

Regulatory Analysis Form

(Completed by Promulgating Agency)

INDEPENDENT REGULATORY REVIEW COMMISSION

(All Comments submitted on this regulation will appear on IRRC's website)

(1) Agency:
Environmental Protection

(2) Agency Number: 7
Identification Number: 561

IRRC Number: **3310**

(3) PA Code Cite: 25 Pa. Code Chapters 121 and 129

(4) Short Title: Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS; and General Provisions

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(6) Type of Rulemaking (check applicable box): <input type="checkbox"/> Proposed Regulation <input checked="" type="checkbox"/> Final Regulation <input type="checkbox"/> Final Omitted Regulation	<input type="checkbox"/> Emergency Certification Regulation; <input type="checkbox"/> Certification by the Governor <input type="checkbox"/> Certification by the Attorney General
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(7) Briefly explain the regulation in clear and nontechnical language. (100 words or less)

This final-form rulemaking amends Chapter 129 (relating to standards for sources) to adopt 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 in existence on or before August 3, 2018, to address Federal Clean Air Act (CAA) (42 U.S.C.A. §§ 7401—7671q) RACT requirements for the 2015 ozone National Ambient Air Quality Standards (NAAQS) in this Commonwealth. Additionally, this final-form rulemaking amends Chapter 121 (relating to general provisions) to add two definitions and amend two definitions in § 121.1 (relating to definitions) to support the final-form amendments to Chapter 129.

(8) State the statutory authority for the regulation. Include specific statutory citation.

This final-form rulemaking is authorized under section 5(a)(1) of the Air Pollution Control Act (APCA) (35 P.S. § 4005(a)(1)), which grants the Environmental Quality Board (Board) the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth; and section 5(a)(8), which grants the Board the authority to adopt rules and regulations designed to implement the provisions of the CAA.

(9) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation as well as, any deadlines for action.

Yes, this final-form rulemaking is mandated by Federal law under sections 172, 182 and 184 of the CAA (42 U.S.C.A. §§ 7502, 7511a and 7511c) and the United States Environmental Protection Agency's (EPA) 2015 ozone implementation rule (40 CFR 51.1312 and 51.1316 (relating to requirements for reasonably available control technology (RACT) and reasonably available control measures; and requirements for an Ozone Transport Region)).

Section 109(b) of the CAA (42 U.S.C.A. § 7409(b)) requires the EPA to establish permissible ambient air limits, or NAAQS, for criteria air pollutants, including ozone, at levels that protect public health and welfare, as well as the environment. The limits to protect public health are called primary standards and the limits to protect public welfare and the environment are called secondary standards.

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

On July 18, 1997, the EPA concluded that revisions to the then-current 1-hour ozone primary standard to provide increased public health protection were appropriate at this time to protect public health with an adequate margin of safety. Further, the EPA determined that it was appropriate to establish a primary standard of 0.08 ppm averaged over 8 hours. At this time, the EPA also established a secondary standard equal to the primary standard. See 62 FR 38856 (July 18, 1997). In 2004, the EPA designated 37 counties in this Commonwealth as nonattainment areas for the 1997 8-hour ozone NAAQS. See 69 FR 23858, 23931 (April 30, 2004). The EPA lowered the 8-hour ozone standards in March 2008 to 0.075 ppm, and in October 2015 to 0.070 ppm. See 73 FR 16436 (March 27, 2008), and 80 FR 65292 (October 15, 2015).

On June 4, 2018, the EPA published finalized designations and classifications for the 2015 8-hour ozone NAAQS with an effective date of August 3, 2018. The following nonattainment area was classified as "marginal" ozone nonattainment: Philadelphia-Wilmington-Atlantic City (the Commonwealth portion of this area includes Bucks, Chester, Delaware, Montgomery and Philadelphia Counties). The remainder of this Commonwealth was designated "unclassifiable/attainment." See 83 FR 25776 (June 4, 2018).

Section 110(a) of the CAA (42 U.S.C.A. § 7410(a)) gives states the primary responsibility for achieving the NAAQS in nonattainment areas and maintaining NAAQS for areas in compliance. Section 110(a) of the CAA provides that each state shall adopt and submit to the EPA a state implementation plan (SIP) to implement measures to enforce the NAAQS or a revision to the NAAQS promulgated under section 109(b) of the CAA. A SIP includes the regulatory programs, actions and commitments a state will carry out to implement its responsibilities under the CAA. Once approved by the EPA, a SIP is legally enforceable under both Federal and state law.

Section 172(c)(1) of the CAA (42 U.S.C.A. § 7502(c)(1)) provides that SIPs for nonattainment areas must include “reasonably available control measures,” including RACT, for affected sources of emissions. RACT is defined as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.” See 44 FR 53761 (September 17, 1979). Therefore, a re-evaluation of what constitutes RACT for affected sources must be fulfilled each time the EPA promulgates a new NAAQS (as was the case in 1997 for the 8-hour ozone standard), or revises a NAAQS (as was the case in 2008 and 2015 for the 8-hour ozone standard). State regulations to control emissions of NO_x and VOCs from major stationary sources are reviewed by the EPA to determine if the provisions meet the RACT requirements of the CAA and its implementing regulations designed to attain and maintain the ozone NAAQS.

Section 182 of the CAA (42 U.S.C.A. § 7511a) requires that, for areas which exceed the ozone NAAQS, states must develop and implement a program that mandates certain major stationary sources develop and implement a RACT emission reduction program. The entire Commonwealth is treated as a “moderate” ozone nonattainment area for RACT purposes, because this Commonwealth is included in the Ozone Transport Region (OTR) established by operation of law under sections 184 and 176A of the CAA (42 U.S.C.A. §§ 7511c and 7506a). Section 184(b) of the CAA addresses provisions for the SIP of a state included in the OTR. Section 184(b)(1)(B) of the CAA requires that states in the OTR, including this Commonwealth, submit a SIP revision requiring implementation of RACT for all major stationary sources of NO_x and VOC emissions in the state and not just for those sources that are located in designated nonattainment areas of the state. Consequently, the Commonwealth’s SIP must include regulations applicable Statewide to affected major stationary sources of NO_x and VOC emissions.

The EPA’s past implementation of regulations for revised NAAQS ozone standards have required OTR states to submit RACT SIP revisions based on the timeframe provided in section 184 of the CAA as measured from the effective date of designations made for those revised NAAQS, rather than from November 15, 1990. This requirement was first codified in 40 CFR 51.916 (relating to what are the requirements for an Ozone Transport Region under the 8-hour NAAQS?) for the 1997 ozone NAAQS, later codified for the 2008 ozone NAAQS in 40 CFR 51.1116 (relating to requirements for an Ozone Transport Region) and most recently codified for the 2015 8-hour ozone NAAQS in 40 CFR 51.1316. Under these provisions, states in the OTR are required to submit SIP revisions addressing the RACT requirements of section 184 of the CAA not later than 2 years after the effective date of designations for nonattainment areas for the revised 2015 ozone NAAQS, or by August 3, 2020, which is 2 years after the effective date of August 3, 2018, for the designations for the 2015 ozone NAAQS. See 83 FR 25776.

States are required to “provide for implementation of RACT as expeditiously as practicable, but no later than January 1 of the fifth year after the effective date of designation,” which was August 3, 2018 for the 2015 ozone NAAQS. See 40 CFR 51.1316(b)(3)(i); see also 40 CFR 51.1312(a)(3)(i). The Commonwealth is therefore required to implement RACT requirements Statewide not later than January 1, 2023, for major stationary sources of NO_x and VOCs as part of a Federally approved SIP for attaining the 2015 8-hour ozone NAAQS and maintaining the 1997 and 2008 8-hour ozone NAAQS. These major stationary sources include combustion units, municipal solid waste landfills and municipal waste combustors, as well as other sources that are not regulated elsewhere in Chapter 129. If the EPA finds that a state has failed to submit an acceptable SIP revision or has failed to implement the requirements of an approved SIP revision, sanctions will be imposed. However, sanctions cannot be imposed until 18 months after the EPA issues a determination of finding of failure to submit a SIP revision, and sanctions

cannot be imposed if the deficiency has been corrected within the 18-month period after issuance of the finding of failure to submit.

Section 179 of the CAA (42 U.S.C.A. § 7509) authorizes the EPA to use two types of sanctions:

1) withholding of certain Federal highway funds; and 2) imposing what are called “2:1 offsets” on new or modified sources of emissions. Under section 179 of the CAA and its implementing regulations, the Administrator first imposes 2:1 offsets, and then, if the deficiency has not been corrected within 6 months, also applies Federal highway funding sanctions. See 40 CFR 52.31 (relating to selection of sequence of mandatory sanctions for findings made pursuant to section 179 of the Clean Air Act). The Pennsylvania Department of Transportation (PENNDOT) indicated that the Commonwealth received approximately \$1.8 billion in Federal highway funds in 2021, of which approximately \$300 million is estimated to be sanctionable in accordance with the PENNDOT “Pennsylvania 2021 Transportation Improvement Program Financial Guidance” prepared in July 2019.

(10) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

Why the regulation is needed

This final-form rulemaking is needed to satisfy the Federally mandated requirement to adopt and implement RACT for the 2015 8-hour ozone NAAQS. Section 110 of the CAA gives states the primary responsibility for achieving and maintaining the NAAQS. The principal mechanism at the state level for complying with the CAA is the SIP. A SIP includes the regulatory programs, actions and commitments a state will carry out to implement its responsibilities under the CAA. Once approved by the EPA, a SIP is legally enforceable under both Federal and state law.

Section 172(c)(1) of the CAA provides that a SIP for an ozone nonattainment area must include “reasonably available control measures,” including RACT requirements, for major sources of NO_x and VOC emissions located in the ozone nonattainment area.

Section 182 of the CAA requires that, for areas that exceed the NAAQS for ozone, states shall develop and implement a program that mandates that certain major stationary sources implement RACT. RACT is defined as “the lowest emissions limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.” See 44 FR 53761.

Under sections 182(f)(1) and 184(b)(2) of the CAA, these RACT requirements are applicable to all sources in this Commonwealth that emit or have a potential to emit greater than 100 tons per year (TPY) of NO_x. Under sections 182(b)(2) and 184(b)(2) of the CAA, these RACT requirements are applicable to all sources in this Commonwealth that emit or have a potential to emit greater than 50 TPY of VOCs. NO_x and VOC emission controls are required Statewide because this entire Commonwealth is considered a “moderate” nonattainment area due to its inclusion in the OTR.

If published in the *Pennsylvania Bulletin* as a final-form rulemaking, the final-form regulation will be submitted to the EPA as a revision to the Commonwealth’s SIP.

Compelling public interest that justifies the regulation

The public has a significant interest in the reduction of NO_x and VOC emissions, as well as the reduced formation of ground-level ozone, that would result from implementation of this final-form rulemaking. The EPA is required under section 109 of the CAA to establish NAAQS for six criteria pollutants, including ground-level ozone. The EPA regulates ground-level ozone as a criteria air pollutant because of its widespread adverse public health and welfare and environmental effects.

Ground-level ozone is not emitted directly into the atmosphere but is formed by photochemical reactions between NO_x and VOCs in the presence of sunlight. Ozone is a highly reactive gas which at sufficient concentrations can produce a wide variety of harmful effects. At elevated concentrations, ground-level ozone can adversely affect human health, vegetation, materials, economic values, and personal comfort and well-being. It can cause damage to important food crops, forests, livestock and wildlife.

Repeated exposure to ground-level ozone pollution may cause a variety of adverse health effects for both healthy people and those with existing conditions including difficulty in breathing, chest pains, coughing, nausea, throat irritation and congestion. It can worsen bronchitis, heart disease, emphysema and asthma, and reduce lung capacity. Asthma is a significant and growing threat to children and adults in this Commonwealth. High levels of ground-level ozone can also affect animals including pets, livestock and wildlife, in ways similar to humans.

Exposure to high levels of ground-level ozone air pollution correlates to increased respiratory disease and higher mortality rates. Ozone can inflame and damage the lining of the lungs. Within a few days, the damaged cells are shed and replaced. Over a long time period, lung tissue may become permanently scarred, resulting in permanent loss of lung function and a lower quality of life. When ambient ozone levels are high, more people with asthma have attacks that require a doctor's attention or use of medication or even hospitalization. Ozone also makes people more sensitive to allergens including pet dander, pollen and dust mites, all of which can trigger asthma attacks. While children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to high levels of ambient ozone while engaged in activities that involve physical exertion. The EPA has concluded that there is an association between high levels of ambient ozone and increased hospital admissions for respiratory ailments including asthma. See 73 FR 16436 (March 27, 2008); 80 FR 65292 (October 26, 2015).

This final-form rulemaking establishes presumptive RACT requirements and RACT emission limitations for the owners and operators of affected sources at major NO_x emitting or major VOC emitting facilities, or both, not regulated elsewhere in Chapter 129. Emissions of NO_x and VOCs are precursors to the formation of ground-level ozone. High concentrations of ground-level ozone air pollution are a serious threat to public health and welfare. The measures in this final-form rulemaking are reasonably required to attain and maintain the health-based and-welfare-based 2015 8-hour ozone NAAQS, protect the health and livelihoods of this Commonwealth's citizens and residents, and satisfy related CAA requirements.

Who will benefit from the regulation?

The Department estimates 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 and reduce VOC emissions by as much as 825 TPY from engines and turbines. Implementation of the final-form NO_x and VOC control measures for the affected major sources will benefit the health and welfare of the

approximately 12.8 million residents and numerous animals, crops, vegetation and natural areas of this Commonwealth by reducing emissions of NO_x and VOCs. Since ground-level ozone air pollution is transported downwind via regional air currents and meteorological events, the reductions of ground-level ozone in this Commonwealth will also benefit the residents and environment of downwind states.

The EPA estimated that the monetized health benefits of attaining the 2008 8-hour ozone NAAQS of 0.075 ppm, range from \$8.3 billion to \$18 billion on a National basis by 2020. See Final Ozone NAAQS Regulatory Impact Analysis, EPA-452/R-08-003, March 2008. Prorating that benefit to this Commonwealth, based on population, results in a public health benefit of \$337 million to \$732 million. Similarly, the EPA estimated that the monetized health benefits of attaining the 2015 8-hour ozone NAAQS of 0.070 ppm range from \$1.5 billion to \$4.5 billion on a National basis by 2025. See Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone, EPA-452/R-15-007, September 2015. Prorating that benefit to this Commonwealth, based on population, results in a public health benefit of \$63 million to \$189 million. The Department is not stating that these estimated monetized health benefits would all be the result of implementing the final-form RACT measures, but the EPA estimates are indicative of the benefits to Commonwealth residents of attaining and maintaining the 2008 and 2015 8-hour ozone NAAQS through the implementation of control measures to reduce ozone precursor emissions in the aggregate from different source categories.

In addition to causing adverse human and animal health effects, the EPA has concluded that ozone affects vegetation and ecosystems, leading to reductions in agricultural crop and commercial forest yields by destroying chlorophyll; reduced growth and survivability of tree seedlings; and increased plant susceptibility to disease, pests and other environmental stresses, including harsh weather. In long-lived species, these effects may become evident only after several years or even decades and have the potential for long-term adverse impacts on forest ecosystems. Ozone damage to the foliage of trees and other plants can decrease the aesthetic value of ornamental species used in residential landscaping, as well as the natural beauty of parks and recreation areas. These effects can have adverse impacts including loss of species diversity and changes to habitat quality and water and nutrient cycles. The implementation of additional measures to address ground-level ozone air quality in this Commonwealth is necessary to protect the public health and welfare and the environment. High levels of ground-level ozone can also cause damage to buildings and synthetic fibers, including nylon, and reduced visibility on roadways and

The economic value of the impacts of ground-level ozone on this Commonwealth's farm crops, fruit industries, forests, parks and timber due to high concentrations of ground-level ozone can be calculated, such as crop yield loss from both reduced growth and smaller, lower-quality seeds and tubers with less oil or protein. If ozone episodes last a few days, visible injury to some leaf crops, including lettuce, spinach and tobacco, as well as visible injury to the leaves of ornamental plants, including grass, flowers and shrubs, can appear. Other types of welfare loss may not be quantifiable, such as the reduced aesthetic value of trees growing in heavily visited parks.

Information about the economic benefit of the agricultural industry to this Commonwealth is provided by the Pennsylvania Department of Agriculture (PDA). The agricultural industry generates approximately \$135.7 billion in total economic impact each year and supports 579,000 jobs with \$26.9 billion in earnings. For each job directly supported by Pennsylvania agriculture, another 1.06 jobs are supported across the Commonwealth. For each dollar of direct output, another \$0.62 is generated in economic impact. See Pennsylvania Agriculture: A look at the Economic Impact and Future Trends Version 1,

page 5, Jan. 2018. Reducing ground-level ozone concentrations will serve to protect agricultural yield and reduce losses to production agriculture and agribusiness in this Commonwealth.

This Commonwealth is forested over a total of 16.6 million acres, which represents 58% of its land area. Federal, state, and local government hold 5.1 million acres in public ownership, with the remaining 11.7 million acres in private ownership. See United States Department of Agriculture, Forests of Pennsylvania, 2019. The forest product industry only owns 0.4 million acres of forest, with the remainder held by an estimated 750,000 individuals, families, partnerships, or corporations. This Commonwealth leads the Nation in volume of hardwood with over 120.5 billion board feet of standing sawtimber. See The Pennsylvania State University, Forest Management and Timber Harvesting in Pennsylvania, Sept. 9, 2019.

Further, this Commonwealth leads the Nation in growing 123.2 billion board feet of standing sawtimber species, with 16.8 million acres in forest land. As the leading producer of hardwood lumber in the United States, this Commonwealth also leads in the export of hardwood lumber exporting nearly \$463 million in 2019, and over \$1.1 billion in lumber, logs, furniture and paper products to more than 70 countries around the world. Recent U.S. Forest Service data shows that the State's forest growth-to-harvest rate is better than 2 to 1. Production is estimated at 1 billion board feet of lumber annually. This vast renewable resource puts the hardwoods industry at the forefront of manufacturing in this Commonwealth. The total annual direct economic impact generated by this Commonwealth's wood industry was \$36.8 billion. The industry employed 65,699 people, with \$3.5 billion in wages and salaries earned. Production was 1 billion board feet of lumber annually. (Source: Pennsylvania Hardwoods Development Council.)

Reducing ground-level ozone concentrations will serve to protect the Commonwealth's position as the leader of growing volume of hardwood species and producer of hardwood lumber in the Nation.

The Pennsylvania Department of Conservation and Natural Resources (DCNR) is the steward of the state-owned forests and parks. DCNR awards millions of dollars in construction contracts each year to build and maintain the facilities in its parks and forests. Hundreds of concessions throughout the park system help complete the park experience for both state and out-of-state visitors. State forests, parks and game lands make up 3.9 million acres of forest land. This Commonwealth's 2.2 million-acre state forest system, found in 48 of this Commonwealth's 67 counties, comprises 13% of the forested area in the Commonwealth. The state forest represents one of the largest expanses of public forestland in the eastern United States, making it a priceless public asset. Ozone damage to the foliage of trees and other plants can decrease the aesthetic value of ornamental species used in residential landscaping, as well as the natural beauty of parks and recreation areas. However, the effects of the reduced aesthetic value of trees in heavily visited parks may not be quantifiable. Reducing the concentration of ground-level ozone will help maintain the benefits to this Commonwealth's economy due to tourism.

According to a study conducted by the American Farmland Trust, forestland and farmland yield an average of \$3 in taxes for every \$1 of required governmental services, while residential land costs \$1.11 in services for every \$1 collected in tax revenues. (Source: Forest Management and Timber Harvesting in Pennsylvania, PennState Extension, The Pennsylvania State University, 2019.)

The Department projects that the cost to the owner and operator of an affected source required to install and operate add-on control technology to achieve compliance with an applicable presumptive RACT requirement or RACT emission limitation established in this final-form rulemaking, would be less than \$3,750 maximum per ton of NO_x emission reductions. (Optimization of existing VOC controls should be

sufficient to meet the VOC standards in this final-form rulemaking, therefore the Department does not anticipate any additional costs to the regulated industry to meet VOC standards). This is the threshold for cost-effectiveness used to determine what constitutes presumptive RACT irrespective of source type and add-on control technology, with some technologies incurring a significantly lower cost. While this final-form rulemaking also allows for case-by-case RACT determinations for sources that cannot meet presumptive RACT requirements, the Department expects that costs incurred for these sources will be comparable to compliance costs associated with presumptive RACT limitations. This cost is minimal compared to the monetized health benefits of attaining and maintaining the NAAQS and to the economic benefits generated by this Commonwealth's agricultural and hardwoods industries.

In sum, adoption and implementation of the control measures in this final-form rulemaking is reasonably necessary to allow the Commonwealth to continue its progress in attaining and maintaining the public health-based and welfare-based 8-hour ozone NAAQS and to satisfy related CAA requirements. The NO_x and VOC emission reductions achieved through implementation of the regulatory requirements established in this final-form rulemaking and the associated decrease in formation of ground-level ozone will benefit the health and welfare of the residents of this Commonwealth as well as the health of tourists and visitors, with improved ambient air quality and healthier environments. The decrease in ground-level ozone formation will also benefit farmers, loggers, hunters and outdoor enthusiasts and the numerous animals, crops, vegetation and natural areas of this Commonwealth. The agriculture and timber industries and related businesses will benefit directly from reduced economic losses that result from ozone damage to crops and timber. Likewise, the natural areas and infrastructure within this Commonwealth and downwind states will benefit directly from reduced environmental damage and economic losses due to ground-level ozone.

(11) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

No, there are not any provisions in this final-form rulemaking that are more stringent than Federal standards because no companion Federal regulations exist.

Section 110(a) of the CAA provides that each state shall adopt and submit to the EPA a plan to implement measures to enforce the NAAQS or revision to the NAAQS promulgated under section 109(b) of the CAA. Therefore, the evaluation or re-evaluation of what constitutes RACT for affected sources must be fulfilled each time the EPA promulgates a new NAAQS as was the case in 1997, 2008 and 2015 for the 8-hour standard. Section 184(b)(1)(B) of the CAA requires that states in the OTR, including this Commonwealth, submit a SIP revision requiring implementation of RACT for all major stationary sources of NO_x and VOC emissions in the state and not just for those sources that are located in designated nonattainment areas of the state. Section 182 of the CAA requires that, for areas which exceed the ozone NAAQS, states must develop and implement a program that mandates certain major stationary sources develop and implement a RACT emission reduction program.

(12) How does this regulation compare with those of the other states? How will this affect Pennsylvania's ability to compete with other states?

New Jersey indicates that they are in the process of conducting their RACT analysis for the 2015 ozone NAAQS and have not determined if further RACT rules are required. Connecticut adopted their 2015 ozone NAAQS RACT SIP requirements in conjunction with their 2008 ozone NAAQS RACT SIP requirements, and the 2015 ozone NAAQS RACT requirements have generally remained unchanged.

New York and Maryland are in the process of developing their respective RACT III regulations. No response was received from the other states in the OTR that were contacted (Delaware, Virginia, Massachusetts, Rhode Island, New Hampshire, Vermont and Maine).

This final-form rulemaking will improve the Commonwealth's ability to compete with other states by establishing new additional presumptive RACT requirements and RACT emission limitations. This final-form rulemaking further provides a more administratively efficient and less resource-intensive alternative, in most cases, to the time-consuming and costly case-by-case RACT proposal review procedure that the owners and operators of affected facilities had to complete in the past to meet the RACT requirements implemented under §§ 129.91—129.95 (relating to stationary sources of NO_x and VOCs) for the 1-hour ozone standard and §§ 129.96—129.100 (relating to additional RACT requirements for major sources of NO_x and VOCs) for the 1997 and 2008 8-hour ozone standards. See 24 Pa.B. 467 (January 15, 1994) and 46 Pa.B. 2036 (April 23, 2016).

The Ozone Transport Commission (OTC) has directed OTC Staff and the OTC Stationary and Area Source (SAS) Committee to perform technical analyses to assist OTC states in developing cost-effective strategies to reduce ozone-forming pollutants as required by section 176A the CAA (42 U.S.C.A. § 7506a). OTC staff and OTC SAS Committee members collect, compile and distribute technical information to support state RACT analyses. Information includes state data on control strategies, regulatory limits and cost-effectiveness. Where possible, the OTC SAS Committee may recommend cost-effectiveness thresholds for presumptive and case-by-case basis RACT determinations. The Department has taken the OTC's recommendations into account in developing this final-form rulemaking and expects that neighboring states in the OTR will likewise consider these recommendations in development of their respective RACT regulations.

(13) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

Yes, this final-form rulemaking developed to meet the Commonwealth's CAA RACT mandate for the 2015 ozone standard will affect certain provisions of the regulations pertaining to glass melting furnaces at 25 Pa. Code §§ 129.301—129.310 and Portland cement kilns at 25 Pa. Code §§ 145.141—145.146.

The Department has determined that certain provisions of the existing regulations, including exemptions from emission requirements for periods of start-up, shutdown, or idling (§ 129.303(a)) do not contain enforceable emission limits and therefore, do not constitute RACT. The exemption from emissions requirements in § 129.303(a) conflicts with the EPA's 2015 Start Up, Shutdown and Malfunction (SSM) Policy (80 FR 33840 (June 12, 2015), which was reinstated by the EPA on September 30, 2021. See [Emissions During Periods of Startup, Shutdown, & Malfunction \(SSM\) | US EPA](#) The EPA has not approved these regulations as RACT, and has previously expressed concerns regarding the certification of §§ 129.301—129.310 as RACT for these sources for the 1997 and 2008 ozone standards. See 76 FR 52283 (August 22, 2011).

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 limitation established under § 129.112(i), the owner or operator may submit a case-by-case proposal for an alternative RACT emission limitation.

The RACT III final-form rulemaking establishes more stringent presumptive emission limits of 3.0 pounds of NO_x per ton of clinker produced for a long dry-process cement kiln as defined in § 145.142 and 2.30 pounds of NO_x per ton of clinker produced for preheater cement kilns and precalciner kilns as defined in § 145.142. These limits were previously 3.44 pounds of NO_x per ton of clinker produced for a long dry-process cement kiln and 2.36 pounds of NO_x per ton of clinker produced for preheater cement kilns and precalciner kilns as established in § 145.142 and previously adopted in § 129.97(h) for RACT II. The Department determined that these more stringent limits were technically and economically feasible for RACT III.

This final-form rulemaking does not conflict with any other existing regulations promulgated by this agency or other Commonwealth agencies.

(14) Describe the communications with and solicitation of input from the public, any advisory council/group, small businesses and groups representing small businesses in the development and drafting of the regulation. List the specific persons and/or groups who were involved. (“Small business” is defined in Section 3 of the Regulatory Review Act, Act 76 of 2012.)

The Department consulted with the Air Quality Technical Advisory Committee (AQTAC), the Small Business Compliance Advisory Committee (SBCAC) and the Citizens Advisory Council (CAC) in the development of the proposed rulemaking. On October 17, 2019, and February 13, 2020, the Department provided an overview of the proposed rulemaking to AQTAC. The proposed rulemaking draft Annex A was also discussed with AQTAC at its meeting of April 16, 2020. However, the AQTAC requested additional information for a special meeting on May 7, 2020. At that meeting, AQTAC voted 17-2-0 to concur with the Department’s recommendation to move the proposed rulemaking forward to the Board for consideration. On May 19, 2020, the Department discussed the proposed amendments with the CAC Policy and Regulatory Oversight Committee (PRO Committee). On the recommendation of the PRO Committee, the CAC voted unanimously to concur with the Department’s recommendation to move the proposed rulemaking forward to the Board for consideration. On April 22, 2020, the Department discussed the proposed rulemaking with SBCAC and SBCAC voted unanimously to concur with the Department’s recommendation to move the proposed rulemaking forward to the Board for consideration.

The Department presented the draft final-form Annex A to AQTAC on April 7, 2022, and to the SBCAC on April 27, 2022, and briefed the committees on the comments received on the proposed rulemaking. The Department presented the draft final-form Annex A to the CAC’s PRO Committee on April 14, 2022, and to the CAC on April 19, 2022 and May 18, 2022. Advisory committee meetings are advertised and open to the public.

The Department also works with the Department's provider of the Small Business Stationary Source Technical and Environmental Compliance Assistance services. These services are currently provided by the Environmental Management Assistance Program (EMAP) of the Pennsylvania Small Business Development Centers. The Department has partnered with EMAP to fulfill the Department's obligation to provide confidential technical and compliance assistance to small businesses as required by the APCA, section 507 of the CAA (42 U.S.C.A. § 7661f) and authorized by the Small Business and Household Pollution Prevention Program Act (35 P.S. §§ 6029.201—6029.209).

Owners or operators of small business can contact EMAP directly for assistance with air quality concerns or compliance. EMAP provides confidential, free one-on-one consulting assistance and onsite

assessments. EMAP also operates a toll-free phone line to field questions from small businesses, as well as from businesses wishing to start up in, or relocate to, this Commonwealth. EMAP operates and maintains a resource-rich environmental assistance web site and distributes an electronic newsletter to educate and inform small businesses about a variety of environmental compliance issues.

(15) Identify the types and number of persons, businesses, small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012) and organizations which will be affected by the regulation. How are they affected?

Under the CAA, RACT requirements are applicable to the owners and operators of all subject major facilities and sources of NO_x and VOC emissions in this Commonwealth. This Federally mandated final-form rulemaking affects the owners and operators of major NO_x emitting facilities or major VOC emitting facilities, or both, that commenced operation on or before August 3, 2018, and that are not regulated elsewhere in Chapter 129. This final-form rulemaking also applies to the owner and operator of an existing NO_x facility or VOC facility that commenced operation on or before August 3, 2018, when the installation and operation, 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 becoming a major NO_x emitting facility or major VOC emitting facility as defined in § 121.1 of this final-form rulemaking.

There are at least ten source categories that are affected by this final-form rulemaking: combustion units; municipal solid waste landfills; municipal waste combustors; process heaters; turbines; stationary internal combustion engines; Portland cement kilns; glass melting furnaces; lime kilns; direct-fired heaters, furnaces or ovens; and other sources that are not regulated elsewhere under Chapter 129. The sources included in these ten categories are located at various facility types including fossil fuel-burning and other electric generation; natural gas pipeline transport and distribution; petroleum refining; petroleum and coal products manufacturing; steam and air conditioning supply; fats and oils refining and blending; specialty canning; tobacco products manufacturing; carpet and rug milling; reconstituted wood product manufacturing; paper and paperboard products manufacturing; printing; medicinal and botanical products manufacturing; iron and steel milling, manufacturing and forging; ferroalloy manufacturing; nonferrous metal smelting and refining; semiconductor and related device manufacturing; aircraft manufacturing; chemicals manufacturing; Portland cement manufacturing; railroad rolling stock manufacturing; motorcycle manufacturing; wireless telecommunications carriers; colleges and universities; home health care services; hospitals; pharmaceuticals manufacturing; beer brewing; and biotechnology.

The owners and operators of facilities that will be subject to this final-form rulemaking are subject to the requirements of §§ 129.91—129.95 (RACT I) that were implemented for the 1-hour ozone standard where those RACT emission limitations and requirements are more stringent than the RACT emission limitations and requirements of this final-form rulemaking. The RACT I requirements were effective upon publication in the *Pennsylvania Bulletin* on January 15, 1994 (24 Pa.B. 467).

The owners and operators of facilities that will be subject to this final-form rulemaking are also subject to the RACT regulations at §§ 129.96—129.100 (RACT II) where those RACT emission limitations and requirements are more stringent than the RACT emission limitations and requirements of this final-form rulemaking. The RACT II regulations were promulgated to implement the 1997 and 2008 8-hour ozone standards and were effective upon publication in the *Pennsylvania Bulletin* on April 23, 2016 (46 Pa.B. 2036).

This final-form rulemaking will be applicable to the same businesses that commenced operation of a major NO_x or VOC emitting facility on or before August 3, 2018, including small businesses, that are already subject to the RACT I or RACT II requirements, or both. The owners and operators of sources that commenced operation on or before August 3, 2018, which installed sources or made modifications, which resulted in those sources becoming a major NO_x or VOC emitting facility after August 3, 2018 are also subject to this final-form rulemaking. Sources that were otherwise installed at these businesses after August 3, 2018, are already subject to best available technology (BAT) requirements, so the Department will not impose the final-form RACT III requirements on the owners and operators of these facilities. This is because BAT requirements are more stringent than RACT requirements.

RACT requirements are applicable to the owners and operators of all sources in this Commonwealth that emit or have a potential to emit greater than 100 TPY of NO_x or 50 TPY of VOCs. There are approximately 425 Title V facility owners and operators in this Commonwealth that may be subject to this final-form rulemaking. This final-form rulemaking also includes the following flexibilities for compliance:

- The requirements do not apply to the owner and operator of a NO_x air contamination source located at a major NO_x emitting facility that has the potential to emit less than 1 TPY of NO_x or of a VOC air contamination source located at a major VOC emitting facility that has the potential to emit less than 1 TPY of VOC.
- The requirements do not apply to the owner and operator of a facility that elects to take a Federally enforceable limit below 100 TPY of NO_x or 50 TPY of VOC.
- The case-by-case requirements do not apply to the owner and operator with a potential emission rate less than 5.0 tons of NO_x per year or 2.7 tons of VOC per year.

These flexibilities afforded to the owners and operators of potentially affected facilities, including small businesses, in this final-form rulemaking ensure minimal negative impact on their operations. The owners and operators of potentially affected facilities are familiar with the existing requirements for emissions control, emissions reporting and recordkeeping for their entity, and have the professional and technical skills needed for compliance with these final-form requirements.

The Department reviewed its database of regulated facilities with RACT-related permit conditions to determine how many, and which, potentially meet the definition of small business now specified in Section 3 of the Regulatory Review Act, as “in accordance with the size standards described by the [Small Business Administration’s] SBA’s Small Business Size Regulations under 13 CFR Chapter 1 Part 121 (relating to Small Business Size Regulations) or its successor regulation.” The Department cross-referenced facility North American Industry Classification System (NAICS) information from its database with the “Table of Small Business Size Standards Matched to North American Industry Classification System Codes effective August 19, 2019,” obtained from the SBA website at <https://www.sba.gov/document/support--table-size-standards>. The SBA table gives different determination criteria for different NAICS codes. A small business may be defined, for example, by sales or number of employees, or by electric generation capacity in the case of utilities. The Department then accessed the SBA Dynamic Small Business Search database which contains information about small businesses that have registered with the SBA. This self-certifying database incorporates the small business criteria contained in 13 CFR Chapter 1, Part 121, including NAICS codes, when the

owners/operators of such companies register. This registration benefits the owners and operators of small businesses because the database assists government contracting officers in determining whether a company is eligible as a small business.

For electric generation facilities, the Department obtained yearly generation information from the U.S. Energy Information Administration databases at <http://www.eia.gov/electricity/data/eia860/>. This information was correlated with the NAICS table definitions cited above to determine which electric generation facilities could be classified as small businesses.

From these sources, the Department preliminarily determined that the owners and operators of approximately 10-30 affected major facilities under the Department's jurisdiction meet the definition of "small business" specified in Section 3 of the Regulatory Review Act. The Department expects that the negative impact on the owners and operators of these major facilities/small businesses will be minimal due to the flexibilities provided in this final-form rulemaking to achieve compliance with the requirements. The Department will continue to work with EMAP with regard to small businesses.

As these data demonstrate, the owner and operator of a potentially subject facility or source may be classified as a small business under the Federal Small Business Size Regulations under 13 CFR Chapter 1, Part 121, while still emitting sufficient emissions of NO_x or VOC to be subject to regulations designed to implement RACT. A RACT regulation is a Federal CAA requirement, applicable to the owners and operators of all affected sources that meet the applicable NO_x or VOC emission thresholds regardless of business size.

Under § 129.113 (relating to facility-wide or system-wide NO_x emissions averaging RACT operating permit modification general requirements), the owner or operator of an affected major NO_x emitting facility, including a small business-sized facility, that includes an air contamination source subject to a NO_x RACT requirement or NO_x RACT emission limitation in § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) that cannot meet the applicable presumptive NO_x RACT requirement or NO_x RACT emission limitation, may elect to meet the applicable presumptive NO_x RACT requirement or NO_x RACT emission limitation in § 129.112 by averaging NO_x emissions on either a facility-wide or system-wide basis. System-wide emissions averaging must be among sources under common control of the same owner or operator in this Commonwealth and within the same ozone nonattainment area. Under § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule) the owner or operator of an air contamination source that cannot meet the applicable presumptive RACT requirement or RACT emission limitation of § 129.112 or participate in either a facility-wide or system-wide NO_x emissions averaging RACT operating permit modification under § 129.113 may propose an alternative NO_x RACT requirement, NO_x RACT emission limitation, VOC RACT requirement or VOC RACT emission limitation.

(16) List the persons, groups or entities, including small businesses, that will be required to comply with the regulation. Approximate the number that will be required to comply.

The owners and operators of approximately 425 Title V facilities may be subject to this final-form rulemaking. This final-form rulemaking will apply to the owners and operators of a major NO_x emitting facility or a major VOC emitting facility, or both, for which no RACT requirements for sources have been otherwise established in Chapter 129. These sources include those that are not regulated elsewhere in Chapter 129 or through implementation of Department regulatory requirements consistent with EPA

RACT recommendations for a source category. The owners and operators of affected facilities existing on or before August 3, 2018, and currently subject to requirements implemented under §§ 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 may already have the applicable RACT requirements and RACT emission limitations included in their facility permit. The requirements of this final-form rulemaking will also apply where 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 becoming a major NO_x emitting facility or major VOC emitting facility.

As described in the response to question (15), the Department has preliminarily determined that the owners and operators of approximately 10-30 affected major facilities under the Department's jurisdiction meet the definition of "small business" specified in Section 3 of the Regulatory Review Act. Included in this group are petroleum and coal products manufacturers; electric power generators; paper mills; pharmaceuticals manufacturers; and colleges and universities. The Department expects that any negative impacts on the owners and operators of these small business-sized major facilities will be minimal. In those instances where the owner and operator of a small business-sized major facility is not able to comply with the specified presumptive RACT requirements, the owner and operator may submit a request to meet emission limitations on either a facility-wide or system-wide NO_x emissions averaging basis. System-wide emissions averaging must be among sources under common control of the same owner or operator in this Commonwealth and within the same ozone nonattainment area. The owner or operator of an air contamination source that cannot meet the applicable presumptive RACT requirement or RACT emission limitation may propose an alternative NO_x RACT requirement, NO_x RACT emission limitation, VOC RACT requirement or VOC RACT emission limitation under § 129.114. The flexibility afforded by this final-form rulemaking includes the administratively efficient and less resource intensive process in final-form § 129.114(i)(1) to submit analyses demonstrating that RACT II controls remain RACT for the 2015 8-hour ozone standard. This process does not require the owner or operator to pay a fee or costs for the newspaper notices associated with public participation and public hearing requirements to satisfy the CAA requirements for SIP submittals. This will ensure minimal negative effect on the owners and operators of potentially affected small business-sized major facilities and their operations.

(17) Identify the financial, economic and social impact of the regulation on individuals, small businesses, businesses and labor communities and other public and private organizations. Evaluate the benefits expected as a result of the regulation.

Due to the diverse types of potentially affected source categories listed in the response to question (15), specific impacts of this final-form rulemaking on industry will vary. The implementation of §§ 129.91—129.95 for attaining and maintaining the 1-hour ozone standard required the Department to submit approximately 600 case-by-case RACT determinations from 1995 to 2006 to the EPA Administrator for Federal approval as revisions to the Commonwealth's SIP. The Department averted a similar issue with the implementation of presumptive RACT standards for certain source categories in §§ 129.96—129.100 whereby optimization of existing control measures may have been necessary to meet the presumptive standards. However, the implementation of the RACT II presumptive standards in 2016 resulted in the Department evaluating and preparing approximately 135 individual case-by-case SIP submittals under §§ 129.96—129.100. This final-form rulemaking establishes applicability requirements for the implementation of specified CAA RACT requirements for the ten identified source types to assist the Commonwealth in attainment of the 2015 8-hour ozone NAAQS and maintenance of the 1997 and 2008

8-hour ozone NAAQS. This final-form rulemaking also establishes presumptive, averaging and alternative RACT requirements for other subject source types. The air pollution control measures in this final-form rulemaking are reasonably necessary to attain and maintain the applicable health-based and welfare-based 8-hour ozone NAAQS in this Commonwealth and to establish consistent standards for the owners and operators of affected facilities that are a major NO_x emitting facility, a major VOC emitting facility, or both.

Benefits of this final-form rulemaking to the affected owners and operators include implementation of consistent presumptive RACT requirements and RACT emission limitations across this Commonwealth. This will minimize the need for owners and operators to develop a case-by-case RACT permit application with the associated costs and time constraints as well as minimize the downtime to the operation. Implementation of these control measures will allow affected owners and operators to maintain and grow their operations, maintain jobs and staffing levels, and maintain or increase their revenues. In addition, eligible owners and operators will benefit from the administratively efficient and less resource intensive process in final-form § 129.114(i) for submitting analyses demonstrating that RACT II controls remain RACT for the 2015 standard. These owners and operators will not have to pay an application fee or costs for newspaper notices associated with public participation requirements.

Benefits to the Department include the minimization of case-by-case permit reviews and the associated demand on staff resources.

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

As discussed in response to Question 10, this final-form rulemaking also provides significant environmental and health and welfare benefits due to the reductions in NO_x and VOC emissions, as well as ground-level ozone. Financial impacts of this final-form rulemaking are further discussed in the response to Question 19.

(18) Explain how the benefits of the regulation outweigh any cost and adverse effects.

Each time the EPA revises the ozone NAAQS, owners and operators of existing facilities subject to RACT are required to re-evaluate what constitutes RACT for their source to achieve the lowest emission limit for NO_x or VOC emissions that the source is capable of meeting, considering technological and economic feasibility. The Department began implementing RACT I in 1994 under §§ 129.91—129.95 for the 1979 and 1993 1-hour ozone standards. See 24 Pa.B. 467. The Department's case-by-case analysis process under RACT I began in 1995 and was not completed until 2006 due to the need for EPA approval of SIP submittals for the case-by-case RACT determinations. The RACT II program initiated by the Department in 2016, under §§ 129.96—129.100 for the 1997 and 2008 ozone standards, required 135 case-by-case submissions to the EPA as revisions to the Commonwealth's SIP. See 46 Pa.B. 2036. Many facility owners and operators had to hire consultants or additional staff to complete their case-by-case RACT I and II analyses and proposals and handle the permitting requirements. This final-form rulemaking is designed to significantly reduce or eliminate these costs for most of the owners and operators of potentially affected facilities under §§ 129.111—129.115 due to the establishment and

implementation of presumptive RACT requirements for more source categories than were established under the RACT I and RACT II regulations.

Ozone precursor emission reductions achieved through the implementation of presumptive RACT requirements and RACT emission limitations for the affected sources will assist the Commonwealth in attaining and maintaining the 2015 8-hour ozone NAAQS as well as maintaining the 1997 and 2008 8-hour ozone NAAQS. Given that implementation of RACT requirements is Federally required, the Department estimates that the final-form presumptive RACT requirements and RACT emission limitations will achieve greater emission reductions at a lower cost to the affected owners and operators and to the Commonwealth than instituting another round of case-by-case RACT analyses and determinations for the 2015 ozone NAAQS. Further, these reductions will occur in a timelier manner than implementation of another round of case-by-case determinations for the owner and operator of every affected major source of NO_x or VOCs as occurred under §§ 129.91—129.95 and 129.96—129.100. For example, the averaging provisions under § 129.113 will provide additional ozone precursor NO_x emission reductions at the lowest cost while preserving existing emission reductions.

By establishing consistent presumptive RACT requirements and RACT emission limitations Statewide for the owners and operators of an affected major NO_x emitting facility, major VOC emitting facility, or both, and by providing flexibility in compliance through emissions averaging and case-specific options, the owners and operators of affected facilities will be able to achieve compliance in the most cost-effective manner. Implementation of the final-form control measures will minimize the need for case-by-case determinations and also provide the owners and operators of affected facilities with the flexibility to achieve compliance by meeting the presumptive limits through an emission averaging protocol or by conducting an administratively efficient and less resource intensive analysis under § 129.114(i) to demonstrate that RACT II conditions remain RACT for the 2015 standard before having to resort to a time-consuming and costly case-by-case analysis under § 129.114(d).

Reduced ambient concentrations of ground-level ozone resulting from implementation of this final-form rulemaking will reduce the incidences of hospital admissions for respiratory ailments including asthma and improve the quality of life for citizens overall. While children, the elderly and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to high levels of ambient ground-level ozone while engaged in activities that involve physical exertion.

(19) Provide a specific estimate of the costs and/or savings to the **regulated community** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The Department conducted a generic RACT analysis of existing sources to determine if additional controls represent RACT for the 2015 8-hour ozone NAAQS. This generic analysis identified existing affected source categories by size and fuel type; identified available feasible NO_x or VOC control options, or both, for each type of existing source; estimated emission reduction potential for each control technology; identified costs for technologies using appropriate updates; and 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, and as updated in the 7th Edition beginning in 2019, for both uncontrolled and controlled sources (combinations of technologies). After conducting this analysis, the Department established as RACT in this final-form rulemaking the emission limitation that is achievable by cost-effective technologies using benchmark cost per ton of emissions reduced.

Based on this analysis, the Department has determined that cost-effective controls represent RACT for the 2015 8-hour ozone NAAQS for ten existing source categories - combustion units; municipal solid waste landfills; municipal waste combustors; 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. Compliance costs will vary for each source or facility depending on which compliance option is chosen by the owner and operator of the affected source or facility. This final-form rulemaking includes a provision for the owner and operator of an affected facility that cannot meet the applicable presumptive NO_x RACT requirement or emission limitation to elect to meet the applicable presumptive NO_x RACT requirement or NO_x RACT emission limitation by averaging NO_x emissions on either a facility-wide or system-wide basis. Additionally, the owner and operator of an affected source that cannot meet the applicable NO_x or VOC presumptive RACT requirement or RACT emission limitation may propose an alternative NO_x RACT requirement, NO_x RACT emission limitation, VOC RACT requirement or VOC RACT emission limitation on a case-by-case basis.

Under these alternative compliance provisions, the owner or operator is required to demonstrate to the Department's satisfaction that it is economically or technically infeasible to meet the applicable final-form presumptive NO_x RACT requirement or emission limitation or VOC RACT requirement or emission limitation. The flexibility provided by these alternative compliance provisions may minimize compliance costs incurred by the owner or operator of an affected facility. The owner and operator are required to bear the costs of public hearings and notifications, including newspaper notices, required for the SIP submittal, as well as application fees. These fees are estimated to be \$4,000 to \$6,000 per facility.

The Department anticipates that the owners and operators of most of the affected sources will be able to meet the applicable presumptive RACT standard without the installation of additional add-on controls, so it is likely that there will be little or no cost incurred by most of the affected owners and operators. Additionally, due to the establishment of more presumptive RACT requirements and RACT emission limitations than were promulgated with RACT I and RACT II, many of these owners and operators will not need to hire consultants or additional staff to perform a case-by-case analysis to determine what control measures are needed at the affected facility to comply with the final-form RACT requirements necessary to meet the 2015 8-hour ozone NAAQS. Further, these owners and operators will not need to purchase and install add-on controls or submit a request for approval to implement a facility-wide or system-wide NO_x emissions averaging plan or propose an alternative NO_x RACT requirement, NO_x RACT emission limitation, VOC RACT requirement or VOC RACT emission limitation on a case-by-case basis.

Compliance costs include the total capital investment of the add-on control equipment, the annual operating costs of the add-on control equipment and the cost-effectiveness of the add-on control equipment in reducing emissions from the source. The cost-effectiveness of the add-on control equipment is calculated by dividing the annual operating costs of the add-on control equipment by the amount of emission reductions achieved annually from operation of the add-on control equipment. It is not possible to provide a precise estimate of the costs that would be incurred by the owner or operator of a specific source due to not knowing what type of add-on control equipment the owner or operator may choose and to the variability in capital investment costs and annual operating costs for the chosen add-on control equipment. Capital investment costs include the purchase and installation costs for the chosen add-on control technology and the costs of monitoring equipment that may be required for the add-on

control equipment, along with delivery costs, start-up costs, initial testing and taxes. Annual operating costs include the costs of electricity or fuel to operate the add-on control technology and the monitoring equipment, if needed, as well as maintenance and repair costs, overhead, capital recovery and property taxes. Precisely estimating the cost-effectiveness of each add-on control technology for each affected source is not possible since the actual amount of emissions reduced will not be known until the add-on control equipment is installed and operated.

While developing a precise estimate of compliance costs for the affected owners and operators is not possible, the Department projected what control technology might be applied to each affected source. For the combustion units and process heaters, combustion turbines, stationary internal combustion engines, Portland cement kilns, glass furnaces, and municipal waste combustor source types, the Department reviewed its permit databases and cataloged existing sources subject to case-by-case NO_x and VOC emission limitations under the second round of RACT (RACT II) implemented under §§ 129.96—129.100. The information collected included the RACT II emission limitation and required emission control technology for each source. The RACT II uncontrolled emission limitations were used as a baseline to determine technical and economic feasibility for emission controls for the third round of RACT (RACT III) in this final-form rulemaking.

The Department adjusted the RACT II cost benchmarks of \$2,800 and \$5,500 per ton of NO_x or VOC emissions removed, respectively, by multiplying by the consumer price index (CPI) differential between 2014 and 2020 to arrive at benchmarks of \$3,000 and \$6,000 per ton of NO_x or VOC emissions removed, respectively, for RACT III. The Department further adjusted cost-effectiveness benchmarks to \$3,750 per ton of NO_x and \$7,500 per ton of VOC to ensure the implementation of RACT level controls similar to what was done for RACT II. See 46 Pa.B. 2044. The Department concludes that the RACT presumptive limits included in this final-form rulemaking are reasonable as they reflect control levels achieved by the application and consideration of available control technologies, after considering both the economic and technological circumstances of this Commonwealth's sources. The RACT III NO_x and VOC emission limitations established in this final-form rulemaking were determined from this evaluation.

Using these benchmarks, the Department projects that the cost of complying with the applicable presumptive RACT requirement or RACT emission limitation by installing add-on control technology or by implementing an averaging protocol will be less than \$3,750 per ton of NO_x emission reductions, no matter which source type and add-on control technology is considered.

The Department initially estimated that the projected maximum total cost of control for the owners and operators of affected sources needing add-on control technology would be \$25 million with sources operating continuously. In response to a comment received from IRRC on the proposed rulemaking, the Department determined that the owners and operators of approximately 115 engines and turbines will be required to install add-on control technology to meet the final-form 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 and reduce VOC emissions by as much as 825 TPY from engines and turbines, depending on whether sources are already controlled sufficiently to comply with the final-form RACT requirements and what type of control technology is implemented for a source that needs add-on control to achieve compliance. Therefore, the value of \$25 million has been updated to approximately \$36.7 million. The maximum total cost estimate of \$36.7 million was derived from multiplying the estimated 9,800 TPY of NO_x reduced by the \$3,750 per ton of

NO_x emissions reduced cost-effectiveness benchmark. 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.

In addition, eligible owners and operators will realize savings by using the administratively efficient and less resource intensive process in final-form § 129.114(i)(1) for submitting analyses demonstrating that RACT II controls remain RACT for the 2015 standard. These owners and operators will not have to pay an application fee or costs for newspaper notices associated with public participation requirements. It is estimated that owners and operators will save \$2,500 - \$4,000 each in application fees and \$500 - \$2,000 each in newspaper advertising publication fees that would normally be associated with a full case-by-case under § 129.114(d).

No new legal accounting or consulting procedures are anticipated.

(20) Provide a specific estimate of the costs and/or savings to the **local governments** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The Department identified 11 local government-owned permitted Title V (major source) landfills and boilers that will likely be subject to this final-form rulemaking. The Department found that all of the landfills already 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) or 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).

The remaining affected sources are boilers rated at less than 50 million British thermal units per hour, engines rated at less than 500 brake horsepower or engines with an operating-hours cap of 500 or fewer hours per year. The Department does not anticipate additional compliance costs or savings for the owners and operators of these sources. Therefore, the Department does not anticipate any costs or savings to local governments due to this final-form rulemaking.

(21) Provide a specific estimate of the costs and/or savings to the **state government** associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

The Department identified 24 State-owned permitted Title V sources that will likely be subject to this final-form rulemaking. None of the owners or operators of these 24 sources are expected to need to install add-on control equipment to comply with this final-form rulemaking.

The Department will likely realize administrative savings with regard to paid salaries and benefits compared to the previous round of case-by-case RACT determinations and permitting requirements implemented under §§ 129.96—129.100 due to the lower amount of review time required under the presumptive RACT program in this final-form rulemaking. The Department may save more than \$3,500 for every 100 hours of review time that may be avoided by the implementation of the presumptive

control measures included in this final-form rulemaking. The flexibilities provided in this final-form rulemaking are designed to minimize or even eliminate the number of case-by-case applications that will need to be reviewed and processed without the final-form presumptive requirements. The review of case-by-case permit applications by the Department requires significantly greater time than review of permit applications that implement presumptive RACT limits or requirements.

The Department will incorporate the new RACT requirements into the Title V operating permits for each affected facility during the normal permit renewal process if less than 3 years remain in the permit term. However, if more than 3 years remain in the permit term, permit modifications will be necessary. See 25 Pa. Code § 127.463(c).

(22) For each of the groups and entities identified in items (19)-(21) above, submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

No additional legal, accounting or consulting procedures are expected for the groups identified in items (19)-(21) above. The final-form amendments do not add or change the existing reporting, recordkeeping or other paperwork requirements for the owners and operators of facilities that will be subject to this final-form rulemaking. The presumptive emission limitations established in this final-form rulemaking will not require the submission of applications for amendments to existing operating permits. These final-form requirements will be incorporated as applicable requirements at the time of permit renewal if less than 3 years remain in the permit term, as specified under § 127.463(c) (relating to operating permit revisions to incorporate applicable standards). If 3 years or more remain in the permit term, the requirements will be incorporated as applicable requirements in the permit within 18 months of the date of promulgation of this final-form rulemaking, as required under § 127.463(b). Most importantly, § 127.463(e) specifies that “[r]egardless of whether a revision is required under this section, the permittee shall meet the applicable standards or regulations promulgated under the Clean Air Act within the time frame required by standards or regulations.” Consequently, upon promulgation as a final-form regulation, §§ 129.111—129.115 will apply to affected owners and operators irrespective of a modification to the operating permit. Therefore, the owner or operator shall comply with the applicable standards or regulations within the time frame specified by the final-form regulation even if the permit is not revised to incorporate the standard or regulation within the specified compliance time frame. The owners and operators of the affected facilities are familiar with the existing requirements for recordkeeping and reporting for their entity and have the professional and technical skills needed for continued compliance with these requirements.

(22a) Are forms required for implementation of the regulation?

No forms are required for implementation of this final-form rulemaking.

(22b) If forms are required for implementation of the regulation, **attach copies of the forms here**. If your agency uses electronic forms, provide links to each form or a detailed description of the information required to be reported. **Failure to attach forms, provide links, or provide a detailed description of the information to be reported will constitute a faulty delivery of the regulation.**

Not applicable, because no forms are required for implementation of this final-form rulemaking.

(23) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year 21/22	FY +1 Year 22/23	FY +2 Year 23/24	FY +3 Year 24/25	FY +4 Year 25/26	FY +5 Year 26/27
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
Total Savings	0.00	0.00	0.00	0.00	0.00	0.00
COSTS:						
Regulated Community	0.00	0.00	36,700,000	36,700,000	36,700,000	36,700,000
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
Total Costs	0.00	0.00	36,700,000	36,700,000	36,700,000	36,700,000
REVENUE LOSSES:						
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
Total Revenue Losses	0.00	0.00	0.00	0.00	0.00	0.00

(23a) Provide the past three-year expenditure history for programs affected by the regulation.

Program	FY -3 18/19	FY -2 19/20	FY -1 20/21	Current FY 21/22
Environmental Program Management (161-10382)	\$30,932,000	\$27,920,000	\$32,041,000	\$34,160,000
Clean Air Fund Major Emission Facilities (215-20077)	\$17,878,000	\$18,759,000	\$20,801,000	\$20,083,000
Clean Air Fund Mobile and Area Facilities (233-20084)	\$9,369,000	\$9,900,000	\$11,290,000	\$ 11,290,000

(24) For any regulation that may have an adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), provide an economic impact statement that includes the following:

- (a) An identification and estimate of the number of small businesses subject to the regulation.

The Department reviewed its database of regulated facilities with RACT-related permit conditions to determine how many, and which, potentially meet the definition of small business specified in Section 3 of the Regulatory Review Act, as “in accordance with the size standards described by the SBA’s Small Business Size Regulations under 13 CFR Chapter 1 Part 121 (relating to Small Business Size Regulations) or its successor regulation.” The Department cross-referenced facility NAICS information from its database with the “Table of Small Business Size Standards Matched to North American Industry Classification System Codes effective January 7, 2013,” obtained from the SBA website at [http://www.sba.gov/sites/default/files/files/Size_Standards_Table\(1\).pdf](http://www.sba.gov/sites/default/files/files/Size_Standards_Table(1).pdf). The SBA table gives different determination criteria for different NAICS codes. A small business may be defined by sales or number of employees, or by generation capacity in the case of utilities. The Department then accessed the SBA Dynamic Small Business Search database which contains information about small businesses that have registered with the SBA. This self-certifying database incorporates the small business criteria contained in 13 CFR Chapter 1, Part 121, such as NAICS codes, when the owners/operators of such companies register. This registration benefits small businesses because the database assists government contracting officers in determining whether a company is eligible as a small business.

Finally, the Department contacted the Small Business Development Center and used its access to EMAP programs.

For power generation facilities, the Department obtained yearly generation information from the U.S. Energy Information Administration databases at <http://www.eia.gov/electricity/data/eia860/>. This information was correlated with the NAICS table definitions cited above to determine which power generation facility owners and operators could be classified as small businesses.

From these sources of information, the Department determined that the affected owners and operators of approximately 10-30 facilities under the Department’s jurisdiction meet the definition of “small business” specified in Section 3 of the Regulatory Review Act. These facility owners and operators include petroleum and coal products manufacturers, electric power generators, paper mills, pharmaceutical preparation manufacturers, and colleges and universities. The Department expects that the impact on these small businesses will be minimal. In those cases where a small business is not able to comply with the specified presumptive RACT requirements, owners and operators may submit a request to meet emission limitations by facility-wide or system-wide averaging plan protocol, or may submit a request for an alternative case-specific emission limitation. The flexibility afforded to small businesses in this final-form rulemaking ensures minimal negative impact on their operations.

- (b) The projected reporting, recordkeeping and other administrative costs required for compliance with the proposed regulation, including the type of professional skills necessary for preparation of the report or record.

No new reporting, recordkeeping or other administrative procedures are required in this final-form rulemaking for small businesses. The final-form amendments do not add to or change the existing reporting, recordkeeping or other paperwork requirements for the owners and operators of facilities

subject to this final-form rulemaking. The owners and operators of subject facilities are familiar with the existing requirements for reporting and recordkeeping for their entity and have the professional and technical skills needed for continued compliance with these requirements.

(c) A statement of probable effect on impacted small businesses.

By establishing consistent standards for the affected owners and operators of major NO_x emitting or major VOC emitting facilities, or both, and by providing flexibilities in compliance through emissions averaging and case-specific options, the owners and operators of these facilities will be able to achieve compliance in the most cost-effective manner. The effects on the regulated community should be very limited and are minimized through these alternative compliance provisions.

(d) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation.

The requirement to adopt and implement RACT requirements is Federally mandated. All affected owners and operators, whether or not they meet the designation of small business, that are major NO_x emitting or major VOC emitting facilities, or both, will be required to control emissions to meet the presumptive levels established in this final-form rulemaking. This final-form rulemaking incorporates flexibilities to achieve the final-form presumptive RACT limits and requirements. By establishing consistent RACT standards for the affected owners and operators of major NO_x emitting or major VOC emitting facilities, or both, and by providing flexibilities in compliance through emissions averaging and case-specific options, the owners and operators of affected facilities will be able to achieve compliance in the most cost-effective manner. These options provide all affected owners or operators, whether small business or not, increased flexibility to meet Federally mandated RACT requirements in the most cost-effective manner.

Many affected owners or operators of a major NO_x emitting facility, major VOC emitting facility, or both, will not require additional control measures to comply with the final-form RACT requirements. Eligible owners and operators will benefit from the administratively efficient and less resource intensive process in final-form § 129.114(i) for submitting analyses demonstrating that RACT II controls remain RACT for the 2015 standard. These owners and operators will not have to pay an application fee for submittal of these analyses or costs for newspaper notices associated with public participation requirements. The impacts on any small business-sized owner or operator should be very limited and are minimized through the availability of these alternative compliance provisions, including emissions averaging and case-specific options, to demonstrate compliance with the final-form RACT requirements.

No new legal accounting or consulting procedures would be required.

(25) List any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, the elderly, small businesses, and farmers.

RACT is Federally mandated under the CAA and applies to the owners and operators of major air contamination sources of NO_x or VOC emissions, or both. All affected business owners and operators, whether or not they are considered a small business, that are major NO_x emitting or major VOC emitting facilities, or both, will be required to control emissions, if necessary, to meet the presumptive levels established in this final-form rulemaking. This final-form rulemaking provides flexibilities for demonstrating compliance through emissions averaging and case-by-case RACT determination options.

The owners and operators of affected facilities will be able to achieve compliance in the most cost-effective manner. These options provide all affected owners or operators, whether minorities or small businesses, with increased flexibility to meet Federal RACT requirements in the most cost-effective manner available.

Minorities, the elderly, small businesses and farmers who are not owners or operators of a subject major NO_x emitting facility or a major VOC emitting facility, or both, will not be affected by this proposed rulemaking.

(26) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

This final-form rulemaking is considered the least burdensome acceptable method of ensuring compliance with the Federal RACT mandate under the CAA. Many owners or operators of subject major NO_x emitting or major VOC emitting facilities, or both, will not need to do anything more to control emissions than they have already done. This final-form rulemaking incorporates flexibilities to comply with the final-form RACT standards. This final-form rulemaking establishes consistent Statewide presumptive RACT standards for the owners and operators of facilities that are major NO_x emitting or VOC emitting facilities, or both. No new legal accounting or consulting procedures will be required.

(27) In conducting a regulatory flexibility analysis, explain whether regulatory methods were considered that will minimize any adverse impact on small businesses (as defined in Section 3 of the Regulatory Review Act, Act 76 of 2012), including:

- a) The establishment of less stringent compliance or reporting requirements for small businesses.

RACT is Federally mandated. Owners and operators of affected small business-sized major NO_x emitting or major VOC emitting facilities, or both, have several options available to comply with the final-form RACT requirements. This final-form rulemaking incorporates flexibilities to comply with the final-form presumptive RACT standards. By establishing consistent presumptive RACT standards for the affected owners and operators of major NO_x emitting or major VOC emitting facilities, or both, and by providing flexibilities in compliance through emissions averaging and case-by-case RACT determinations, the owners and operators of affected facilities that are also small businesses will be able to achieve compliance in the most cost-effective manner. These options provide all affected owners or operators, whether small business-sized or not, increased flexibility to meet the Federally mandated RACT requirements in the most cost-effective manner available.

Many subject owners or operators of major NO_x emitting or major VOC emitting facilities, or both, will not need to do anything more to control emissions than they have already done. Others will be able to meet the requirements using the flexible compliance options provided in this final-form rulemaking. Any negative impacts on affected small business-sized owners and operators should be very limited and will be minimized through the availability of these alternative compliance provisions.

- b) The establishment of less stringent schedules or deadlines for compliance or reporting requirements for small businesses.

This final-form rulemaking includes provisions for the affected owners or operators of small business-sized major NO_x emitting or major VOC emitting facilities, or both, to submit requests for alternative compliance schedules.

- c) The consolidation or simplification of compliance or reporting requirements for small businesses.

The owners and operators of subject small business-sized facilities are familiar with the existing requirements for monitoring, recordkeeping and reporting for their entity under 25 Pa. Code Chapter 127 and have the professional and technical skills needed for continued compliance with these requirements.

- d) The establishment of performance standards for small businesses to replace design or operational standards required in the regulation.

Many affected owners or operators of small business-sized major NO_x emitting or major VOC emitting facilities, or both, will not need to do anything more to control emissions than they have already done. Others will be able to meet the requirements using the flexible compliance options provided in this final-form rulemaking.

- e) The exemption of small businesses from all or any part of the requirements contained in the regulation.

RACT is Federally mandated under the CAA. The owners and operators of all affected businesses, whether or not meeting the designation of small business, that are major NO_x emitting or major VOC emitting facilities, or both, will be required to control emissions to meet the presumptive RACT levels established in this final-form rulemaking. Alternatively, the owners and operators of affected facilities may elect to participate in an averaging program provided in this final-form rulemaking or submit a case-by-case RACT analysis if the prior two options (presumptive RACT requirements or the averaging program) are not cost-effective. These alternative compliance options provide affected owners or operators, whether small business or not, increased flexibility to meet the Federally mandated RACT requirements in the most cost-effective manner available.

This final-form rulemaking is considered the most flexible as well as least burdensome acceptable method of ensuring compliance with the Federal RACT mandate. This final-form rulemaking incorporates flexibility to achieve Federally mandated RACT standards and establishes consistent RACT standards for the subject owners and operators of major NO_x emitting or major VOC emitting facilities, or both.

(28) If data is the basis for this regulation, please provide a description of the data, explain in detail how the data was obtained, and how it meets the acceptability standard for empirical, replicable and testable data that is supported by documentation, statistics, reports, studies or research. Please submit data or supporting materials with the regulatory package. If the material exceeds 50 pages, please provide it in a searchable electronic format or provide a list of citations and internet links that, where possible, can be accessed in a searchable format in lieu of the actual material. If other data was considered but not used, please explain why that data was determined not to be acceptable.

RACT is Federally mandated.

The Department has prepared a Technical Support Document (TSD) with Appendices to support this final-form rulemaking. The TSD is attached to this RAF.

The Department reviews its own ambient air quality ozone monitoring data for purposes of reporting to the EPA to establish attainment and maintenance of the NAAQS for all areas of this Commonwealth as discussed in the response to Question 9. The Commonwealth's Ambient Air Monitoring Network is operated in accordance with all network design, siting, monitoring and quality assurance requirements set forth in 40 CFR Part 58 (relating to ambient air quality surveillance).

List of references mentioned in this RAF:

Municipal Waste Combustor Workgroup Report, Prepared by the Ozone Transport Commission Stationary and Area Sources Committee June 2021, accessible online at:
[20210624 SAS MWC report updated 12_9_21.pdf \(otcair.org\)](https://www.otcair.org/20210624_SAS_MWC_report_updated_12_9_21.pdf)

The Pennsylvania State University, Forest Management and Timber Harvesting in Pennsylvania, Sept. 9, 2019, accessible online at:
<https://extension.psu.edu/forest-management-and-timber-harvesting-in-pennsylvania>

PDA, Response to Email Inquiry, Harrisburg, Pennsylvania, Mar. 2, 2020, available on request.

PDA, Pennsylvania Agriculture: A look at the Economic Impact and Future Trends Version 1, Jan. 2018, accessible online at:
https://www.agriculture.pa.gov/Documents/PennsylvaniaAgriculture_EconomicImpactFutureTrends.pdf

Pennsylvania DCNR Bureau of Forestry, Our Mission and What We Do, accessible online at:
<https://www.dcnr.pa.gov/about/Pages/Forestry.aspx>

Regulatory Impact Analysis; Final National Ambient Air Quality Standard for Ozone (EPA, July 2011), accessible online at:
https://www.epa.gov/sites/default/files/2020-07/documents/naaqs-o3_ria_final_2008-03.pdf

Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone (EPA-452/ R-15-007, September 2015), accessible online at:
https://www.epa.gov/sites/default/files/2020-07/documents/naaqs-o3_ria_final_2015-09.pdf

United States Department of Agriculture, Forests of Pennsylvania, 2019, accessible online at:
https://public.tableau.com/views/FIA_OneClick_V1_2/Factsheet?%3AshowVizHome=no

(29) Include a schedule for review of the regulation including:

- A. The length of the public comment period: 66 days
- B. The date or dates on which any public meetings or hearings were held: September 7, 8, 9, 2021
- C. The expected date of delivery of the final-form regulation: 3rd Quarter 2022
- D. The expected effective date of the final-form regulation: Upon publication in the *Pennsylvania Bulletin*
- E. The expected date by which compliance with the final-form regulation will be required: January 1, 2023
- F. The expected date by which required permits, licenses or other approvals must be obtained: Not Applicable

(30) Describe the plan developed for evaluating the continuing effectiveness of the regulations after its implementation.

The Board is not establishing a sunset date for this final-form rulemaking since it is needed for the Department to carry out its statutory authority. The Department will closely monitor this final-form rulemaking after promulgation in the *Pennsylvania Bulletin* for its effectiveness and recommend updates to the Board as necessary.