO_x (assuming major for VOC). Or any other RACT limit, i.e., if you are in as a major source for NO_x or VOC then presumptive RACT requirements for both NO_x and VOC could apply.

The commentator requests that the Department provide additional clarification to ensure that the apparent overall intent of the regulations is clear, that major NO_x sources follow NO_x requirements, and major VOC sources follow VOC requirements.

Response: The Department appreciates the commentator's concern. The owner and operator of a source that is a major NO_x emitting facility but not a major VOC emitting facility shall comply with the applicable NO_x RACT requirements and NO_x RACT emission limitations but is not subject to the VOC RACT requirements and VOC RACT emission limitations. The owner and operator of a source that is a major VOC emitting facility but not a major NO_x emitting facility shall comply with the applicable VOC RACT requirements and VOC RACT emission limitations but is not subject to the NO_x RACT requirements and NO_x RACT emission limitations. The owner and operator of a source that is major for both NO_x and VOC shall comply with both the applicable NO_x and the applicable VOC RACT requirements and RACT emission limitations. The owner and operator of a source that commenced operation on or before August 3, 2018, and is not major for either NO_x or VOC emissions on or before December 31, 2022, is not subject to §§ 129.111—129.115, except as specified in final-form § 129.111(d) and (e).

Please see the response to Comment #60 for the language of final-form § 129.111(d) and (e) and the response to Comment #5 for additional discussion of the applicability section.

63. Comment: A commentator states that § 129.111(c) includes a de minimis exemption for air contamination sources that have the potential to emit less than 1 TPY of NO_x or VOCs. An owner or operator may initially determine that a source is exempt per the de minimis threshold based on the best available data or information at that time but may later determine based on newer or better data or information that the source is no longer exempt. In such a circumstance, the rulemaking should provide a specific compliance date by which the source is required to comply with presumptive RACT or submit an alternative RACT proposal.

Response: Please see the response to Comment #25. Please also see the responses to Comments #45 and #60 for additional discussion of the applicability section.

Section 129.112 – Presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule

64. Comment: Some commentators request that the Department extend the compliance dates for facilities to comply with RACT III requirements to allow the appropriate time for facilities to evaluate the emissions from sources, to consider options for compliance, and if needed allow time for a facility to petition the agency for an alternative RACT proposal or petition for an alternative compliance schedule or both. While the proposed rulemaking does provide a mechanism for sources to apply for alternative RACT limits and alternative schedules, the commentator believes the “presumptive” schedule afforded to sources to otherwise comply with the RACT requirements, i.e., those sources required to comply by January 1, 2023, is unreasonable and many sources will be compelled to seek an alternative schedule. These requests will place an unreasonable burden on sources and regulatory agency resources. If the schedule is revised so that sources are afforded a more reasonable schedule to evaluate and comply (for example, 2 years instead of ~ 1 year), many sources would not be forced into seeking an alternate compliance schedule.

Response: The Department appreciates the commentators’ concerns and is committed to conducting outreach to affected owners and operators to assist in compliance. The implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. See 83 FR 62998 (December 6, 2018); see also 40 CFR 51.1316(b)(3).

Please also see the response to Comment #43.

65. Comment: A commentator recommends that the Department consider a compliance schedule that considers the routine major maintenance schedule of affected units or extends the currently proposed compliance schedule from 1 year to 2 years. The schedule for compliance is too aggressive. The proposed rulemaking’s compliance schedule does not provide sufficient time to comply with the presumptive RACT requirements.

The commentator requests a compliance schedule tied to the timing of the next major overhaul of affected combustion turbines. Typical major overhaul cycles run every 3.5 to 4.5 years depending on the operating hours of the turbine. To accommodate the emissions standards proposed in this rulemaking, it is anticipated that in addition to a dry low NO_x combustion (DLNC) retrofit at time of overhaul, upgrades to the package, control system, fuel system, and other ancillary systems will be necessary. At a minimum the commentator recommends the compliance date be set for 2 years after the effective date of the final rulemaking.

Response: The Department appreciates the commentators’ concerns and is committed to conducting outreach to affected owners and operators to assist in compliance. The implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS.

Please also see the Department response to Comment #43.

66. Comment: A commentator states that the new definition “combustion source” was not used in § 129.112(k), and asks, if it was intentional, why.

Response: Please see the response to Comment #40.

67. Comment: A commentator indicates that process heaters between 20-50 MMBtu/hr do not appear to be addressed by presumptive requirements and asks if it is the Department’s intention that these units be subject to case-by-case RACT under RACT III, similar to RACT II.

Response: The Department appreciates the comment. The Department has added “or process heater” to final-form § 129.112(b)(1)(i) and § 129.112(b)(1)(ii) as follows (*italics emphasize certain changes from proposed to final-form language*):

(b) The owner and operator of a source listed in this subsection that is located at a major NO_x emitting facility or major VOC emitting facility subject to § 129.111 shall comply with the applicable presumptive RACT requirements in paragraph (1) and recordkeeping and reporting requirements in paragraph (2).

(1) The owner or operator of a:

(i) Combustion unit *or process heater* with a rated heat input equal to or greater than 20 million Btu/hour and less than 50 million Btu/hour shall conduct a biennial tune-up in accordance with the procedures in 40 CFR 63.11223 (relating to how do I demonstrate continuous compliance with the work practice and management practice standards?).

(ii) Combustion unit *or process heater* with an oxygen trim system that maintains an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up shall conduct a tune-up of the boiler one time in each 5-year calendar period in accordance with the following:

68. Comment: A commentator notes that § 129.112(c)(8) includes presumptive RACT for “an incinerator, thermal oxidizer or catalytic oxidizer used primarily for air pollution control” that requires that the source must “install, maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices.” The list of sources in that section should include a “flare,” since a flare operates in a manner consistent with and for a similar purpose as an incinerator, thermal oxidizer or catalytic oxidizer. The Department has previously agreed that a flare is subject to that presumptive RACT requirement as stated in its RACT II Responses to Frequently Asked Questions, October 20, 2016, Question 10, therefore this requested edit would merely memorialize that clarification. The commentator requests that the Board add the word “flare” to § 129.112(c)(8).

Response: Please see the response to Comment #26 for changes to the final form language.

69. Comment: A commentator notes that the Board has only adopted “good operating practices” for electric arc furnaces like the facility operated by ATI Flat Rolled Products Holdings, LLC in Breckenridge, Allegheny County. The Department and the Board should revise the TSD to include an analysis of RACT requirements for electric arc furnaces.

Response: The Department evaluated several electric arc furnaces (EAF) as part of case-by-case determinations for RACT II. The Department determined that no NO_x or VOC emission control for EAF is technically feasible. This is because EAF do not use combustion and are batch processes. Since there is no combustion, methods used to alter NO_x and VOC emissions cannot be employed as they would for a combustion source. Therefore, a numerical RACT emission limitation for either NO_x or VOC emissions from an EAF is not appropriate.

The Department believes that the applicable presumptive RACT requirement of “good operating practices” is consistent with previous RACT determinations and is appropriate for EAF in this Commonwealth. Additional information can be found in Section IV(L) of the TSD for this final-form rulemaking.

70. Comment: A commentator states that the proposed rulemaking does not include RACT III requirements for the three U.S. Steel facilities in the Mon Valley in Allegheny County. The commentator notes that the Board has not provided a reasonable explanation for its failure to address RACT requirements for facilities in Allegheny County. The commentator requests that the Department pay special attention to sources within Allegheny County whose air emissions performance might improve through more stringent RACT standards -- including the Clairton Coke Works, the Edgar Thomson Plant, and the Irvin Works.

The commentator suggests with respect to the Clairton Coke Works, the Department should consider a meaningful work practices plan for the control of coke oven emissions from leaking doors, lids, and offtake piping, and charging of coke oven batteries. As the product of combustion, NO_x would be one of a number of harmful air pollutants emitted from this source. Additionally, the Department should consider a leak detection and repair program for VOCs.

Response: Please see the response to Comment #20.

Municipal Solid Waste Landfill

71. Comment: A commentator recommends that § 129.112(e) be amended to reflect recent changes in applicable Federal regulations published in the *Federal Register* on May 21, 2021, effective June 21, 2021. Specifically, those changes stem from the adoption of the Federal Plan for municipal solid waste (MSW) landfills that commenced construction on or before July 17, 2014, and landfills that are constructed, reconstructed or modified on or after July 18, 2014. The commentator suggested regulatory language in the comments letter.

Response: Please see the response to Comment #38.

Municipal Waste Combustor

72. Comment: Some commentators suggest that the Department should set a lower presumptive RACT limit for MWCs. These commentators also suggest that the Department evaluate the OTC SAS recommendations while establishing presumptive NO_x limits. RACT is supposed to be technology forcing and such sources are already equipped with both low NO_x burners and selective non-catalytic reduction controls. The Department should also consider at least this level of NO_x control to be presumptive RACT for incinerators.

Response: Proposed § 129.112(f) has been amended in this final-form rulemaking from 150 ppmvd NO_x @ 7% oxygen to 110 ppmvd NO_x @ 7% oxygen. The supporting analysis for establishing this presumptive NO_x RACT limitation can be found in Section IV(E) of the TSD for this final-form rulemaking.

73. Comment: A commentator requests that a limit be set for the Delaware Valley Resource Recovery Facility that requires the installation and effective operation of NO_x controls at that facility, which currently has no pollution control technology for NO_x. The limit should be based on the most effective control technology possible and, at minimum, Covanta should be required to conduct a study assessing the most effective NO_x controls that can be installed on the plant.

Response: Please see the responses to Comments #23 and #72.

74. Comment: A commentator notes that facility owners or operators of MWCs who claim that they are unable to meet the presumptive NO_x RACT limit may submit facility-specific analyses requesting a weaker limit, but the proposed rulemaking establishes no process for considering whether an individual source can achieve a stronger and more protective limit. The proposed rulemaking also weakens the standard by allowing a source owner or operator to elect to meet the presumptive limit through facility or system-wide emissions averaging. This poses a problem especially in environmental justice areas. The Board should revise the proposed rulemaking to correct these flaws for MWCs.

Response: A presumptive limit is set at a level that, when met, assures that the Commonwealth's RACT obligation under the CAA has been met. The Department determined that it is appropriate to set presumptive RACT requirements and RACT emission limitations for certain source categories, including MWCs.

NO_x emissions averaging plans or alternative RACT proposals are submitted to the Department for review and approval, denial or modification in accordance with § 129.113(g) and (i). The approval or modification of a NO_x emissions averaging plan or alternative RACT proposal and the Department's proposed actions are subject to public review and comment at the State level before being finalized by the Department. If approved and issued by the Department as an operating permit modification, the NO_x emissions averaging plan or alternative RACT proposal will be submitted by the Department to the EPA as a revision to the Commonwealth's SIP. The local county agencies in Allegheny County and Philadelphia County follow a similar process.

75. Comment: The commentator suggested that alternatively, the Department may propose case-by-case RACT determinations for MWC units and use the OTC SAS RACT tool and associated cost-effectiveness thresholds in place of presumptive requirements.

Response: The Department determined that it is appropriate to establish presumptive NO_x RACT emission limitations for MWCs.

Please also see the Department response to Comment #73.

76. Comment: A commentator states that proposed § 129.112 contains a presumptive RACT limit of 150 ppmvd @ 7% oxygen for MWCs. This revised limit was based, in part, on emissions data summarized in the TSD presented during the May 19, 2021, meeting of the Environmental Quality Board. That document contains NO_x emissions data (Appendix 6) for the commentator's MWC facilities in York County, Montgomery County, Delaware County (3 of 6 units), Lancaster County and Dauphin County for the years 2018 and 2019. Referencing this data set, the Department concluded that achieving a proposed NO_x emissions limit of 150 ppmvd @ 7% oxygen was readily achievable for each of these facilities. With the exception of the facilities in Delaware and York Counties, the remaining MWCs employ SNCR technology for the control of NO_x emissions, which is considered Best Available Control Technology (BACT) for the combustion technologies in use by these facilities. When optimized, SNCR is capable of achieving the proposed RACT NO_x limit at these facilities. However, SNCR has not been demonstrated as being technically feasible for the mass burn rotary combustor technology employed at the Delaware and York County MWCs. In addition, for RACT purposes, the Department has concluded that a SNCR retrofit for certain existing MWCs is economically infeasible. Despite these limitations, the commentator has proposed to voluntarily field test SNCR technology on one unit at the Delaware County MWC through a Request for Determination submitted to the Department (which has been approved). The results of that field test are not expected to be available prior to the anticipated publication of the RACT III rulemaking as final. Therefore, SNCR technology cannot be relied on for NO_x control at this time at these two facilities.

Response: Section 129.112(f) has been amended from the proposed 150 ppmvd NO_x @ 7% oxygen to 110 ppmvd NO_x @ 7% oxygen in this final-form rulemaking. The NO_x emission rate of 110 ppmvd @ 7% oxygen on a 24-hour averaging period for large MWCs was recommended by the OTC SAS MWC workgroup in its June 2021 "Municipal Waste Combustor Workgroup Report," and the Department's analysis shows that this limit is feasible for RACT. If an owner or operator cannot meet the presumptive emission limit, the owner or operator has the option to submit a case-by-case proposal for an alternative RACT emission limitation.

Please also see the Department response to Comment #73.

77. Comment: The same commentator states that the TSD also evaluates Selective Catalytic Reduction (SCR) as a potential control technology for MWCs. The TSD concludes that SCR is technically infeasible for MWCs. The commentator concurs with the conclusion as no existing MWC has been retrofitted with SCR technology due to technical, logistical and economic limitations. The conclusion that SCR is not RACT for NO_x control at existing MWCs is

supported by NO_x RACT determinations for the 2015 Ozone NAAQS in both Virginia and Maryland.

Response: The Department acknowledges the comment and agrees with the commentator.

Combustion Unit or Process Heater

78. Comment: The commentator believes that implementing a presumptive RACT limit as lbs. NO_x/hr. assures acceptable performance by limiting the lbs. NO_x/hr. during all conditions, including during those special conditions which include start-up or shutdown periods.

Response: Standards or emission limitations based on heat input, expressed as lb/million Btu, as opposed to mass emission rate, expressed as lb NO_x/hr, are appropriate. A standard based on heat input allows for consistent emission levels across varying sizes of combustion units. Additionally, emission limitations based on heat input encourage combustion unit operation at greater thermal efficiency and discourage extended periods of start-up and shut down operation.

79. Comment: The commentator believes that start-up and periods of low load operations should be exempted from the presumptive NO_x RACT requirement for circulating fluidized bed (CFB) boilers firing primarily coal refuse.

Response: Presumptive RACT requirements apply at all times, including start-up, shutdown, and low load operation. Based on continuous emissions monitoring data for the years 2018—2020, CFBs can meet the presumptive NO_x RACT emission limitation on a daily basis including periods of start-up, shutdown, and low load operation. The owner or operator has the option to submit a case-by-case proposal for an alternative RACT emission limitation if they believe that the presumptive RACT limitation cannot be met at all times.

Please also see the Department responses to Comments #91—93.

80. Comment: The commentators believe that the presumptive NO_x RACT emissions limit for CFB boilers primarily firing anthracite waste such as culm should be the same rate as those primarily firing bituminous waste such as gob.

Response: The Department acknowledges the comment and agrees with the commentators. The RACT emission limitation for a CFB combustion unit with a rated heat input equal to or greater than 250 million Btu/hour firing waste products of coal mining, physical coal cleaning and coal preparation operations that contain coal, matrix material, clay and other organic and inorganic material is 0.16 lb NO_x/million Btu heat input when firing primarily bituminous waste such as gob and 0.16 lb NO_x/million Btu heat input when firing primarily anthracite waste such as culm.

81. Comment: The commentator stated that the proposed rulemaking should be amended to include a lowered presumptive NO_x emissions limit for coal-fired EGUs without the problematic inlet-temperature loophole from RACT II. The commentator stated that Pennsylvania's "case-by-case approach" for coal plant NO_x RACT determinations, involving a "top-down analysis," is inappropriate for several reasons.

The commentator stated that no evidence or material exists in the record to support a determination that not only are Pennsylvania's coal-fired power plants somehow different from the coal-fired power plants in other states (such as Delaware, Maryland, and New Jersey) that have developed presumptive NO_x RACT emission limits, but that Pennsylvania's coal-fired power plants are likewise different from other source categories in Pennsylvania for which the proposed rulemaking does include presumptive RACT. Therefore, the Department's election to exclude coal-fired power plants from the RACT III proposed rulemaking is arbitrary and capricious.

The commentator recommends that Pennsylvania set a new NO_x RACT standard for its coal-fired power plants that incorporates a 0.07 lbs/MMBtu emission limit, eschews control inlet temperature-based exemptions, and includes a short term, 24-hour emission limit at least as low as 0.125 lbs/MMBtu. This presumptive RACT regime would be consistent with NO_x control levels achievable by Pennsylvania's coal-fired power plant fleet based on its operational history and would likewise be consistent with emission limits set in other OTC states.

In the RACT III rulemaking, the Department should incorporate emission limits that are required at all times coal-fired EGUs are operating. These limits would be in keeping with not only current understandings of available technology, but with the RACT determinations made in other OTR states. Multiple other states in the OTC impose short-term NO_x emission limits on their coal-fired power plants; Pennsylvania should do the same as part of the RACT III proposed rulemaking. Accordingly, any RACT III rulemaking or determination concerning Pennsylvania's coal-fired power plants should incorporate a short-term emission NO_x limit at least as protective as 0.125 lbs/MMBtu on a 24-hour average.

Response: The source category presumptive RACT limitation recommended by the commentator is outside the scope of this rulemaking. Nothing in the CAA or regulations thereunder mandates that the Commonwealth establish a presumptive RACT limit for coal-fired power plants as suggested by the commentator. The CAA provides States with "broad authority to determine the methods and particular control strategies they will use to achieve the [CAA] statutory requirements." See *BCCA Appeal Group v. EPA*, 355 F.3d 817, 822 (5th Cir. 2003). The determination of RACT and the corresponding emission rate ensuring the proper application and operation of RACT may vary from source to source due to source configuration, retrofit feasibility, operating procedures, raw materials, and other technical or economic characteristics of a source or group of sources. See Memorandum from Roger Strelow, Assistant Administrator for Air and Waste, USEPA, to Regional Administrators I-X, "Guidance for determining Acceptability of SIP Regulations in Non-Attainment Areas" (December 9, 1976) at 2, available at: https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/19761209_strelow_ract.pdf; see also *Nat'l Steel Corp., Great Lakes Steel Div. v. Gorsuch*, 700 F.2d 314, 322-323 (6th Cir. 1983).

For some categories of sources, the EPA has promulgated CTGs and alternative control techniques documents (ACTs) to assist States in determining what control techniques meet the RACT requirement; States may opt to require alternative controls rather than following the CTGs. See *NRDC v. EPA*, 571 F.3d 1245, 1253-1254 (D.C. Cir 2009). The ACTs issued under

section 183 of the CAA (42 U.S.C.A. § 7511b), such as the EPA’s 1994 Alternative Control Techniques Document for Utility Boilers, do not establish presumptive levels of control. *Id.* Moreover, simply because other states have chosen to establish presumptive RACT does not mean that Pennsylvania is required to do so. See Memorandum from William T. Harnett, Director, Air Quality Policy Division, USEPA, to Regional Air Division Directors, “RACT Qs & As – Reasonably Available Control Technology (RACT): Questions and Answers” (May 18, 2006), at 1 and 3, available at: https://www.epa.gov/sites/production/files/201608/documents/ract_and_nsps_1dec1988.pdf (A State may elect to select beyond-RACT controls for policy reasons to attain and maintain the NAAQS).

Although the Department is under no obligation to establish presumptive RACT requirements and RACT emission limitations for a specific source category, the Department may do so when the Department determines that a source category contains emission units that are similar enough in nature that the emission units in the source category can be regulated by a consistent emission limitation or requirement. However, based on the varying sizes, various operating scenarios and conditions, and other varying factors for coal-fired EGUs in Pennsylvania, the Department determined that it is appropriate for owners and operators of large coal-fired combustion units to obtain case-specific RACT determinations. Through these case-by-case submittals, the Department will be reviewing advances in technology. See *NRDC v. EPA*, 71 F.3d 1245 (D.C. Cir 2009). This position is supported by the EPA at 44 FR 53761, 53762-53763 (September 17, 1979), regarding State Implementation Plans, General Preamble for Proposed Rulemaking on Approval of Plan Revisions for Nonattainment Areas-Supplement (on Control Techniques Guidelines) and at 57 FR 18070, 18073-18074 (April 28, 1992), regarding State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990; Supplemental. See also 57 FR 55620 (Nov. 25, 1992) at page 55624, paragraph 3.4, “VOC and NO_x Emissions.”

The Department previously submitted case-by-case submittals under §§ 129.91—129.95 (RACT I) to the EPA to meet the Commonwealth’s RACT obligations under the CAA for the 1979 and 1993 1-hour ozone NAAQS. The Department is currently conducting case-by-case determinations under §§ 129.96—129.100 (RACT II) for existing coal-fired combustion units with SCR systems due to the U.S. Third Circuit Court of Appeals decision in *Sierra Club v. EPA*, 972 F.3d 290 (3d Cir 2020). (“Sierra Club”). In *Sierra Club*, the Third Circuit noted that older coal plants may submit source-specific RACT limits under § 129.99. *Id.* at 296.

The Department determined that the best method to comply with the Court’s decision is through requiring the owner or operator of each coal-fired combustion unit affected by the Court’s decision to submit case-by-case RACT determinations in accordance with the procedures in § 129.92(a)(1)—(5) and (b), which includes a top-down analysis due to variability in operation and control device configuration. A top-down RACT analysis ranks the technically feasible air pollution control technologies from most effective control to least effective control. Each technically feasible air pollution control technology is then analyzed for economic feasibility (cost analysis). The highest ranking technically feasible air pollution control technology that is economically feasible is the air pollution control technology that is selected for installation and operation on the source.

Because of operating parameter variability and other plant-specific characteristics of large coal-fired combustion units, the Department concludes that a case-by-case approach for NO_x RACT is more appropriate than setting a presumptive NO_x RACT emission limitation for all large coal-fired combustion units. Case-by-case RACT determinations include a top-down analysis. The Department will review the proposed case-by-case determinations and incorporate the final determinations and associated conditions into the facility's Title V operating permit upon consideration of public comments. The RACT determinations incorporated into the Title V operating permit will then be submitted to the EPA as part of the SIP revision. A coal-fired combustion unit with a rated heat input equal to or greater than 250 million Btu/hour that is not a circulating fluidized bed coal-fired combustion unit is currently required to submit an alternative RACT proposal under § 129.99.

Combustion Turbine

82. Comment: A commentator suggests modifying the NO_x emissions level for simple cycle or regenerative cycle combustion turbines in proposed § 129.112(g)(2)(iii) from 85 ppmvd to 150 ppmvd NO_x.

The Department states, “most natural gas or noncommercial gaseous fuel-fired simple cycle or regenerative cycle combustion turbines with rated output equal to or greater than 1000 bhp and less than 3000 bhp are installed with DLNC [Dry Low NO_x Combustion].” The commentator claims not to have a DLNC option for turbines in the 1000-4100 bhp range.

The Department also states that “...an analysis of test results of actual NO_x emissions show as high as 84 ppmvd @ 15% oxygen.” And goes on to conclude, “Therefore, the Department is proposing that the owner and operator of a natural gas or a noncommercial gaseous fuel-fired simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 1,000 bhp and less than 3,000 bhp, shall comply with the presumptive RACT emission limitation of 85 ppmvd NO_x corrected at 15% oxygen. [§ 129.112(g)(2)(iii)(A)]”

While the Department dataset for the 1000-3000 bhp size range may show a high of 84 ppm, setting a presumptive RACT at 85 ppm is not recommended. The value is significantly lower than manufacturer warranty levels for the affected equipment and does not allow for any margin to account for the effect of fuel variation, seasonal variation, engine to engine variation, etc.

The typical emissions warranty of the commentator’s turbines in this size range is either 100 or 150 ppm NO_x depending on the model, rating, and date of manufacture. Warranty levels account for engine-to-engine variability, site conditions, fuel variability, operating margin, etc. The commentator’s test cell data for turbines in this size range show a high value of 123 ppm NO_x. Over 1100 units in this size range have been factory tested over the last ~20 years – 85 ppm NO_x is not an appropriate level.

Setting a RACT at the level of 85 ppm NO_x will result in numerous alternative RACT submittals since manufacturers will not warranty this emissions level. To avoid this lengthy administrative process, the commentator recommends the smallest RACT III category remain at 150 ppm NO_x.

Response: Proposed § 129.112(g)(2)(iii)(A) is amended in this final-form rulemaking to revise the applicable presumptive RACT emission limitation for simple cycle or regenerative cycle combustion turbines when firing natural gas or a noncommercial gaseous fuel. Based on the Department's review of the information provided by the commentator as well as the Department's review of available stack test emissions data, the proposed presumptive NO_x RACT emission limitation of 85 ppmvd @ 15% oxygen has been revised to 120 ppmvd @ 15% oxygen in this final-form rulemaking. Please also see Section IV(G) of the TSD for this final-form rulemaking.

Further, the Department notes that proposed § 129.112(g)(2)(iii)(A) is renumbered in this final-form rulemaking as § 129.112(g)(2)(iv)(A).

Please also see the Department response to Comment #27.

83. Comment: The commentator requests modifying the bhp size range for simple cycle or regenerative cycle combustion turbines in § 129.112(g)(2)(iii) and (iv) from 3,000 to 4,100 bhp. Incorporating this change will alleviate alternative RACT submittals for the Centaur® 40 4000 rating which does not have a DLNC technology option and therefore is unable to meet the 42 ppm NO_x level. The other two ratings of the Centaur 40, the 4500 and 4700, have a DLNC option and can meet the proposed 42 ppm NO_x level.

The commentator recently went through a similar rulemaking process/negotiation with New Mexico on their Ozone Rule for the Oil and Gas Sector, 20.2.50 NMAC, where the smallest category was set to ≥ 1000 to ≤ 4100 bhp at 150 ppm NO_x. The commentator attached Table 3 of the New Mexico rule in the comment letter for reference (20.2.50.113).

While there may not be many Centaur 40 4000 combustion turbines left in Pennsylvania, changing the category size is important as the Department regulations are looked at as a model by other state agencies. Making the change will have minimal impact, if any, in Pennsylvania but will ensure the RACT conclusions match RACT technologies when other states follow the Department's lead.

Response: The Department reviewed the information provided by the commentator regarding the available turbines located in this Commonwealth. The information demonstrated that turbines with a rating less than 4,100 bhp cannot consistently meet the proposed 42 ppm NO_x standard. Section 129.112(g)(2)(iii) is amended from proposed to this final-form rulemaking to revise the size ranges for simple cycle or regenerative cycle combustion turbines in response to the commentator's request. The size threshold of 3,000 bhp in proposed § 129.112(g)(2)(iii) for simple cycle or regenerative cycle combustion turbines has been amended in this final-form rulemaking to 4,100 bhp.

Further, the Department notes that proposed § 129.112(g)(2)(iii) is renumbered as final-form § 129.112(g)(2)(iv). As discussed in the response to Comment #82, the proposed presumptive NO_x RACT emission limitation of 85 ppmvd @ 15% oxygen when firing natural gas or a

noncommercial gaseous fuel has been revised to 120 ppmvd @ 15% oxygen in final-form § 129.112(g)(2)(iv)(A).

The Department notes that proposed § 129.112(g)(2)(iv) is renumbered in this final-form rulemaking to § 129.112(g)(2)(v). Renumbered § 129.112(g)(2)(v) is further amended in this final-form rulemaking to establish the applicable presumptive RACT emission limitations for the owner or operator of a simple cycle or regenerative cycle combustion turbine with a rated output equal to or greater than 4,100 bhp (rather than the proposed rated output of 3,000 bhp) and less than 60,000 bhp. No changes are made to the applicable presumptive RACT emission limitations from proposed § 129.112(g)(2)(iv)(A)—(D) to final-form § 129.112(g)(2)(v)(A)—(D).

84. Comment: The commentator suggests splitting the source category for § 129.112(g)(2)(i). The commentator asks that the Department add a source category for combined cycle and CHP for ≥ 1000 to ≤ 4100 bhp and modify the current source category to range from >4100 bhp to ≤ 180 MW. The commentator requests the NO_x emissions level for the newly created category match those requested for simple cycle in § 129.112(g)(2)(iii) at 150 ppm NO_x.

Response: Proposed § 129.112(g)(2)(i) established the applicable presumptive RACT emission limitations for the owner or operator of 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. Section 129.112(g)(2)(i) is amended from proposed to this final-form rulemaking to establish the applicable presumptive RACT emission limitations for the owner or operator of 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 4,100 bhp (rather than less than 180 MW). Section 129.112(g)(2)(i)(A) is amended from proposed to this final-form rulemaking to delete the proposed limitation of 42 ppmvd NO_x @ 15% oxygen and add the limitation of 120 ppmvd NO_x @ 15% oxygen. Section 129.112(g)(2)(i)(C) is amended from proposed to this final-form rulemaking to delete the limitation of 96 ppmvd NO_x @ 15% oxygen and add the limitation of 150 ppmvd NO_x @ 15% oxygen. These limits are consistent with the presumptive NO_x RACT emission limitations for the simple cycle or regenerative cycle combustion turbines in final-form § 129.112(g)(2)(iv).

Proposed § 129.112(g)(2)(ii) is amended in this final-form rulemaking to establish the applicable presumptive RACT emission limitations for the owner or operator of a combined cycle or combined heat and power combustion turbine with a rated output equal to or greater than 4,100 bhp and less than 180 MW. The applicable presumptive RACT emission limitations are established in final-form § 129.112(g)(2)(ii)(A)—(D). These limits are the same as the presumptive RACT emission limitations for the combined cycle or combined heat and power combustion turbines with a rated output equal to or greater than 1,000 bhp and less than 180 MW that were established in proposed § 129.112(g)(2)(i).

Please see the responses to Comments #82 and #83 for additional discussion of the changes to § 129.112(g)(2) from proposed to this final-form rulemaking.

85. Comment: Some commentators remarked upon various technical issues or errors, or both, with the assumptions contained in the TSD analysis related to the cost of SCR control on turbines.

Response: The Department evaluated the cost information provided by the commentator and reviewed the analysis provided in the TSD and appendices. The Department determined that the control devices included in the analysis are cost-effective for the control of NO_x emissions for RACT. If an owner or operator cannot meet a presumptive RACT emission limitation, the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation.

Stationary Internal Combustion Engine

86. Comment: The commentator asked if under the proposed RACT III rulemaking presumptive requirements, do “lean burn” engines firing liquid fuel include diesel-fired engines? Typically, the terms “lean burn” and “rich burn” are reserved for spark ignition (e.g., natural gas-fired) engines, but are not typically used to describe compression ignition (e.g., diesel-fired) engines.

Response: Yes, the category lean burn engines firing liquid fuel does include diesel-fired compression ignition engines for the purposes of the presumptive RACT VOC emission limitations in § 129.112(g)(3)(i)(B) and § 129.112(g)(3)(ii)(B).

87. Comment: Some commentators note that the proposed rulemaking includes a typographical error where it states a lower NO_x limit for rich burn engines of 0.6 g/bhp-hr (for all engine sizes); the TSD indicates 2.0 g/bhp-hr for all units regardless of hp.

Response: The Department appreciates the comment and has corrected this typographical error. The limitation in § 129.112(g)(3)(iv)(A) has been revised from proposed 0.6 gram NO_x/bhp-hr to 2.0 gram NO_x/bhp-hr in this final-form rulemaking.

88. Comment: Some commentators remarked upon various technical issues or errors, or both, with the assumptions contained in the TSD analysis related to the cost of SCR control on engines.

Response: The Department evaluated the cost information provided by the commentators and reviewed the analysis provided in the TSD and appendices. The Department determined that the control devices included in the analysis are cost-effective for the control of NO_x emissions for RACT. If an owner or operator cannot meet a presumptive RACT emission limitation, the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation.

Combustion Unit or Process Heater Firing Multiple Fuels

89. Comment: A commentator states that for sources that are multi-fuel firing units that are not clearly addressed in § 129.112(g)(4) by not having a presumptive emission limit, the calculation in § 129.112(g)(4) should be able to be used. Example fuels are Blast Furnace Gas and Coke Oven Gas which are cleaned process byproduct fuels that are beneficially reused. It is not clear, from the regulation, on how such an evaluation would be completed for multi-fired units burning

these beneficially reused process gases. The commentator certainly agrees that a multi-fired unit should have the ability to demonstrate compliance with RACT III. Section 129.112(g)(4) should be broadened to include such beneficially reused process gases.

Response: Please see the response to Comment #29.

90. Comment: The commentator in Comment #89 suggested that as an alternative to broadening § 129.112(g)(4) to include beneficially reused process gases, § 129.112(k) could be revised to incorporate a multi-fuel fired unit approach.

Response: The owner or operator of a source firing a fuel not covered under the presumptive RACT emission limitations in § 129.112(g)(1)—(3) is required to submit a case-by-case proposal for an alternative RACT emission limitation in accordance with § 129.114(b) or § 129.114(c). The owner or operator may propose a method of compliance similar to the calculation in § 129.112(g)(4)(i) as part of the case-by-case RACT proposal submitted under § 129.114(b) or § 129.114(c).

Glass Melting Furnaces

91. Comment: A commentator states that glass furnaces should not be included in the RACT III rulemaking since NO_x emissions from glass furnaces are already comprehensively regulated under §§ 129.301—129.310 (relating to control of NO_x emissions from glass melting furnaces). The existing glass melting furnace regulations establish a comprehensive scheme of NO_x emissions limits, exemptions and alternative limits, start-up, shutdown and idling requirements, and compliance demonstration and recordkeeping requirements. Glass melting furnaces were not subject to RACT II. The glass industry appears to be the only industry sector that is already subject to industry-specific regulation.

Response: Each time the EPA revises a NAAQS under section 109 of the CAA, the Commonwealth is required to meet the applicable RACT requirements for covered sources under sections 182 and 184 of the CAA. These duties are charged to the Department and Environmental Quality Board, respectively, under the APCA. See for example, 35 P.S. §§ 4004, 4004.2 and 4005.

Although the glass melting furnace industry is regulated under §§ 129.301—129.310, the EPA did not expressly approve the regulations as RACT in its approval of the SIP revision at 76 FR 34021—34023 (August 22, 2011) due to the inclusion of start-up, shutdown and malfunction (SSM) exceptions, which are not allowable exceptions for the purposes of satisfying RACT under section 110(a)(2)(A) of the CAA (42 U.S.C.A. § 7410(a)(2)(A)). Consequently, the Department determined that certain provisions, including § 129.303(a) in the existing glass melting furnace regulations, preclude §§ 129.301—129.310 from meeting the presumptive standards in § 129.112(i) for the 2015 8-hour ozone NAAQS. Under this final-form rulemaking, the owner or operator of a glass melting furnace source that cannot meet the presumptive limit in § 129.112(i) may opt to submit a case-by-case proposal under § 129.114.

The EPA has also expressed concerns regarding the certification of §§ 129.301—129.310 as RACT for the 1997 and 2008 8-hour ozone NAAQS for purposes of the Commonwealth's RACT SIP Certification for the 1997 and 2008 8-hour ozone NAAQS. Final-form § 129.112(m) has been amended to reflect that the requirements and emission limitations for glass melting furnaces in § 129.112(i) would supersede existing requirements under §§ 129.301—129.310 unless the requirements or emission limitations of §§ 129.301—129.310 are more stringent. If an owner or operator cannot meet a presumptive RACT emission limit established under § 129.112(i), the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation. To the extent that there is a conflict between § 129.112(i) and §§ 129.301—129.310, the owner or operator shall comply with the more stringent applicable standard to satisfy RACT for the 2015 8-hour ozone NAAQS.

Certification by the EPA of § 129.112(i) as RACT for glass melting furnaces for the 2015 8-hour ozone NAAQS will be presumed to certify RACT for glass melting furnaces for the 1997 and 2008 8-hour ozone NAAQS.

The Department disagrees with the commentator's assertion that glass melting furnaces are the only source category subject to presumptive RACT requirements that are also subject to other source category specific regulations. For example, Portland cement kilns, which are regulated under 25 Pa. Code §§ 145.141—145.146 (relating to emissions of NO_x from cement manufacturing), have presumptive NO_x RACT requirements established in § 129.112(h).

Please also see the responses to Comments #16, #92 and #93.

92. Comment: A commentator states RACT III would indirectly revoke important components of the existing glass melting furnace regulations regarding allowable emissions during start-up, shutdown and idling, and the provisions for alternative limits.

The proposed RACT III rulemaking should not override and essentially rescind other currently applicable regulations without recognition and notice of the effect of the proposed rulemaking, and without any explanation by the Board as to the rationale and basis for doing so. A change to the regulation to impose a RACT program in place of existing specific industry-focused rules is arbitrary and capricious.

Response: Please see the responses to Comments #16, #91 and #93.

93. Comment: A commentator states that RACT III should preserve the start-up, shutdown, and idling provisions of the existing glass melting furnace regulations. The proposed RACT III rulemaking would apply the emission limits without exceptions for these periods in which it is difficult or impossible to meet the proposed limits. The control equipment cannot be operated during start-up, shutdown, and idling without damaging the equipment and it will be very difficult or impossible meet the RACT III NO_x limits during these times.

Additionally, the RACT III NO_x limits for glass melting furnaces do not make sense for flat glass furnaces during start-up, shutdown and idling since no glass is produced when a flat glass furnace is starting up, shutting down, or idling. During these times, the concept of measuring NO_x emissions in terms of glass produced is unworkable and effectively imposes a zero

emissions limit for NO_x during start-up, shutdown and idling. For these reasons, glass melting furnaces are different than essentially every other industry.

Further, there is no analysis provided to evaluate what additional controls might be required to allow the achievement of the glass melting furnace emission limits without the ability to use the exemptions applicable to start-up, shutdown and idling provided in §§ 129.301—129.310. The failure to explain the reasoning of the proposal, and the lack of any consideration of technical and cost issues associated with this aspect of the RACT III rulemaking, is arbitrary and capricious.

Response: RACT requirements and RACT emission limitations are applicable at all times, including start-up, shutdown and idling. The presumptive NO_x RACT limits for glass melting furnaces are in units of pounds of NO_x per ton of glass pulled. The Department disagrees with the commentator that the presumptive NO_x RACT emission limitation “effectively imposes a zero emissions limit for NO_x during start-up, shutdown and idling.” During times when glass is not being pulled, the emissions in terms of pounds of NO_x per ton of glass pulled is not zero. The applicable emission rate when compared to the NO_x RACT emission limitation is undefined because the denominator is zero. An undefined emission rate is not above an emission standard and cannot be in violation of it. The RACT limit is therefore only practically applicable at times when glass is being pulled. This is similar to the approach taken for presumptive NO_x RACT emission limitations for cement kilns, which are expressed in terms of pounds of NO_x per ton of clinker produced. If an owner or operator cannot meet a presumptive RACT emission limit, the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation.

The Department further notes that exemptions from emission limitations during periods of start-up, shutdown and malfunction (SSM) existed in a number of other States’ regulations, some of which exemptions were adopted and approved into those States’ SIPs by the EPA many years ago. Court decisions have previously held that under the CAA, such exemptions are not allowed in SIPs. Moreover, on May 22, 2015, the EPA Administrator Gina McCarthy signed a final action to ensure states have plans in place that are fully consistent with the Clean Air Act (CAA) and recent court decisions concerning SSM operations. See, for example, *Sierra Club et al. v. Jackson*, No. 3:10-cv-04060–CRB (N.D. Cal.) and *Sierra Club v. EPA*, 551 F.3d 1019 (D.C. Cir. 2008). In response to these court decisions, on June 12, 2015, the EPA published a final rule to restate and update the EPA’s SSM Policy applicable to SIPs and to ensure States have plans in place that are fully consistent with the CAA and court decisions concerning emissions during periods of SSM operations. See 80 FR 33840 (June 12, 2015) (2015 SSM final action). The 2015 SSM final action embodies the EPA’s updated SSM Policy as it applies to SIP provisions. The SSM Policy provides guidance to states for compliance with CAA requirements for SIP provisions applicable to excess emissions during SSM events. See “Emissions During Periods of Startup, Shutdown, & Malfunction (SSM)” at <https://www.epa.gov/air-quality-implementation-plans/emissions-during-periods-startup-shutdown-malfunction-ssm>.

On October 9, 2020, the EPA issued a memorandum of guidance providing that exemption provisions for SSM may be permissible in SIPs under certain circumstances. On September 30, 2021, the EPA issued a memorandum withdrawing the previous October 9, 2020, guidance and

reinstated the agency's prior policy in the 2015 SSM final action that SSM exemptions in SIPs are inconsistent with the CAA.

With regard to the commentator's contention that the final rulemaking is arbitrary and capricious, the Department performed a cost analysis for the installation and operation of SCR control technology on flat glass furnaces with an uncontrolled NO_x emissions rate of 26.75 pounds of NO_x per ton of glass pulled. The Department determined the cost-effectiveness to be less than \$500 per ton of NO_x emissions reduced, which is well below the cost-effectiveness benchmark of \$3750 for RACT III. See Technical Support Document at 40-41. The installation of SCR controls is technically feasible as most of these sources are equipped with Oxy-firing and LNB or SCR control technology; the emissions limit in final-form § 129.112(i)(4) is identical to the emissions limit 25 Pa. Code § 129.304(a)(4). Id. Moreover, an owner or operator also has the choice to submit a case-by-case RACT proposal to the Department for review under final-form § 129.114(i).

Please also see the responses to Comments #16, #91 and #92.

94. Comment: A commentator states that technical guidance provided by the Department inaccurately estimates the cost of NO_x controls for glass melting furnaces and the RACT III proposal is essentially silent on the rationale behind the imposition of presumptive RACT for glass melting furnaces. The commentator states that the Department relies on the EPA's Control Cost Manual for some of its economic feasibility arguments but fails to recognize the uncertainty is around ±30% and the SCR cost model is based on data from utility boilers, not glass melting furnaces. The commentator contends that Department errs in assuming that SCR, by itself, is the appropriate control technology. For SCR to function reliably on a flat glass furnace, the commentator states that it needs to be combined with a particulate control technology. The commentator provided a cost analysis in their comment letter.

Response: Please see the response to Comment #18. Please also see Section IV(J) and Appendices 32 and 33 of the TSD for this final-form rulemaking.

95. Comment: A commentator requests that the Department provide more appropriate time frames for installation of controls if glass melting furnaces are included in RACT III. Flat glass furnaces are designed to run continuously. Once the furnace cools, the refractory is damaged and the furnace needs to be rebuilt before it can be placed back in operation. The RACT III rulemaking presents a significant concern because the installation of control technology to reduce NO_x emissions will require any affected furnace to be shut down to install the controls. The proposed rulemaking includes submitting a petition and limit by the 3-year maximum time frame which makes the RACT III proposal unreasonable and unduly burdensome. The commentator requests a longer time frame to install the control.

Response: The Department appreciates the commentators' concerns and is committed to conducting outreach to affected owners and operators to assist in compliance. The implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS.

Please also see the Department responses to Comments #4, #6, #43 and #91.

Lime Kilns

96. Comment: The commentator states that their facility, which consists of three lime kilns, was subject to the RACT II provisions established in §§ 129.96—129.100. The commentator worked through an extensive technical review with the Department as part of the alternative RACT proposal process that ultimately culminated in the establishment of NO_x emissions limits for two kilns.

In the current proposed rulemaking, the Department outlines a presumptive RACT limitation of 4.6 pounds of NO_x per ton of lime produced on a 30-operating day rolling average for any lime kiln operating in the Commonwealth. As noted in the Bulletin, the prior draft version of the proposed rulemaking, which went through advisory committee meetings and Citizens Advisory Council (CAC) meetings, identified the following specific 30-operating day NO_x limits for Graymont Pleasant Gap Plant under proposed § 129.112(j):

- 205 pounds per hour (lb/hr) for Kiln 6;
- 179 lb/hr for Kiln 7; and
- 7.9 lb/hr for Kiln 8.

The commentator confirms the agency assertion that the already-established emissions limitations for Kilns 6, 7 and 8 are effectively more restrictive than the current industry-wide rate in the proposed rulemaking. However, the commentator would have to perform substantial system changes to incorporate live production data into the well-established CEMS data management system. The system's underlying algorithms would need to be revised to account for the new limitation while retaining mechanisms for demonstrating compliance with the existing limits as well. These material modifications to the CEMS and its data management systems would not result in any environmental benefit.

The commentator requests that the Department update the proposed rulemaking to once again include the specific lb/hr 30-operating day rolling average numerical limits associated with Graymont's Kiln 6, Kiln 7 and Kiln 8. By doing so, the Department will 1) help alleviate unnecessary burden on Graymont that results in no environmental benefit, and 2) more directly, and consistently, enforce more stringent NO_x emissions levels than the current proposal and in turn help achieve the goal of the regulation.

Response: The Department disagrees that substantial changes would be needed to demonstrate compliance with the proposed standard. The amount of lime produced is a known quantity and can be added to the CEMS data management system. The calculation of a lb NO_x per ton of lime produced value is not unnecessarily burdensome.

Direct-Fired Heaters, Furnaces and Ovens

97. Comment: A commentator states that in proposed § 129.112(k) for RACT III regulations, the Department proposed to apply the same NO_x limit for a direct-fired heater, furnace, or oven

as the limit for indirect-fired furnaces established in RACT II. The basis of this determination is not clear from the rulemaking record and is inconsistent with prior determinations. There are significant technological differences between direct-fired heaters, furnaces, and ovens and indirect-fired units. During prior RACT rulemakings and evaluations, the technologies employed for indirect-fired units have been shown to not be technologically or economically feasible for direct-fired units. The commentator respectfully requests that the Department provide additional information to support the “presumptive RACT” requirement for direct-fired units. Most indirect-furnace technologies are not transferrable to direct-furnace units without major modifications, effects to product capacity and quality, increased fuel usage, and potential derating of a furnace. When finalizing the rulemaking, the Department should not require sources to redo case-by-case RACT determinations that were just evaluated and approved in RACT II.

Response: Please see the responses to Comments #31 and #41.

98. Comment: The same commentator additionally requests that the Department identify which fuel or fuels were assumed to be combusted in the direct-fired sources from which the presumptive RACT limit of 0.1 lb NO_x/mmbtu was derived.

Response: The presumptive NO_x RACT emission limitation established for this source category was based upon the use of natural gas as the fuel. The use of other fuels does not preclude an owner or operator from complying with the applicable presumptive NO_x RACT emission limitation. If an owner or operator cannot meet the applicable presumptive RACT emission limitation, the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation.

Section 129.113 – Facility-wide or system-wide NO_x emission averaging plan general requirements

99. Comment: A commentator states that the ability for an owner or operator to file for an averaging plan should not be contingent upon one unit not being able to meet the NO_x RACT limit. Facility-wide and system-wide averaging plans should be able to be submitted at the discretion of the owner or operator as part of an overall strategy to achieve and maintain the emissions specified by this RACT rulemaking.

Response: Please see the response to Comment #32.

100. Comment: A commentator believes that system-wide averaging does not need to be limited to units located in the same ozone nonattainment area. Affected units located in different nonattainment areas should be able to average their emissions so long as the unit(s) that is/are over-controlled is/are located in the area with a more stringent ozone nonattainment designation. That is exactly how emission reduction credits (ERCs) are regulated and are able to be used to allow the construction of modified or new emissions sources in actual nonattainment areas and the OTR.

Response: See response to Comment #33.

101. Comment: The commentator states that the proposed regulation appears to only allow averaging of emissions across all sources at a facility when the sources are subject to presumptive limits. Averaging across a facility should be allowed in all cases, including when an alternative RACT proposal is made and adopted for a source. The RACT rulemaking is limiting emissions for the purposes of impacting ozone formation significantly downwind of an area. If emissions are slightly higher from one source on a site, they should be able to be offset by lower emissions from other sources on the site. The net effect downwind from the facility will be the same as if all sources met their respective limits. This is especially important when compliance is measured on a daily basis, as emissions are typically variable over shorter time periods.

Response: The averaging provisions of § 129.113 only apply in the case where all units under the averaging plan are subject to presumptive RACT emission limitations. An owner or operator may propose an averaging plan as part of a case-by-case proposal under § 129.114 for an alternative RACT emission limitation for two or more units. An averaging plan under case-by-case would be evaluated as part of the case-by-case proposal under § 129.114 and may deviate from the averaging plan requirements of § 129.113.

102. Comment: A commentator states that proposed § 129.113(d) specifies that a source or sources may average NO_x emissions by demonstrating that aggregate emissions emitted by the source(s) do not exceed the applicable NO_x limit on a source specific basis. For RACT sources subject to a concentration-based NO_x limit (i.e., parts per million), does the term ‘aggregation’ apply to that standard? For example, if a facility has two sources subject to a RACT NO_x limit of 150 ppmvd as a daily average, would aggregation allow, for example, one unit to operate at 100 ppmvd and the second unit to operate at or below 200 ppmvd for the combined daily average of = 150 ppmvd?

Response: Please see the response to Comment #34.

Section 129.114 – Alternate RACT proposal and petition for alternate compliance schedule

103. Comment: The commentator requests an exemption for sources that have case-by-case RACT conditions and limits approved within 1 year of the effective date of the RACT II regulations, for sources that do not have proposed presumptive RACT III limits. Given the short period of time between approval of case-by-case limits under RACT II, the commentator believes there would be no benefit to make the same demonstration to comply with the RACT III regulations and making that demonstration would be unduly burdensome. The commentator suggests that the Department and the Board include an exemption for sources that have case-by-case RACT conditions and limits approved within 1 year of the effective date of the RACT II regulations. Alternatively, the Department and Board could include a provision that case-by-case RACT conditions and limits approved within 1 year of the effective date of the RACT II regulations are deemed to meet the requirements of the RACT III regulations for alternative RACT limits.

Response: Please see the responses to Comments #1 and #41.

By way of further response, the Commonwealth's RACT II Final Rulemaking (§§ 129.96—129.100) was effective on April 22, 2016; about 6 years have passed since that time. Because changes may have occurred regarding the technical and economic feasibility of RACT II emission limitations, controls or techniques and because RACT III is a separate CAA requirement, the owners and operators of facilities and sources seeking to submit a case-by-case RACT proposal for RACT III shall follow the process as set forth in § 129.114(d) or, if applicable, § 129.114(i).

104. Comment: The commentator pointed out a potential typo at § 129.114(i), which references to § 129.112(h)(4) and (h)(5). However, § 129.112(h)(4) and (h)(5) don't appear to exist. Can you clarify what this is intended to reference?

Response: The Department has amended § 129.114(i) from proposed to this final-form rulemaking to delete the references to § 129.112(b)(11), (h)(4) and (h)(5). The correct reference of § 129.112(c)(11) has been added to § 129.114(i). The reference to [§ 129.112] (i)—(k) remains.

105. Comment: The commentator requests clarification about the § 129.114(i) provision which specifies that a new case-by-case RACT analysis is not required to be submitted so long as nothing has changed. If a facility submitted a case-by-case analysis for RACT II and also is subject to case-by-case RACT III, what is the expectation for the submission? Is it simply an affirmative statement in the RACT III Notification that the company does not believe the conclusions would change and reference that analysis? Or, is it “refreshing” and re-submitting the analysis (with updated cost information, for example)? Another commentator requests that the Department confirm that where the proposed RACT III NO_x or VOC limit is equivalent to the RACT II limit and an alternate RACT II limit was approved by the Department, the approved alternate RACT II limit would satisfy the RACT III limit or requirements, or both, as described in § 129.114(i). Another commentator requests that the Department accept the RACT II analyses for RACT III for sources where the presumptive limit either did not change or is still not presented in the proposed RACT III regulations, and where the control cost exceeds the RACT III levels as presented in the regulatory analysis document.

Response: Please see the responses to Comments #1 and #41 for additional information about the amendments to § 129.114(i).

106. Comment: Some commentators state that the schedule for compliance is too aggressive because the proposed rulemaking does not provide sufficient time to comply with presumptive RACT requirements. The commentator suggests the compliance date be set for 2 years after the effective date of the final rulemaking. The commentator suggests the petition deadline for an alternate compliance schedule with installation of an air cleaning device, and the petition deadline for an alternative compliance schedule when alternative RACT is requested, be set for 1 year after the effective date of the final rulemaking. The commentator requests that the compliance date for an alternate compliance schedule with no installation of an air cleaning device be set for 1 year after Department approval of the plan approval application.

Response: The Department appreciates the commentators' concerns and is committed to conducting outreach to affected owners and operators to assist in compliance. The implementation date of January 1, 2023 is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. See 83 FR 62998.

Please also see the Department responses to Comments #4, #6 and #43.

107. Comment: Some commentators request that the final RACT III rulemaking contain language that affords the Department significant discretion with respect to alternative compliance schedules, in particular to industries whose operations make it difficult to shut down in order to install additional controls.

Response: The Department appreciates the commentators' concerns and is committed to conducting outreach to affected owners and operators to assist in compliance. The implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. See 83 FR 62998.

Please also see the Department responses to Comments #4, #6 and #43.

108. Comment: A commentator states that many sources will require alternative RACT limits. Any technically feasible reductions would be nominal and with high-cost effectiveness values, which would require a significant number of case-by-case alternative RACT limits. This would be subject to the Department's review and approval. As a result, this would create a need to process a significant number of alternative RACT petitions and will require significant resources which the Department may not be contemplating.

Response: The presumptive RACT requirements and emission limitations were determined based on the technical and economic feasibility of emission control measures. The Department has developed an accompanying TSD for the source categories included in this final-form rulemaking. The Department expects that many owners and operators will benefit by complying with the presumptive RACT requirements and emission limitations. If an owner or operator cannot meet a presumptive RACT requirement or emission limitation, the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation.

109. Comment: The commentator believes that cost-effectiveness values (dollar per ton of pollutant removed) arrived at in the TSD's evaluation for presumptive RACT are reasonable and should be used as a standard for case-by-case evaluations of alternative limitations.

Response: The Department appreciates the commentator's support of the cost-effectiveness values provided in the TSD. However, because compliance costs may vary for each source or facility depending on the source size, type, operational limitations and which control option is selected by the owner and operator of the affected source or facility, the cost-effectiveness benchmarks used in the analysis of presumptive RACT requirements and RACT emission limitations are not to be taken as absolute cost-effectiveness threshold limits to be applied to case-by-case analyses. The Department believes that it is not appropriate to apply the same cost-effectiveness benchmarks used to determine the presumptive RACT requirements and RACT

emission limitations across all sources undergoing a case-by-case analysis due to these varying factors.

110. Comment: The commentator notes that the proposed RACT rulemaking limits would be applicable on and after January 1, 2023. The proposal allows 1 additional year; a 1-year grace period. The commentator suggests that this should not be permitted.

Response: The implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. See 83 FR 62998.

Please also see the Department responses to Comments #4, #6 and #43.

Section 129.115 – Written notification, compliance demonstration and recordkeeping and reporting requirements

111. Comment: A commentator states that the purpose of § 129.115(a), which requires facilities to submit a very detailed written notification for sources subject to RACT as well as sources that are exempted, is unclear.

Response: The purpose of § 129.115(a) is to inform the Department about the facilities and sources that are subject to the RACT requirements and those that are exempt from the RACT requirements. This information is necessary to track compliance and provide data for internal and external information requests.

112. Comment: The commentator also states that requiring sources to advise the Department of a compliance methodology within 6 months of the effective date is not reasonable considering some sources will have to generate data, determine compliance, and review technologies.

Response: The Department acknowledges the commentator's concern, however, the implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. See 83 FR 62998.

Please also see the Department responses to Comments #4, #6 and #43 regarding the implementation date of January 1, 2023.

113. Comment: Another commentator requests that the Board change the deadline to 1 year from the effective date of the rulemaking.

Response: The Department acknowledges the commentator's request, however, the implementation date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. See 83 FR 62998.

Please also see the Department responses to Comments #4, #6 and #43 regarding the implementation date of January 1, 2023.

114. Comment: The commentator states that § 129.111(a) notes that the owner or operator shall identify and list the sources in paragraphs (1) and (2) in the written notification required under § 129.115(a), and requests that the Department revise the written notification to only include the facility's sources that are subject to the additional RACT (RACT III) requirements based on the proposed rulemaking, not sources subject to prior RACT limits or exemptions.

Response: The notification requirements are applicable to all major NO_x and VOC emitting facilities. The provisions of §§ 129.115(a)(1) and 129.115(a)(2) apply to sources subject to and exempt from §§ 129.111—129.115. This includes sources subject to and exempt from other requirements, such as §§ 129.96—129.100.

115. Comment: The commentators state that when RACT limits are on a daily average basis, allowances or exemptions should be made for start-up and shutdown conditions, as well as partial day operations. Having only 24 hours of emissions in an average for compliance demonstration provides very little buffer for variable operations (30-day averages, as in the RACT II regulation, should be sufficient). Start-up and shutdown emissions are known to be higher than those during normal, baseline operations. Those emissions will skew the average rate higher, potentially above any limit, even when emissions are controlled during those events in accordance with good engineering practices and manufacturing specifications. It will be worse, if there are not a significant number of normal operating hours included in the daily average, like when operations start late in the day or end early in the day. Another commentator expressed similar concerns regarding a daily average for boilers used in an industrial setting.

Response: Please see the response to Comment #36.

Please also see the response to Comment #93 regarding the EPA's SSM Policy.

116. Comment: Some commentators express concerns about applying the NO_x standard of 0.16 lb/MMBtu on a daily basis rather than on a 30-day rolling average basis for compliance with the presumptive RACT. The coal refuse to energy industry uses culm, gob or coal refuse as its fuel. This fuel source is unpredictable, with widely varying calorific content, ash content, moisture, and nitrogen, which could result in an average NO_x rate over 0.16 lb/MMBtu on any given day. However, as demonstrated over the industry's historic operating averages, these plants continually average less than 0.16 lb/MMBtu over a 30-day rolling average period. As a result, we request that each coal refuse to energy facility continue to be permitted to demonstrate presumptive RACT on a 30-day rolling average basis. Otherwise, provisions need to be considered to eliminate the natural fluctuations of daily and instantaneous NO_x values due to various plant conditions such as start-ups, shutdowns, transient upset conditions, and fuel fluctuations. Without either maintaining the 30-day rolling averaging period, providing exemptions for particular circumstances, or providing daily exceedance allowances, the majority of the waste coal to energy facilities would be forced to conduct resource intensive case-by-case RACT analyses as they would not be able to comply with the new daily average presumptive limit whereas historically they have been able to demonstrate consistently low NO_x rates, below the presumptive limit, on a 30-day rolling average basis. This result would be contrary to the strong commitment from the Commonwealth in supporting the waste coal to energy industry.

Response: Please see the response to Comment #28 regarding when RACT requirements are applicable. Please also see the response to Comment #93 regarding the EPA's SSM Policy.

117. Comment: A commentator stated that the requirement that compliance must be demonstrated on a daily averaging period, as opposed to the current 30-operating day averaging period, is a very significant tightening of those presumptive limits which presents a significant compliance challenge for most of the affected units that supply steam in varying industrial settings.

Response: The Department evaluated available continuous emissions monitoring data and determined that certain source categories using CEMS, including combustion units and process heaters, are capable of meeting the proposed RACT III presumptive NO_x emission limitations on a daily averaging basis. If an owner or operator of a subject source with a CEMS cannot meet the applicable presumptive RACT emission limitation using a daily averaging basis, the owner or operator has the option to submit a case-by-case proposal for an alternative RACT emission limitation.

118. Comment: The commentator in Comment #117 also notes that the State has achieved significant improvements in ambient air quality in recent years through the RACT II regulation which incorporated a 30-day averaging period.

Response: The Department agrees that the Commonwealth has continued to make progress in achieving and maintaining the ozone NAAQS. Please see the response to Comment #35 regarding progress in achieving ozone NAAQS.

119. Comment: Some commentators note that the term "daily average" is not defined in the proposed RACT III rulemaking. Based on the current CSMM Revision 8, the commentators request that the RACT III rulemaking define this averaging period to be calculated and validated as follows: 1) a daily block average (one calculated compliance average per day); 2) calculated as the arithmetic mean of the 1-hour averages in the daily period; and 3) considered valid if it contains at least 18 valid 1-hour averages during the daily period.

Response: Please see the response to Comment #37.

120. Comment: A commentator states that 1 year is not an adequate amount of time for completing implementation of the RACT requirement or emission limitation. Six months is an insufficient amount of time to manage all the necessary logistics, particularly given that Revision 3.3 of the Department's Source Testing Manual and certain Title V permits require compliance testing protocols to be submitted to the Department between 30 and 90 days prior to testing. The commentator suggests that the Board extend this time period to 2 years.

Response: The date of January 1, 2023, is fixed by the EPA implementation rule for the 2015 Ozone NAAQS. See 83 FR 62998; see also 40 CFR 51.1316(b)(3).

Please also see the Department responses to Comments #4, #6 and #43.

Appendix A

Commentator List

LAST NAME	FIRST NAME	AFFILIATION
Sumner	David	IRRC
Fernandez	Cristina	US EPA Region 3
Brill	Eli	Pennsylvania Waste Industry Association
Chinofsky	Christine	ALL4 LLC
Hacker	Amy	Vitro Flat Glass
Ackiewicz	John	Armstrong World Industries
Witherspoon	Leslie	Solar Turbines Incorporated
Wesloh	Steven M.	Frost Brown Todd LLC
Brisini	Vincent	Olympus Power LLC
Casilio	Tony	Domtar Paper Company - Johnsonburg
McCarthy	James	Innovative Environmental Solutions, Inc.
Steitz	Francis	New Jersey DEP
Walsh	Joseph	Covanta
Cline	Gary	Homer City Generating Station
Welty	Jim	Marcellus Shale Coalition
Pikul	Greg	Calpine Corporation
Weissinger	Thomas	Talen Energy
Kelso	Jason	Schuylkill Energy Resources
Brush	Alexander	Gilberton Power Company
Sunday	Kevin	PA Chamber of Business and Industry
Hardin	Christopher	United States Steel
Maitland	John	Graymont (PA) Inc.
Gibbons	Jaret	ARIPPA
Fabish	Zachary	Sierra Club
Ahlers	Christopher	Clean Air Council

No commentator requested a copy of the final-form rulemaking.