



CLEAN AIR COUNCIL



Proposed RACT III Regulations

Pennsylvania Environmental Quality Board

(for the Department of Environmental Protection)

Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS 51 Pa. B. 4333-4352 (August 7, 2021)

October 12, 2021

Written Comments by
Clean Air Council, Environmental Integrity Project, and Clean Air Task Force

Via email: RegComments@pa.gov

Clean Air Council (“the Council”), Environmental Integrity Project (“EIP”), and Clean Air Task Force (collectively, “Commenters”) appreciate the opportunity to submit these comments to the Environmental Quality Board (“the Board”) regarding the proposed RACT III regulations drafted by the Department of Environmental Protection (“the Department”).

The Council is a non-profit environmental health organization headquartered at 135 South 19th Street, Suite 300, Philadelphia, Pennsylvania, 19103. The Council has been working to protect everyone’s right to a clean environment for over 50 years. The Council has members throughout the Commonwealth who support its mission.

The Environmental Integrity Project (“EIP”) is a national nonprofit organization headquartered at 1000 Vermont Avenue NW, Suite 1100, Washington, D.C. 20005, and with staff in Pittsburgh and Philadelphia. EIP is dedicated to advocating for more effective environmental laws and better enforcement. EIP has three goals: (1) to provide objective analyses of how the failure to enforce or implement environmental laws increases pollution and affects public health; (2) to hold federal and state agencies, as well as individual corporations, accountable for failing to enforce or comply with environmental laws; and (3) to help local communities obtain the protection of environmental laws.

Clean Air Task Force is a national and international nonprofit organization headquartered in Boston, Massachusetts, that works for a world where the energy needs of all people are met without damaging the atmosphere or harming public health and the environment. We leverage expertise in law, policy, science, and engineering to press for a future in which energy needs can be met in a way that is financially, socially, and environmentally sustainable.¹

The Department published a notice of the proposed rulemaking setting a 60-day public comment period ending on Tuesday, October 12, 2021. *See* [51 Pa. B. 4333-4352](#) (August 7, 2021). In that notice, the Board expressly solicits public comment on the proposed nitrogen oxides (“NOx”) limit for large municipal combustor (incinerator) units. 51 Pa. B. 4337 (“The Board is specifically seeking comment on the presumptive RACT emission limitation of 150 ppmvd NOx @ 7% oxygen.”).² Commenters appreciate the Board’s attention to this issue. We provide detailed input below on improvements that the Board should make to the proposed requirements for large municipal waste combustors as well as the Board’s failure to address steel facilities in Allegheny County.

¹ Clean Air Task Force joins in the Background to these Comments and in Comments 1-4, relating to municipal waste combustors and the Covanta facility in Chester.

² It appears that the only other source category for which the Board or Department explicitly seeks comments on the proposed limit is the NOx limit for circulating fluidized bed boilers firing primarily culm. *See* 51 Pa. B. 4337.

Index to Comments

Background

1. Factual Background
 - a. Health Effects of NO_x Emissions
 - b. NO_x Emissions From Waste Incinerators
 - c. Ozone Transport Commission Resolution on Reducing NO_x From Incinerators
2. Legal Background
 - a. The Reasonably Available Control Technology (RACT) Standard
 - b. The Board's Additional Authority to Reduce NO_x

Comments on the Proposed Rule

1. The Board Should Set a Much Lower Presumptive RACT Limit for Large Municipal Waste Combustors
 - a. OTC Workgroup Findings
 - b. The Companies Operating Large Municipal Waste Combustors in Pennsylvania Have Recently Accepted Much Lower NO_x Limits for Facilities in Other States
 - c. The Board Should Use a Higher Cost-Effectiveness Threshold for NO_x Reductions from Large Municipal Waste Combustors
 - d. The Board Should set Presumptive NO_x RACT Limits of 110 ppm on a 24-hour Average and 105 ppm on a 30-day Average for Large Municipal Waste Combustors
2. The Board Should Allow for Facility-Specific Analyses to Set Limits More Stringent Than The Presumptive Limits for Large Municipal Waste Combustors
3. The Board Should Not Allow Facility-Wide or System-Wide Averaging as an Option for Large Municipal Waste Combustors to Meet NO_x Limits
4. Comments on NO_x Limit for Covanta Delaware Valley Resource Recovery Facility in Chester City
 - a. The Facility is Located in an Environmental Justice Community where Residents Deserve the Strongest Possible Protection from Health-Harming Pollution

- b. Chester has a Well-Documented History of Disproportionately High Rates of Respiratory and Other Health Problems, Especially Asthma.
 - c. The Chester facility is Likely Already Able to Meet the Presumptive RACT Limit Set Forth in the Proposed Rule and a Lower Limit Should be Established that Requires the Installation of NO_x Pollution Controls
 - d. Selective Catalytic Reduction Should be Required as the NO_x Control Technology for the Facility
 - e. If SCR is Not Selected as the Required NO_x Control Technology for Chester Facility, Selective Non-Catalytic Reduction Combined with Covanta's Proprietary "Low NO_x" Technology Should be Applied
 - f. At Minimum, Covanta Should Be Required to Conduct a Study Assessing the Most Effective NO_x Controls That Can Be Installed on the Chester Facility
5. The Board Has Not Provided A Reasonable Explanation for Its Failure to Address RACT Requirements for Facilities in Allegheny County.

Table of Attachments

- Attachment 1 - Municipal Waste Combustor Workgroup Report Prepared by the Ozone Transport Commission Stationary and Area Sources Committee (June 2021)
- Attachment 2 - Virginia Department of Environmental Quality letter dated February 8, 2019 to Covanta with NOx RACT permit conditions attached for Fairfax facility
- Attachment 3 - Virginia Department of Environmental Quality letter dated February 8, 2019 to Covanta with NOx RACT permit conditions attached for Alexandria/Arlington facility
- Attachment 4 - Air Pollution Emission Control and Monitoring Agreement, by and among the Mayor and City Council of Baltimore and Wheelabrator Baltimore, LP. (Nov. 4, 2020)
- Attachment 5 - Waste to Energy NOx Feasibility Study Prepared for Wheelabrator Technologies Baltimore Waste to Energy, Baltimore, Maryland, BPE Project No. 100825 (February 20, 2020)
- Attachment 6 - Virginia Department of Environmental Quality Statement of Legal and Factual Basis, Covanta Alexandria/Arlington facility (February 8, 2019)
- Attachment 7 - Virginia Department of Environmental Quality Statement of Legal and Factual Basis, Covanta Fairfax facility (February 8, 2019)
- Attachment 8 - Trinity Consultants NOx RACT Analysis for Covanta Fairfax facility With September 8, 2017 Cover Letter
- Attachment 9 - Trinity Consultants NOx RACT Analysis for Covanta Alexandria/Arlington Facility with September 8, 2017 Cover Letter
- Attachment 10 - Pennsylvania Department of Environmental Protection, Draft Operating Permit Renewal Review Memo, Covanta Delaware Valley, L.P., Title V Operating Permit No. 23-00004, August 2021
- Attachment 11 - Deduck, et. al, New Process for Achieving Very Low NOx, NAWTEC 17-2372
- Attachment 12 - Commonwealth of Pennsylvania, Department of Environmental Protection, Allegheny County Air Quality Program Approval With

Conditions (unsigned and undated copy available on the Department's website)

- Attachment 13 - Settlement Agreement and Order between Allegheny County Health Department and U.S. Steel, dated June 27, 2019
- Attachment 14 - Proposed Revision to Allegheny County's Portion of the Pennsylvania State Implementation Plan, Revision Tracking No. 87 (November 2021) (proposed coke oven regulations)
- Attachment 15 - Comments of Clean Air Council on Proposed Installation Permit No. 0052-I020, U.S. Steel Mon Valley Works (March 17, 2020) (RACT permit)
- Attachment 16 - Comments of Clean Air Council, Environmental Integrity Project, and PennFuture on Proposed Regulations for Coke Ovens and Coke Oven Gas (January 21, 2020)

Background

1. Factual Background

a. Health Effects of NO_x Emissions

NO_x emissions pose a risk to human health in several ways, including through the formation of ground-level ozone and fine particle pollution.

i. Ground-level Ozone

NO_x is the primary contributor to ground-level ozone, a pollutant that can cause airway constriction and chronic obstructive pulmonary disease and can aggravate cases of asthma. U.S. EPA, Health Effects of Ozone Pollution, <https://www.epa.gov/ozone-pollution/health-effects-ozone-pollution>; *see also* D.M. Spektor, et al., "Effects of Single and Multiday Ozone Exposures on Respiratory Function in Active Normal Children," *55 Env'tl. Res.* 107 (1991). Ozone pollution has been shown to cause human health damage at concentrations and exposures below the U.S. National Ambient Air Quality Standard level. *See, e.g.*, Zhang, Wei, & Fang, "Ozone Pollution: A Major Health Hazard Worldwide," *10 Frontiers Immun.* 2518 (2019), available at <https://www.frontiersin.org/articles/10.3389/fimmu.2019.02518/full> (stating: "accumulating evidence suggests that there may not exist a threshold ozone level below which risk is 'zero.'").

The Board recognizes the harm from ozone in the notice of proposed rulemaking:

Ground-level 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, reduce lung capacity and lead to increased morbidity. Asthma is a significant and growing threat to children and adults. High levels of ground-level ozone also affect animals including pets, livestock and wildlife in ways similarly to humans.

See 51 Pa. B. 4333.

ii. Fine Particle Pollution

NO_x is also a precursor to fine particulate matter (PM_{2.5}), a pollutant that can cause premature mortality due to heart and lung disease,³ aggravate asthma,⁴ and increase the risk of adverse birth outcomes, including low birth weight and preterm birth.⁵ Children, older adults, and people with existing respiratory conditions, such as asthma, are at the greatest risk of suffering adverse effects from exposure to ozone and/or PM_{2.5}⁶

PM_{2.5} can cause adverse health effects even at levels below federal air quality standards, and experts who study this issue agree that there is no evidence of a “threshold” below which PM_{2.5} is safe.⁷ In recognition of this fact, the World Health Organization (“WHO”) recently issued air quality guidelines for a few pollutants, including PM_{2.5}, that are much lower than EPA’s primary National Ambient Air Quality Standards. The WHO set a PM_{2.5} target of 5 micrograms per meter cubed (mcg/m³) as an annual mean and 15 mcg/m³ as a 24-hour mean. WHO, Ambient (outdoor) pollution, at <https://www.who.int/news-room/fact-sheets/detail/ambient-%28outdoor%29-air-quality-and-health>. This is significantly lower than EPA’s primary NAAQS for PM_{2.5}, which are 12 mcg/m³ on an annual mean and 35 mcg/m³ as a 24-hour mean. EPA, NAAQS Table, at <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.⁸

b. NO_x Emissions From Waste Incinerators

Analyses of NO_x emissions from large municipal waste incinerators have repeatedly shown that incinerators produce more NO_x per unit of energy than coal-fired power plants. EIP has conducted multiple analyses comparing NO_x emissions from Maryland’s incinerators to its coal plants on a per-megawatt basis. The most recent such analysis, using 2018 data, showed that NO_x emissions from Maryland’s incinerators were five times higher per unit of energy than the NO_x emissions from the state’s four largest coal plants.⁹ While we have not had time to

³ See Laden, F. et al., Reduction in Fine Particulate Air Pollution and Mortality: Extended Follow-Up of the Harvard Six Cities Study, 173 Am. J. Respir. Crit. Care Med. 667 (2006); Pope, C.A. et al., Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution, 287 JAMA 1132 (2002).

⁴ U.S. EPA, Health and Environmental Effects of Particulate Matter (PM) <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>.

⁵ R. Nachman, et. al., Intrauterine Inflammation and Maternal Exposure to Ambient PM_{2.5} during Preconception and Specific Periods of Pregnancy: The Boston Birth Cohort, Environ. Health Perspect., Advanced Publication, DOI:10.1289/EHP243: 4.

⁶ U.S. EPA, *supra* notes 1,3.

⁷ See generally, U.S. EPA, Summary of Expert Opinions on the Existence of a Threshold in the Concentration-Response Function for PM_{2.5}-related Mortality, Technical Support Document (June 2010), available at: <http://www3.epa.gov/tncas1/regdata/Benefits/thresholdtsd.pdf>.

⁸ EPA’s standard is expressed as a 3-year average and it appears that the WHO’s guideline is not.

⁹ EIP, Testimony Supporting HB438 House Economic Matters Committee February 20, 2020, at <https://environmentalintegrity.org/wp-content/uploads/2020/08/EIP-FINAL-Testimony-in-Support-of-HB438.pdf>.

conduct this analysis for Pennsylvania, an analysis of the Commonwealth’s incinerator and coal plant emissions would likely also show that incinerators produce more NOx per megawatt hour.

c. Ozone Transport Commission Resolution on Reducing NOx From Incinerators

The Board’s interest in the NOx limit for municipal waste combustors, as shown by its statement that it is specifically seeking comment on this limit, see 51 Pa. B. 4337, is well placed. The Ozone Transport Commission, of which Pennsylvania is a member, has recently recognized the importance of a strategy for seeking NOx reductions from incinerators on a large scale.

In a Resolution dated June 15, 2021 and approved by Pennsylvania,¹⁰ the Ozone Transport Commission stated that “a recent [Ozone Transport Commission] technical analysis shows that additional NOx controls are technically feasible and cost effective for most municipal waste combustors in the [Ozone Transport Region] and resolved to take the following actions:

- (1) have its members commit to working together in using [a] recent OTC technical analysis to develop regional and national recommendations on more stringent NOx emissions reductions for municipal waste combustors;
- (2) commit to collaborating with the U.S. Environmental Protection Agency (EPA) to evaluate national strategies to achieve reductions from municipal waste combustors;

and

- (3) Following a process for accepting public comment, . . . draft a Memorandum of Understanding containing the recommendations on municipal waste combustor NOx emission reduction measures for consideration on an expedited basis by the OTC membership.

Resolution of the Ozone Transport Commission on Developing a Recommendation for Emissions Reductions from Municipal Waste Combustors, June 15, 2021, at <https://otcair.org/upload/Documents/Formal%20Actions/OTC%20Resolution%20on%20MWCs%2020210615%20final-signed.pdf>.

Notably, one of the factors considered by the OTC in adopting this resolution is that “municipal waste combustor emissions located in overburdened environmental justice communities may disproportionately impact their host communities[.]” *Id.*

¹⁰ Pennsylvania voted “yes” on the resolution. See Notice of Actions Taken by Ozone Transport Commission At Annual Public Meeting, June 15, 2021, at <https://otcair.org/upload/Documents/Meeting%20Materials/OTC%20Announcement%20of%20Actions%20Taken%2020210615.pdf>

2. Legal Background

a. The Reasonably Available Control Technology (RACT) Standard

Section 182 of the federal Clean Air Act, 42 U.S.C. § 7511a, requires ozone nonattainment states to adopt Reasonably Available Control Technology (“RACT”) requirements for major sources of NO_x. RACT is defined as “[t]he lowest emission limit for VOCs or NO_x that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.” 25 Pa. Code § 121.1; *accord* U.S. EPA, State Implementation Plans; Nitrogen Oxides Supplement to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990, 57 Fed. Reg. 55,620, 55,624 (Nov. 25, 1992). Thus, there are two components to the RACT standard: technological feasibility and economic feasibility. *Id.*

i. Technological Feasibility

“The technological feasibility of applying an emission reduction method to a particular source should consider the source’s process and operating procedures, raw materials, physical plant layout, and any other environmental impacts such as water pollution, waste disposal, and energy requirements.” U.S. EPA, State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990; Supplemental, 57 Fed. Reg. 18,070, 18,074 (Apr. 28, 1992).

ii. Economic Feasibility

As EPA has explained, “[e]conomic feasibility considers the cost of reducing emissions and the difference in costs between the particular source and other similar sources that have implemented emission reduction.” 57 Fed. Reg. at 18,074.

Specifically,

EPA presumes that it is reasonable for similar sources to bear similar costs of emission reductions. Economic feasibility rests very little on the ability of a particular source to ‘afford’ to reduce emissions to the level of similar sources. Less efficient sources would be rewarded by having to bear lower emission reduction costs if affordability were given high consideration. Rather, economic feasibility for RACT purposes is largely determined by evidence that other sources in a source category have in fact applied the control technology in question.

57 Fed. Reg. at 18,074 (emphasis added).

EPA has described the RACT standard as “technology forcing” and stated that “[i]n determining RACT for an individual source or group of sources, the control agency, using the available guidance, should select the best available controls, deviating from those controls only where local conditions are such that they cannot be applied there and imposing even tougher controls where conditions allow.” Memorandum from Roger Strelow, Assistant Admin., Air and

Waste Management, U.S. EPA, *Guidance for determining Acceptability of SIP Regulations in Non-attainment Areas*, to Regional Administrators, Regions I-X (Dec. 9, 1976), available at https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/19761209_streLOW_ract.pdf (hereinafter “StreLOW Memorandum”); *see also* 42 U.S.C. § 7511a (a)(2)(A) (RACT will be “as interpreted in guidance issued by the Administrator under [section 7408](#) of this title before November 15, 1990.”).

The U.S. Court of Appeals for the Third Circuit has affirmed this interpretation of the RACT standard, stating:

RACT is a technology-forcing standard designed to induce improvements and reductions in pollution for existing sources. It is a term of art at the foundation of the EPA's decision-making, but is not defined in the Clean Air Act. The EPA itself originally defined this standard in internal guidance as requiring ‘the toughest controls considering technological and economic feasibility that can be applied to a specific situation ... [a]nything less than this is by definition less than RACT.’ . . . RACT is ‘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.’

Sierra Club v. EPA, 972 F.3d 290, 294 (3d Cir. 2020) (internal citations omitted).

b. The Board’s Additional Authority to Reduce NO_x

In addition, the RACT standard constitutes the minimum stringency of the NO_x emissions limits that the Board must issue. The Board has broad authority to establish more protective limits that require emissions reductions beyond what is compelled by RACT. The federal Clean Air Act accords such power to all states, but it is particularly clear that states have this power when regulating to address nonattainment with federal air quality standards.

The Clean Air Act recognizes that state governments generally may adopt standards and limitations more stringent than the regulatory floor established in federal requirements, stating:

Except as otherwise provided in sections 1857c–10(c), (e), and (f) (as in effect before August 7, 1977), 7543, 7545(c)(4), and 7573 of this title (preempting certain State regulation of moving sources) ***nothing in this chapter shall preclude or deny the right of any State . . . to adopt . . . any standard or limitation respecting emissions of air pollutants or . . . any requirement respecting control or abatement of air pollution***; except that if an emission standard or limitation is in effect under an applicable implementation plan or under section 7411 or section 7412 of this title, such State or political subdivision may not adopt or enforce any emission standard or

limitation which is less stringent than the standard or limitation under such plan or section.

See 42 U.S.C. § 7416 (bold italics added for emphasis).

States also have broad authority to regulate air pollution in order to address nonattainment with the National Ambient Air Quality Standards. The Clean Air Act requires that State Implementation Plans must include adequate provisions to

prohibit[], consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard.

42 U.S.C. § 7410(a)(2)(D). In the past, EPA has found that NO_x emissions from Pennsylvania were contributing significantly to, or interfering with maintenance by, other States. EPA, Cross-State Air Pollution Rule update for the 2008 Ozone NAAQS, 81 Fed. Reg. 74504, 74538-74539, 74539 col. 3 (October 26, 2016) (“The EPA estimates that, for the adjusted historical emission level including Pennsylvania RACT, no nonattainment or maintenance receptors identified in section V dropped below 76 ppb and Pennsylvania’s contribution to downwind ozone problems did not drop below one percent of the NAAQS.”)

The EPA has expressly recognized that states are not limited by the RACT standard when issuing regulations for the purpose of attaining ozone standards, stating that “a state has discretion to require beyond-RACT reductions from any source, and has an obligation to demonstrate attainment as expeditiously as practicable. Thus, states may require VOC and NO_x reductions that are ‘beyond RACT’ if such reductions are needed in order to provide for timely attainment of the ozone NAAQS.” EPA, Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements, 80 Fed. Reg. 12264,12279 (March 6, 2015).

The Department affirmed its own recognition of this type of authority in a 2006 State Implementation Plan Revision submittal, stating

Although the Department has completed 1-hour ozone nonattainment RACT analyses and made RACT determinations for classes of sources . . . , the Department continues to evaluate the feasibility of additional NO_x emissions reductions from these categories of sources that may be needed for attainment of the 8-hour ozone NAAQS. The Department is working with the Ozone Transport Commission to define “beyond-RACT” requirements for these classes of sources and will propose additional “beyond-RACT” measures for these classes of sources as necessary for attainment of the 8-hour ozone NAAQS.

Pennsylvania Department of Environmental Protection Reasonably Available Control Technology (RACT) State Implementation Plan Revision Under the 8-Hour Ozone National Ambient Air Quality Standard (NAAQS), September 6, at 18, available at <https://files.dep.state.pa.us/Air/AirQuality/AQPortalFiles/Regulations%20and%20Clean%20Air%20Plans/plans/plans/general/RACTSIPFinal.pdf>.

Comments on the Proposed Rule

On August 7, 2021, the Board proposed a regulation establishing RACT limits for the ozone precursors NO_x and volatile organic compounds (VOCs) for several categories of sources of those pollutants in Pennsylvania. Environmental Quality Board, Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS, 51 Pa. B. 4333-4352 (August 7, 2021) (hereinafter “Proposed Rule”). In the preamble, the Board explains and summarizes the structure of the Proposed Rule as follows:

The Board has determined that this proposed rulemaking would fulfill requirements for re-evaluation and be less resource intensive than imposing case-by-case analysis for affected facilities in the covered categories. As more fully discussed in section E of this preamble, the Board proposes a compliance option hierarchy whereby the owner or operator of a subject source that cannot meet the presumptive RACT emission limitations and requirements under proposed § 129.112 (relating to presumptive RACT requirements, RACT emission limitations and petition for alternative compliance schedule) may apply for a facility-wide or system-wide NO_x emissions averaging plan under proposed § 129.113 (relating to facility-wide or system-wide NO_x emissions averaging plan general requirements) or an alternative case-by-case RACT determination under proposed § 129.114 (relating to alternative RACT proposal and petition for alternative compliance schedule).

51 Pa. B. 4335.

Commenters urge the adoption of a stronger presumptive RACT limit for large municipal waste combustors than that set out in the Proposed Rule. As explained in more detail below, large municipal waste combustors can meet NO_x limits lower than 150 parts per million dry volume @ 7% O₂ on a daily average, and, because RACT is supposed to be technology forcing, the Board should set a much lower presumptive NO_x RACT limit for large municipal waste combustors.

In addition to including an insufficiently stringent NO_x limit for large municipal waste combustors, the Proposed Rule further weakens the standard by creating options for source owners and/or operators to avoid meeting that limit. Facility owners or operators who claim that they are unable to meet the presumptive NO_x RACT limit may submit facility-specific analyses requesting a weaker limit, but the Proposed Rule establishes no process for considering whether an individual source can achieve a stronger and more protective limit.

The Proposed Rule also weakens the standard by allowing a source owner or operator to elect to meet the presumptive limit through facility or system-wide emissions averaging. In the case of municipal waste combustors, the system-wide averaging provisions could allow Covanta,

which operates 5 incinerators in the state, to meet the presumptive RACT limit at its Delaware Valley Resource Recovery Facility, which is located in an environmental justice community that deserves the maximum possible protection from air pollution, by averaging that facility's emissions with emissions from a separate Covanta facility.

The Board should revise the Proposed Rule to correct these flaws for municipal waste combustors.

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

1. The Board Should Set a Much Lower Presumptive RACT Limit for Large Municipal Waste Combustors

The Department has proposed to set a presumptive limit, meaning a limit for an entire source category, of 150 parts per million dry volume @ 7% O₂ (hereinafter “ppm”) for municipal waste combustors. Proposed 25 Pa. Code § 129.112(f), Pa. B. 4345. Compliance with this limit would be demonstrated, “for a municipal waste combustor with a CEMS, [by] monitoring and testing in accordance with the requirements in Chapter 139, Subchapter C, using a daily rolling average.” Proposed 25 Pa. Code § 129.115(b)(3), Pa. B. 4351.

This limit is not sufficiently stringent. A workgroup assembled by the Ozone Transport Commission recently found that NO_x limits far lower than this can likely be achieved by most large municipal waste combustors¹¹ in the Ozone Transport Region. Further, the six municipal waste combustors in Pennsylvania are operated by only two companies: Covanta, which operates five facilities, and Wheelabrator, which operates one. Each of these companies has recently accepted NO_x limits far lower than 150 ppm for at least one facility operating in another state.

a. OTC Workgroup Findings

A workgroup assembled by the Ozone Transport Commission on achieving NO_x reductions from municipal waste combustors (“OTC Workgroup”) recently finalized a report after conducting an in-depth assessment of the potential for achieving additional NO_x reductions from municipal waste combustors. Based on this analysis, the OTC Workgroup concluded that “a control level of 105 ppm on a 30-day average basis and a 110 ppm on a 24-hour averaging period are likely achievable for most large [municipal waste combustors] in the region.” Municipal Waste Combustor Workgroup Report Prepared by the Ozone Transport Commission Stationary and Area Sources Committee (June 2021) (hereinafter “OTC Workgroup Report”) page 22, available at

¹¹ Large municipal waste combustor units are units that have the capacity to burn 250 tons of waste or more per day. *See, e.g.*, 40 C.F.R. § 60.32b(a). EPA regulates large municipal waste combustor units separately from small municipal waste combustors for purposes of regulations issued under Section 111 of the Clean Air Act. *See, e.g.*, 40 C.F.R. Part 60, Subpart Cb.

<https://otcair.org/upload/Documents/Reports/20210624%20OTC%20SAS%20MWC%20report%20final.pdf> (Attachment 1).

b. The Companies Operating Large Municipal Waste Combustors in Pennsylvania Have Recently Accepted Much Lower NOx Limits for Facilities in Other States

Based on the most recent information available to Commenters, we have set forth information in Table 1 below on the six large municipal waste combustors currently operating in Pennsylvania, to which a presumptive NOx limit for large municipal waste combustors would apply. As shown, five facilities are operated by subsidiaries of Covanta Energy, LLC¹² and one facility is operated by an apparent subsidiary of Wheelabrator Technologies, Inc.¹³

Table 1: Large Municipal Waste Combustors in Pennsylvania¹⁴			
Facility Name	County	Owner	Operator
Covanta Plymouth Renewable Energy	Montgomery	Covanta Plymouth Renewable Energy, LLC	Covanta Plymouth Renewable Energy, LLC
Delaware Valley Resource Recovery Facility	Delaware	Covanta Delaware Valley, LP	Covanta Delaware Valley, LP
Lancaster County Resource Recovery Facility	Lancaster	Lancaster County Solid Waste Management Authority	Covanta Lancaster, Inc.
Susquehanna Resource Management Complex	Dauphin	Lancaster County Solid Waste Management Authority	Covanta Harrisburg, Inc.
Wheelabrator Falls	Bucks	Wheelabrator Falls, Inc.	Wheelabrator Falls, Inc.
York County Resource Recovery Center	York	York County Solid Waste Authority	Covanta York Renewable Energy, LLC

¹² Securities and Exchange Commission, Amended and Restated Intercompany Subordination Agreement (August 21, 2018), at

<https://www.sec.gov/Archives/edgar/data/225648/000022564819000009/ex106123118.htm>

¹³ See Wheelabrator Technologies, Inc, Locations, at <https://www.wtienergy.com/plant-locations>.

¹⁴ List compiled from Appendix A of OTC Workgroup Report at 35-36; Energy Recovery Council, 2018 Directory of Waste-to-Energy Facilities, at 45-47, at <http://energyrecoverycouncil.org/wp-content/uploads/2019/10/ERC-2018-directory.pdf>; see also Department, Municipal Waste Landfill and Resource Recovery Facilities, at <https://www.dep.pa.gov/Business/Land/Waste/SolidWaste/MunicipalWaste/MunicipalWastePermitting/Pages/MW-Landfills-and-Resource-Recovery-Facilities.aspx>.

Other Covanta and Wheelabrator entities have recently accepted much lower NOx limits at large municipal waste combustors operating in states other than Pennsylvania.

In December 2019, the U.S. EPA approved the Virginia Department of Environmental Quality (“VADEQ’s”) RACT determination for the two Covanta facilities located in Virginia, explaining that:

VADEQ determined the following control measures as NOX RACT for each [municipal waste combustor] unit at [the Covanta Fairfax [facility] and [the] Covanta Alexandria/Arlington [facility]: the installation and operation of Covanta’s proprietary low NOX combustion system, the operation (and optimization as needed) of the existing SNCR, a daily NOX average limit of 110 parts per million, volumetric dry (ppmvd) corrected at 7% oxygen (O2), and an annual NOX average limit of 90 ppmvd at 7% O2.

EPA, Approval and Promulgation of Air Quality Implementation Plans; Virginia; Source-Specific Reasonably Available Control Technology Determinations for 2008 Ozone National Ambient Air Quality Standard, 84 Fed. Reg. 67196, 67197 (Dec. 9.2019); *see* VADEQ February 8, 2019 letters to Covanta with NOx RACT permit conditions attached (Attachment 2 for Fairfax facility) (Attachment 3 for Alexandria/Arlington Facility).

In addition, Wheelabrator Baltimore, L.P, recently entered into an agreement with Baltimore City as part of a litigation settlement in which the company agreed to meet a NOx limit of 105 ppm on a 30-day average and to use “reasonable efforts” to meet a second limit, expressed as follows: “an average 90 parts per million dry volume (PPMVD) corrected at 7% O2 (calendar year flow rate weighted average basis) of NOX emissions for all three boiler unit trains combined on a calendar year flow rate weighted average basis.” Air Pollution Emission Control and Monitoring Agreement, by and among the Mayor and City Council of Baltimore and Wheelabrator Baltimore, LP. at 4, 6, 7 (Nov. 4, 2020)(hereinafter “Wheelabrator Baltimore Emissions Control Agreement,” Attachment 4).

These limits are based on a NOx control technology referred to in the agreement as “Advanced Selective Non-Catalytic Reduction.” *Id.* at 2. This technology is partly described as follows by Babcock Power, Inc., a company that was hired to assess potential NOx control technology for the Wheelabrator Baltimore facility:

An Advanced-SNCR (ASNCR) system utilizes acoustic or laser-based means of producing near real time maps of furnace temperature conditions that are then used to control the location and manner of injection for NOX control. In some cases, the temperature monitoring is the primary control signal used to control urea and/or dilution water flow. In other cases, the temperature monitoring is used to select injectors within an injection zone for special operations.

Waste to Energy NOx Feasibility Study Prepared for Wheelabrator Technologies Baltimore Waste to Energy, Baltimore, Maryland, BPE Project No. 100825 (February 20, 2020) (hereinafter “Babcock Power Study for Wheelabrator Baltimore Incinerator”, Attachment 5) at 9; *see also* OTC Workgroup Report at 12 (Attachment 1). Wheelabrator is required to achieve compliance with the new NOx limit by December 31, 2023. Wheelabrator Baltimore Emissions Control Agreement at 3, 6 (Attachment 4).

c. The Board Should Use a Higher Cost-Effectiveness Threshold for NOx Reductions from Large Municipal Waste Combustors

These recent upgrades to large municipal waste combustors in other states also demonstrate that the Board’s current cost-effectiveness threshold of \$3,750 per ton of NOx is too low. *See* RACT III Proposed Technical Support Document at 12. The “economic feasibility” prong of the RACT test “considers the cost of reducing emissions and the difference in costs between the particular source and other similar sources that have implemented emission reduction.” 57 Fed. Reg. at 18,074. Further, “economic feasibility for RACT purposes is largely determined by evidence that other sources in a source category have in fact applied the control technology in question.” *Id.* The Board should increase the cost-effectiveness threshold in light of the cost of the recent upgrades in Virginia and Maryland.

VADEQ found in its RACT determination that NOx reductions at the Covanta Alexandria/Arlington facility would be achieved at a cost of **\$4,005 per ton**. VADEQ Statement of Legal and Factual Basis, Covanta Alexandria/Arlington, Inc. at 11 (Attachment 6). Notably, the OTC Workgroup estimated the cost-effectiveness for NOx RACT at this facility even higher, at **\$4,639 per ton**. OTC Workgroup Report at 19 (Attachment 1). For the Fairfax facility, VADEQ found that NOx RACT reductions would be achieved at a cost of \$2,888 per ton. VADEQ Statement of Legal and Factual Basis, Covanta Fairfax, Inc. at 11 (Attachment 7).

The NOx limits that Wheelabrator Baltimore, L.P. accepted in its agreement with Baltimore City were not issued under the RACT standard and, therefore, a cost-effectiveness analysis was not made available as part of the decision-making process. However, the OTC Workgroup analyzed the cost-effectiveness of the estimated NOx reductions associated with the new limits for the Baltimore facility using cost information from the Babcock Power Study. The OTC Workgroup found that the use of Advanced Selective Non-Catalytic Reduction technology on the Baltimore incinerator would be achieved at a cost of **\$6,159 per ton of NOx reduction**. OTC Workgroup Report at 21 (Attachment 1).

While the Baltimore settlement agreement does not constitute an application of the RACT standard, “economic feasibility for RACT purposes is largely determined by evidence that other sources in a source category have in fact applied the control technology in question.” 57 Fed. Reg. at 18,074. Pursuant to its agreement with Baltimore City, Wheelabrator Baltimore is required to, in fact, apply control technology by the end of 2023 that the OTC Workgroup estimates will cost \$6,159 per ton of NOx reduction.

The Board should increase its cost-effectiveness threshold for NO_x reductions from large municipal waste combustors in light of these recent events.

- d. The Board Should Set Presumptive NO_x RACT Limits of 110 ppm on a 24-hour Average and 105 ppm on a 30-day Average for Large Municipal Waste Combustors.

The two companies operating large municipal waste combustors in Pennsylvania have recently accepted NO_x limits far below 150 ppm at facilities that they operate in other states. Further, the OTC Workgroup has found that most large municipal waste combustors operating in the Ozone Transport Region, which includes Pennsylvania, can likely achieve a control level of 105 ppm on a 30-day average basis and 110 ppm on a 24-hour averaging period. OTC Workgroup Report at 22 (Attachment 1).

Given this finding, along with Pennsylvania's approval of the Ozone Transport Commission Resolution relating to the OTC Workgroup Report, the Board should set a presumptive NO_x limit of 105 ppm on a 30-day average and 110 ppm on a 24-hour average for large municipal waste combustors.¹⁵ As noted in the Strelow memorandum discussed in the Legal Background section above, "RACT encompasses stringent, or even 'technology forcing,' requirement that goes beyond simple 'off-the-shelf' technology. [And] RACT is the minimum EPA can accept in non-attainment state plans." Strelow Memorandum at 2.

In addition, the Board should require that CEMS be used to demonstrate compliance with the new NO_x limits for all large municipal waste combustors regardless of whether a particular facility currently has CEMS. NO_x CEMS is widely in use for compliance demonstration purposes at large municipal waste combustors. Its application as the compliance demonstration method for the new NO_x RACT limit should not be controversial, even for incinerators that may not already have CEMS installed.

¹⁵ Because the OTC Workgroup's finding was limited to large municipal waste combustors, Commenters recommend these limits only for large facilities. We have not analyzed the appropriate limit for small municipal waste combustors.

2. The Board Should Allow for Facility-Specific Analyses to Set Limits More Stringent Than The Presumptive Limits for Large Municipal Waste Combustors

The Board should also revise the Draft Rule to require that, if a facility operator requests a source-specific limit for a municipal waste combustor, the operator must address in its request whether a facility-specific limit stronger than the presumptive limit can be met.

The Proposed Rule does not currently contemplate setting case-by-case limits or other facility-specific requirements for a source that is in a category subject to presumptive limits, like municipal waste combustors, unless the facility asserts that it “cannot meet the applicable presumptive RACT requirement.” *See* Proposed 25 Pa. Code §§ 129.114(a); 129.112(a).¹⁶ In other words, the Proposed Rule allows deviation from the presumptive limit only when a source operator wishes to seek a weaker standard that is less protective of human health and the environment than the presumptive limit. This is problematic, particularly if the Board finalizes the proposed NO_x RACT limit of 150 ppm for municipal waste combustors, because facility-specific technical analysis could easily yield a finding that a source is able to achieve a limit lower than the presumptive limit.

As an example, the State of Maryland finalized a NO_x RACT rule for large municipal waste combustors in 2018 that set facility-specific limits for the Wheelabrator facility in Baltimore City, including a 150 ppm daily limit, but also required Wheelabrator to conduct a technical feasibility study to assess whether additional NO_x reductions could be achieved. *See* COMAR 26.11.08.10(E).¹⁷ This additional study was required partly because of environmental

¹⁶ There is a separate process for a source owner or operator to seek an alternative compliance schedule, see Proposed 25 Pa. Code 129.112(n)-(p). It appears that this process would affect only the compliance schedule and not the limit or standard itself.

¹⁷ Specifically, the Maryland regulation states:

E. Additional NO_x Emission Control Requirements.

(1) Not later than January 1, 2020, the owner or operator of Wheelabrator Baltimore Inc. shall submit a feasibility analysis for additional control of NO_x emissions from the Wheelabrator Baltimore Inc. facility to the Department. This analysis shall be prepared by an independent third party and include the following:

(a) A written narrative and schematics detailing existing facility operations, boiler design, NO_x control technologies, and relevant emission performance;

(b) A written narrative and schematics detailing various state-of-the-art NO_x control technologies for achieving additional NO_x emission reductions from existing MWCs, including technologies capable of achieving NO_x emission levels comparable to those for a new source in consideration of the overall facility design at Wheelabrator Baltimore Inc.;

(c) An analysis of whether each state-of-the-art control technology identified under § E(1)(b) of this regulation could technically be implemented at the Wheelabrator Baltimore Inc. facility;

justice concerns raised by residents and advocates relating to the Wheelabrator facility during Maryland's NOx RACT rulemaking process. As described above, Wheelabrator recently committed to a lower NOx limit of 105 ppm on a 30-day average as part of a settlement agreement with Baltimore City. This limit was reached outside the RACT process. However, the technical study that Wheelabrator commissioned in order to comply with Maryland's rule laid the groundwork for the lower limit to which Wheelabrator ultimately agreed.

Similarly, VADEQ's finalization of NOx RACT limits for the two Covanta facilities in Virginia were informed by source-specific technical analyses submitted by Trinity Consultants evaluating what was technically possible at each facility. Trinity Consults NOx RACT Analyses for Covanta Fairfax and Covanta Alexandria/Arlington facilities with September 8, 2017 Cover Letters (Attachments 8 and 9 respectively). These analyses helped VADEQ to make the finding that Covanta could achieve a daily limit of 110 ppm and an annual limit of 90 ppm at each facility.

As written, Pennsylvania's Draft Rule does not allow for submission or consideration of a technical analysis regarding whether a source can meet a limit lower than the presumptive limit. Among other flaws, this approach fails to address environmental justice concerns. If a facility is located in a community that is overburdened with multiple pollution sources, it is appropriate for the Board and the Department to consider and adopt measures requiring NOx reductions beyond the minimum requirements of the RACT standard. *See Environmental Justice Work Group, Report to the Pennsylvania Department of Environmental Protection, at 11-14 (June 2001) ("DEP should take action to reduce or eliminate the existing environmental burdens in minority and low-income communities.")*¹⁸ This is certainly the case with at least one large municipal

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- (d) Capital and operating costs, NOx emission benefits, and air quality impacts resulting from installation of each state-of-the-art control technology as identified under § E(1)(b) of this regulation; and
 - (e) An estimated timeline for installation of each state-of-the-art control technology as identified under § E(1)(b) of this regulation which shall include design time, construction, operational testing, and start up.
- (2) Upon written request, Wheelabrator Baltimore Inc. shall submit any other information that the Department determines is necessary to evaluate the feasibility analysis.

COMAR 26.11.08.10(E).

¹⁸ The Department and the Board have the power and duty to make such distinctions under the Air Pollution Control Act. The Board is meant to "[a]dopt rules and regulations, for the prevention, control, reduction and abatement of air pollution," and the Department is meant to, among other things, "develop a general comprehensive plan for the control and abatement of existing air pollution." 35 P.S. 4004, 4005. "Air pollution" is defined as "[t]he presence in the outdoor atmosphere of any form of contaminant . . . in such manner, place or concentration inimical or which may be inimical to the public health . . . or which is or may be injurious to human, plant or animal life or to property or which unreasonably interferes with the comfortable enjoyment of life or property." 35 P.S. 4003. An area with a high concentration of emitting sources is more likely to have a concentration of contaminants high enough to harm health or

waste combustor - the Delaware Valley Resource Recovery Facility in Chester City - as described in more detail in the sections below.

At least for large municipal waste combustors, the Board should revise the Proposed Rule to require that any source owner or operator that seeks an alternative limit must evaluate whether that source can achieve a lower limit in addition to substantiating any request for a more relaxed limit.

interfere with the use of property, which qualifies as “air pollution” under this definition, which the Department and Board have the authority and duty to ameliorate in their rulemakings.

3. The Board Should Not Allow Facility-Wide or System-Wide Averaging as an Option for Large Municipal Waste Combustors to Meet NOx Limits

The Board should also revise the Proposed Rule to disallow averaging as a compliance option for large municipal waste combustors. The Proposed Rule allows sources that are in a category subject to presumptive NOx limits, such as municipal waste combustors, to elect to meet those limits based on facility-wide or system-wide averaging. Proposed 25 Pa. Code 129.113(a). Facility-wide averaging presumably means averaging among multiple units within the same facility to meet the limit. “System-wide emissions averaging must be among sources under common control of the same owner or operator within the same nonattainment area in this Commonwealth.” *Id.*

Neither facility-wide nor system-wide averaging should be allowed for large municipal waste combustors. As explained above, the RACT standard is technology-forcing, Strelow Memorandum at 2, and the OTC Workgroup and other states have found that large municipal waste combustors can meet lower NOx limits on a per-unit basis.

Further, multiple states have established a 150 ppm daily NOx RACT limit for large municipal waste combustor units without automatically allowing the option of averaging among units within a facility or at multiple facilities. Maryland has set daily NOx RACT limits at or below 150 ppm for large municipal waste combustors and does not allow averaging. COMAR 26.11.08.10. Connecticut has set a daily NOx RACT limit of 150 ppm for large municipal waste combustors using mass burn waterwall boilers and does not allow averaging. *See* Regs. Conn. State Agencies § 22a-174-38(c)(8) Table 38-2A. New Jersey has set a daily limit of 150 ppm for “MSW incinerator[s] of any size.” N.J.A.C. 7:27–19.12. Operators may petition the New Jersey Department of Environmental Protection for approval to average among units, N.J.A.C. 7:27–19.6, but the option is not automatically granted to operators as it is in Pennsylvania’s Proposed Rule. As noted above, Virginia, which completed the most recent RACT analysis, has set daily NOx RACT limits of 110 ppm and does not allow averaging among units. VADEQ February 8, 2019 letters to Covanta with NOx RACT permit conditions attached (Attachment 2 for Fairfax facility) (Attachment 3 for Alexandria/Arlington Facility).

If the Board does finalize a rule setting an insufficiently protective limit of 150 ppm on a daily average for municipal waste combustors, it should not further weaken the requirement by allowing averaging.

Lastly, the proposal to allow system-wide averaging is particularly concerning in light of the environmental justice concerns at the Covanta Delaware Resource Recovery Facility in Delaware County, which are described in more detail below. If the Board finalizes the Proposed Rule as written, it appears likely that this would allow averaging among the units at this Covanta facility and the Covanta Plymouth Renewable Energy, LLC facility in Montgomery County. Both facilities are owned and operated by Covanta and both are located in the Philadelphia-Wilmington-Atlantic City ozone nonattainment area. *See, e.g.* Department, State Implementation Plan Revision: 2011 Base Year Inventory for the Pennsylvania Portion of Five 2008 Ozone Nonattainment Areas, at 3 (Sept. 2015) (this nonattainment area consists of Bucks, Chester,

Delaware, Montgomery, and Philadelphia Counties); *see* Table 1 above (Delaware Valley Resource Recovery Facility in Delaware County; Covanta Plymouth Renewable Energy, LLC in Montgomery County).

The National Environmental Justice Advisory Council has long advised that emissions trading schemes that allow some facilities to avoid installing RACT are so likely to perpetuate environmental injustice that such schemes should be disallowed. *See* NEJAC, EPA, Environmental Justice in the Permitting Process, [EPA/300-R-00-004](#) at 31–32, A-4–A-5 (July 20, 2000).

The Board should not give a facility located in an environmental justice community the option to comply with an already-lenient limit by averaging emissions at its units with emissions from units at a facility located elsewhere.

4. Comments on NOx Limit for Covanta Delaware Valley Resource Recovery Facility in Chester City

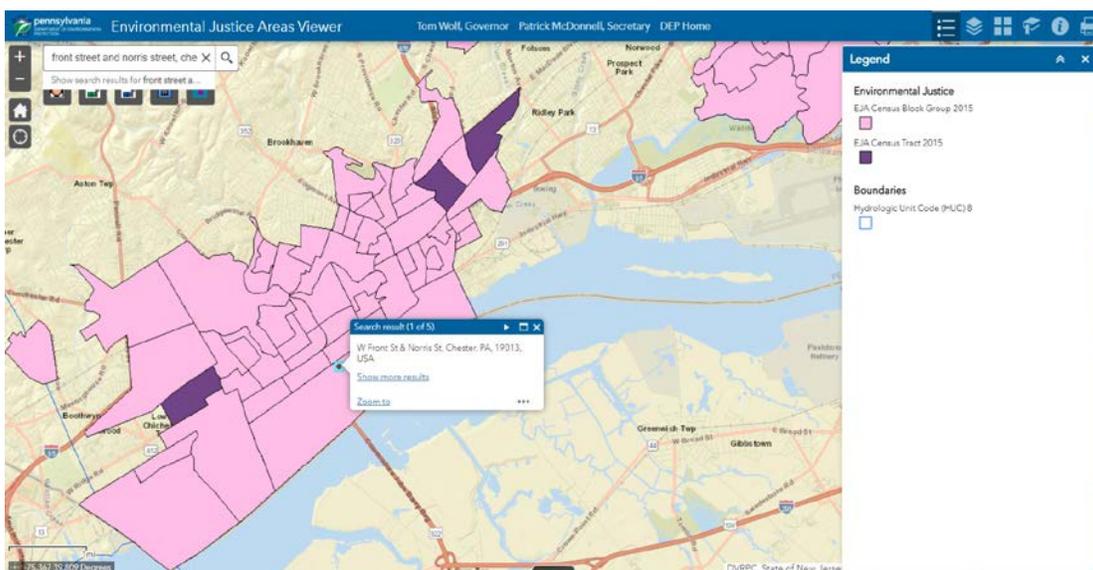
Commenters consider it particularly important that a strong NOx limit be set for the Delaware Valley Resource Recovery Facility (the “Chester Facility”) operated by Covanta in the City of Chester because of the environmental justice concerns associated with that facility. The Chester Facility lacks any controls at all for NOx, and its NOx emissions rose to 1,167.9 tons in 2020 from 1030.6 tons in 2019. The residents of Chester, an environmental justice community, deserve the strongest possible protections from health-harming air pollution, including NOx and the other pollutants that it forms in the ambient air.

A limit should be set for the Chester Facility that requires installation and effective operation of NOx controls. The most effective control technology, Selective Catalytic Reduction, should be required. In the alternative, the controls required should be Selective Non-Catalytic Reduction combined with Covanta’s “Low NOx” technology, which has been installed on several other Covanta incinerators and was determined to be NOx RACT at two Covanta incinerators in Virginia. At minimum, Covanta should be required to complete and submit a thorough study assessing available NOx control technology and the lowest possible NOx limit that can be met at the Chester Facility.

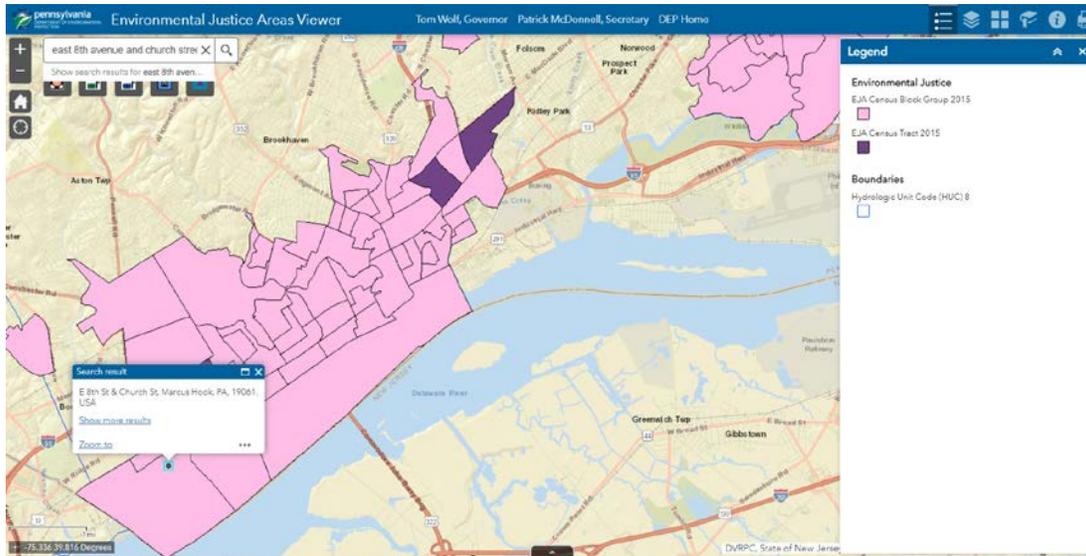
If necessary, Pennsylvania should use its legal authority to require NOx reductions beyond the minimum level of protection that must be achieved under the RACT standard.

- a. **The Chester Facility is Located in an Environmental Justice Community Where Residents Deserve the Strongest Possible Protection from Health-Harming Pollution**

The City of Chester is located in the middle of Environmental Justice Area Census Tract 2015 (the light pink area in the map below, with the location of the Chester monitor identified):



Pennsylvania Department of Environmental Protection, [Environmental Justice Areas Viewer](#). The following is the same map identifying the position of the Marcus Hook monitor:



See id.

The pink shading means that 20 percent or more individuals live at or below the federal poverty line, and/or 30 percent or more of the population identifies as a non-white minority:

How does DEP identify Environmental Justice (EJ) areas?

For the purposes of the DEP Environmental Justice Public Participation Policy, *DEP defines an EJ Area as any census tract where 20 percent or more individuals live at or below the federal poverty line, and/or 30 percent or more of the population identifies as a non-white minority*, based on data from the U.S. Census Bureau and the federal guidelines for poverty. EJ Areas are mapped on DEP's EJ Areas Viewer at dep.pa.gov/EJViewer.

Pennsylvania Department of Environmental Protection, [PA Environmental Justice Areas](#) (bold italics added for emphasis). The Department acknowledged in recently-issued proposed Title V operating permit materials that the Covanta incinerator is located in an Environmental Justice area. *See* Department, Draft Operating Permit Renewal Review Memo, Covanta Delaware Valley, L.P., Title V Operating Permit No. 23-00004, August 2021 at 1 (Attachment 10).

The people in and around the City of Chester have already suffered a long history of bearing a disproportionate burden of polluting facilities. *See* WITF, [Justice in Chester](#), (PBS affiliate, aired: 06/21/18) (26:46). Notably, incinerators and commercial waste facilities have played a large role in this history. *See id.* at 5:10-9:31 (Westinghouse trash-to-steam incinerator), 9:32-10:45 (seven permits for commercial waste facilities in Delaware County

issued by Department between 1986 and 1996, five of them in Chester), 16:23-18:16 (Thermal Pure medical waste treatment facility), 18:16-20:10 (permit application of Soil Remediation Services for contaminated soil incineration facility, ultimately denied in the middle of litigation challenge). The repeated approval of these facilities has created an alarming cluster of large sources of sulfur dioxide, nitrogen oxides, particulate matter, and hazardous air pollutants in Chester and its immediate surroundings.

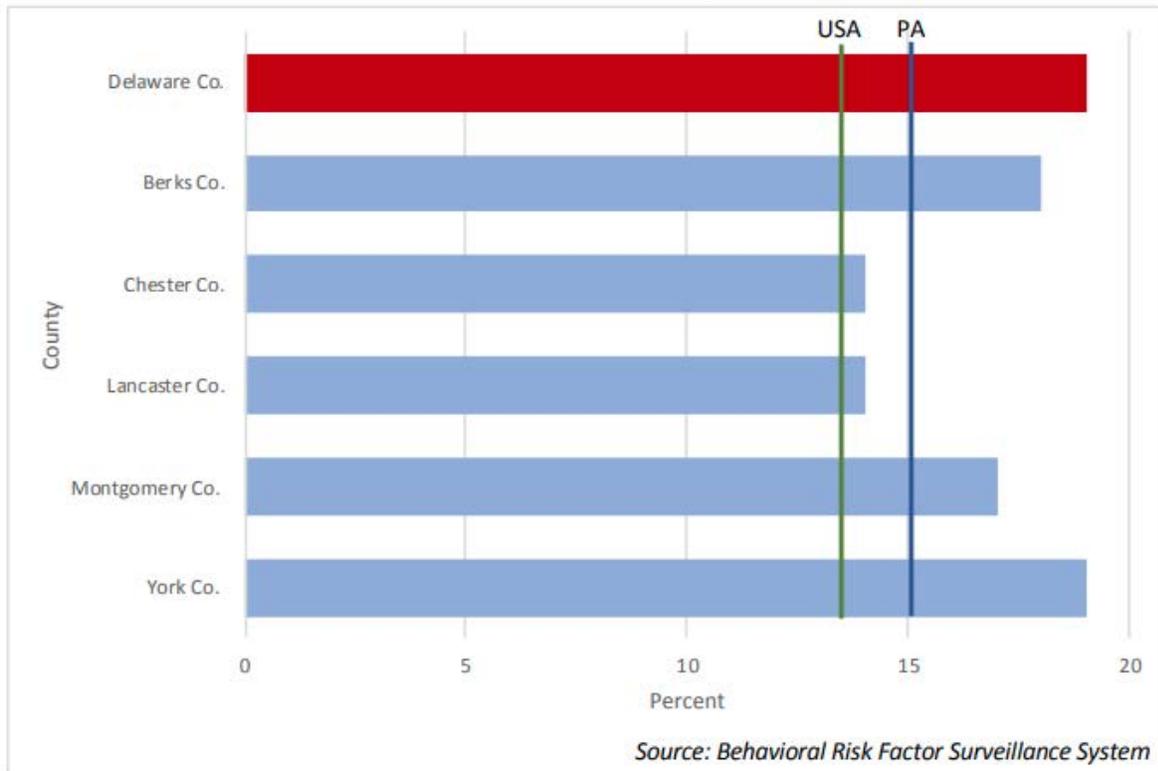
b. Chester has a Well-Documented History of Disproportionately High Rates of Respiratory and Other Health Problems, Especially Asthma.

Chester has a well-documented history of both significant pollution clustering and a high incidence of respiratory and other health issues. In the 1990s, the U.S. EPA partnered with the Department on an environmental risk assessment of Chester because of the clustering of industrial sources in proximity to residences and in reaction to communications from residents concerned about their health and environment; this assessment produced numerous findings about health problems suffered by Chester residents that were attributable to various polluting sources in the area. *See* EPA, Chester (PA) Environmental Risk Study, <https://www.epa.gov/environmentaljustice/chester-pa-environmental-risk-study>.

One of the primary conclusions of this study was that “emissions from facilities in and around Chester provide a large component of the cancer and non-cancer risk to the citizens of Chester.” *See* EPA, Chester Environmental Risk Study Summary Report at 3, <https://www.epa.gov/sites/default/files/2016-03/documents/chesterenvironmentalriskstudysummaryreport6-1995.pdf> (“EPA Risk Study”). This risk assessment was finalized in June of 1995, only a few months before DEP issued the Chester Facility its first air and waste permits despite public opposition. Despite this warning, the Chester Facility and more polluting sources were allowed to come to Chester.

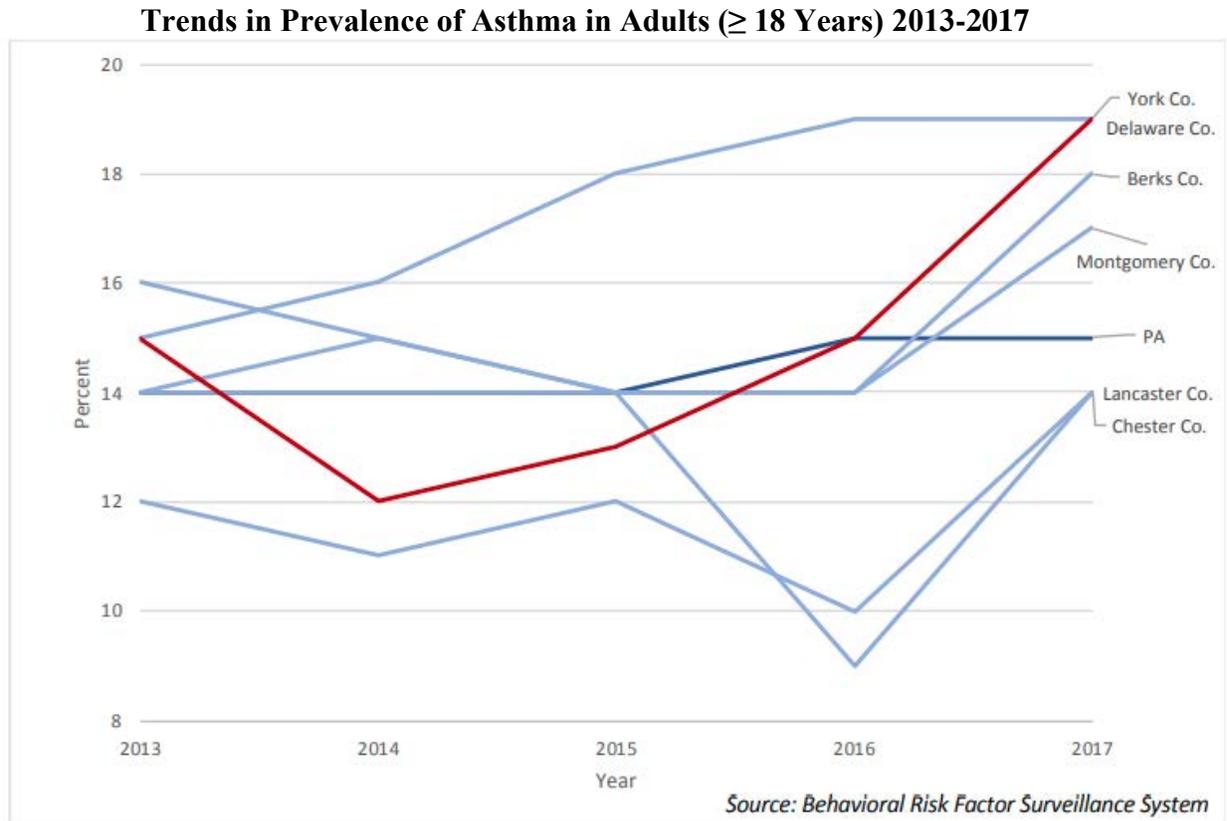
The problem of elevated asthma rates in Delaware County is well-documented. Compared with the rest of Pennsylvania, the people in Delaware County suffer from an elevated incidence of asthma. In 2017, 19% of adults in Delaware County had asthma, which is higher than the national rate (13.5%) and the statewide rate (15%). This is also higher than the rates for most neighboring counties in Pennsylvania (between 14% and 18%), with the exception of York County, also at 19%:

Percent of Adults (≥ 18 Years) Ever Told They Have Asthma, 2017



Final Report: Examination of Health and Public Health Service Delivery in Delaware County, Pennsylvania (July 20, 2020) (Prepared by the Johns Hopkins Bloomberg School of Public Health, under contract with the Delaware County Council), pages 99-100, https://www.delcopa.gov/pdf/JHSPHDelawareCountyFinalReport_July2020REV.pdf.

This rate has increased since 2014, and its increase since 2016 has been dramatic. Although there was a decrease between 2013-2014, the percentage of adults in Delaware County who reported having asthma increased overall from 15% to 19% from 2013 to 2017:



Id., pages 100-101.

The situation in the City of Chester is even more dire. An University of Pennsylvania analysis of 2010 data from Chester indicated the asthma rate in the city -- as well as rates of lung and ovarian cancer, mortality from heart disease, and mortality from cerebrovascular disease -- are extremely high, with 26.7% of adults and 38.5% of children suffering from asthma. *See* Chester, Center of Excellence in Environmental Toxicology, University of Pennsylvania, Perelman School of Medicine. <https://ceet.upenn.edu/target-communities/chester/>.

In 2010, the national lifetime prevalence of asthma was 12.7% for adults and 13.6% for children. CDC, 2010 National Health Interview Survey Data, <https://www.cdc.gov/asthma/nhis/2010/table2-1.htm>. The asthma rate among adults in Chester was therefore over twice the national average, and the rate among children was close to *three times* the national average ($38.5/13.6 = 2.83$). Given the rising rates of asthma in Delaware County in the last decade, the situation in Chester may have only gotten worse. And asthma is not the only health issue noted in this data analysis, which also found that Chester residents are 24% more likely to develop lung cancer than other Pennsylvania residents, 25% more likely to die of heart disease than other Delaware County residents, and 50% more likely to die of cerebrovascular disease than other Delaware County residents.

These extreme rates of asthma and other serious health problems are alarming, and the likely contribution that contaminants from the Chester Facility make to these rates should not be ignored. The link between NO₂ as well as particulate matter (for which NO_x are a precursor) and asthma rates as well as other serious respiratory illness has been well-known for decades. See Conrad G. Schneider, Clean Air Task Force, [Dirty Air, Dirty Power Report](#).

c. The Chester Facility is Likely Already Able to Meet the Presumptive RACT Limit set Forth in the Proposed Rule and a Lower Limit Should be Established that Requires the Installation of NO_x Pollution Controls

As stated above, the presumptive NO_x RACT limit for municipal waste combustors in the Proposed Rule is 150 ppm on a daily average. However, CEMS data submitted by Covanta to the Department shows that the Chester Facility is likely already able to meet this limit, particularly if facility-wide averaging were allowed. The RACT standard is technology-forcing, see Strelow Memorandum at 2, and constitutes the minimum level of protection that a State must provide when setting NO_x limits. A stronger NO_x limit should be set for the Chester Facility that requires the installation of effective NO_x controls.

Using data from the quarterly NO_x CEMS reports filed by the facility, Commenters have assembled Table 2 below showing the maximum daily NO_x value recorded at each of the 6 municipal waste combustor units (MWC) per year.¹⁹ As is shown in the bottom two rows of the table, units 5 and 6 are already reporting maximum values below 150 ppm every year and, therefore, already meeting the presumptive limit set forth in the Proposed Rule. In addition, while maximum values at units 1-4 have met or exceeded the limit at least once per year, it appears very likely that those units could stay below 150 ppm were there a legal requirement to do so. The data for 2019 shows that every unit other than unit 4 kept maximum daily emissions well below 150 ppm, with daily maximums ranging from 122-137 ppm, for that entire year. While the maximum values at unit 4 have been at or near the proposed 150 ppm limit, they were below the limit every year for 3 years in a row, from 2016 through 2018.

Table 2: Max NO_x Daily CEMS Value at Each Municipal Waste Combustor (MWC) Unit At the Covanta Chester Incinerator By Year, 2016-2021*						
	2016	2017	2018	2019	2020	2021
MWC Unit 1	158.9	138	142	135	150	150
MWC Unit 2	172.5	168	135	137	154	148

¹⁹ Table 2 was assembled by EIP by exporting data from the quarterly CEMS reports provided by the Department into Microsoft Excel. In 2016, 2018, and 2019, there were quarters with two versions of the CEMS reports. We used the version that is more recent for all of these. Maximum daily values only are shown in the table because they would determine compliance with the 150 ppm limit in the Proposed Rule.

MWC Unit 3	170.1	134	159	136	127	138
MWC Unit 4	144	148	143	152	152	149
MWC Unit 5	136	139	128	133	142	139
MWC Unit 6	143	131	142	122	133	131

*2021 data for 1st quarter only

It is also worth noting that, while the boiler technology (mass burn rotary waterwall combustors) at the Chester Facility may allow it to emit lower NO_x concentration rates than are achieved at some other incinerators, the gains that might have been achieved by this with respect to mass emissions (in tons per year) are entirely or almost entirely erased by the fact that there are six waste combustors at the Facility. This is about twice the number of boilers installed at most other incinerators.²⁰

d. Selective Catalytic Reduction Should be Required as the NO_x Control Technology for the Chester Facility

Selective Catalytic Reduction (“SCR”) is widely recognized as the most effective technology for controlling NO_x emissions from a variety of combustion sources, including municipal waste combustors. At least one study discussed in the OTC Workgroup Report appears to have shown that SCR is technically feasible as a retrofit technology on some Covanta incinerators. *See* OTC Workgroup Report at 12 (Attachment 1).

While newly permitted large municipal waste combustors utilizing SCR have been required to meet a NO_x permit limit of 45 ppm on a daily average,²¹ Covanta materials indicate that a daily limit of around 50 ppm can also be achieved when using SCR as a retrofit technology. Deduck, et. al, New Process for Achieving Very Low NO_x, NAWTEC 17-2372, at 2 (apparently discussing SCR in the context of retrofit applications) (Attachment 11); *see also* OTC Workgroup Report at 12 (stating that Trinity Consultants designed SCR retrofit to achieve 50 ppm) (Attachment 1). Imposition of a daily limit of 50 ppm at the Chester incinerator would

²⁰ A review of the list of large municipal waste combustors located in the Ozone Transport Region, as shown in Appendix A of the OTC Workgroup Report, reveals that the Chester facility is the only facility that operates 6 waste combustor units. One facility - the Covanta Fairfax Facility - operates 4 combustors and every other facility listed operates either 2 or 3 combustors. OTC Workgroup Report at 23-37 (Attachment 1).

²¹ *See, e.g.*, Condition C(1); Frederick/Carroll County Renewable Waste-to-Energy Facility New Source Review Approval Conditions NSR Approval NSR-2014-01, at 4, at <https://mde.state.md.us/programs/Marylander/Documents/FCRRF%20Final%20NSR%20Approval%20Conditions.pdf>.

represent approximately a 67% reduction of NO_x emissions levels from the proposed limit of 150 ppm.²²

In the event that it is determined that SCR does not meet the “economic feasibility” prong of the RACT definition, Commenters note that the Board’s authority to require NO_x reductions from the Chester Facility is not limited to application of the RACT standard. 42 U.S.C. § 7416; 42 U.S.C. § 7410(a)(2)(D); 80 Fed. Reg. 12279.

- e. If SCR is Not Selected as the Required NO_x Control Technology for Chester Facility, Selective Non-Catalytic Reduction Combined with Covanta’s Proprietary “Low NO_x” Technology Should be Applied.

Covanta, the company that owns and operates the Chester Facility, has developed “proprietary” NO_x control technology that, when combined with Selective Non-Catalytic Reduction (“SNCR”) technology, has been proven effective and has been determined to constitute RACT for Covanta incinerators in Virginia. If SCR is not selected as the required NO_x control technology for Chester Facility, then the combination of SNCR and Low NO_x should be mandated unless Covanta can demonstrate that it would be technically infeasible to install and operate these controls on the Facility.

The combination of SNCR plus Covanta’s Low NO_x technology is in use at three Covanta incinerators in the Ozone Transport Region, (Montgomery County, Maryland, Essex, New Jersey and Union County, New Jersey). OTC Workgroup Report at 32-34 (Attachment 1). In addition, as discussed above, the Low NO_x system being installed²³ at two additional Covanta facilities that already operate SNCR in Virginia, one in Fairfax and the other in Alexandria, where it has been determined to be RACT for NO_x. *See, e.g.*, 84 Fed. Reg. 67197.

Commenters are aware that Covanta is or will be conducting trials for the installation of SNCR on the Chester Facility.²⁴ Those trials provide an opportunity to evaluate the combination

²² The percent reduction calculation is an approximation based on an assumption that the emission rate will decrease proportional to the reduction of the concentration-based limit. Assuming other variables remain consistent (including stack gas flow rate), an average concentration of 50 ppm would be a third of 150 ppm, representing a 67% reduction.

²³ The report states that “[t]he Covanta LN^(TM) is being installed at Covanta Alexandria/Arlington, Virginia and Covanta Fairfax, Virginia. For Covanta Alexandria/Arlington, the permit requires the facility to install the low NO_x combustion system on the first unit by the end of the 4th quarter of 2019, the second unit by the end of the 4th quarter of 2020, and the third unit by the end of the 4th quarter of 2021.¹³ For Covanta Fairfax, the permit requires the facility to install the low NO_x combustion system on the first unit by the end of the 2nd quarter of 2019, the second unit by the end of the 4th quarter of 2019, the third unit by the end of the 4th quarter of 2020, and the fourth unit by the end of the 4th quarter of 2021.¹⁴ Thus, both facilities will be completely utilizing the low NO_x technology by the start of 2022.” OTC Workgroup Report at 14 (Attachment 1).

²⁴ *See* Department Determination dated 7/15/21 in response to Request for Determination of Requirement For Plan Approval/Operating Permit (RFD) (finding that a plan approval is not

of SNCR and Covanta's Low NOx technology, and the existing environmental burdens in the areas where the Chester Facility is located strongly support requiring the Company to evaluate the possibility of installing both SNCR and Low NOx technology to achieve lower NOx emission rates at each of its six combustors.

Low NOx has been shown to achieve an additional 50% reduction in NOx beyond the reductions achieved by SNCR alone. This has been shown at Covanta's facility in Montgomery County, Maryland, on which Low NOx technology was installed in 2009. *See* EPA, Clean Air Excellence Award Recipients: Year 2014 at 1, https://www.epa.gov/sites/default/files/2015-06/documents/clean_air_excellence_award_recipients_year_2014.pdf ("This project represents the first use of [Low NOx] design at any publicly owned waste-to-energy facility and has demonstrated a reduction of NOx emissions by approximately 50 percent from pre-installation levels.");²⁵ *see also* OTC Workgroup Report at 18 (Analysis shows that "both [the Covanta Fairfax and Covanta Arlington/Alexandria] facilities [will] realize[] a 50 percent reduction in NOx emissions from the installation of Low NOx technology.") (Attachment 1). In addition, as explained in more detail in the section below, Covanta should be required to evaluate maximum optimization of any SNCR system and not just the potential for installing it.

Commenters are also aware that the Covanta Chester Facility has mass burn rotary waterwall combustors and lacks SNCR. *See* Draft Title V Permit Review Memo at 2-3 (Attachment 10).²⁶ This differs from the two Covanta facilities in Virginia, both of which were operating SNCR prior to the installation of the Low NOx system. VADEQ Statement of Legal and Factual Basis for Covanta Fairfax facility at 6 (Attachment 7); VADEQ Statement of Legal and Factual Basis for Covanta Alexandria/Arlington facility at 5 (Attachment 6). In addition, the two Virginia Covanta facilities have different boiler systems. The Alexandria, Virginia facility operates three "Keeler/Dorr-Oliver municipal waste combustor with Martin-stokers boiler system with integrated reciprocating grate stoker and water wall municipal waste combustors . . . [,e]ach . . . rated at 325 tons per day (nominal) waste combustion and a heat input rating of 121.8 MMBtu/hr." Statement of Basis for Covanta Alexandria/Arlington at 5-6 (Attachment 6). The Fairfax, Virginia facility operates four "Ogden-Martin [combustors] equipped with Martin-

needed for a trial run of Selective Catalytic Non-Reduction technology on unit 1 of the Facility for a period of less than 4 months).

²⁵ EIP conducted an analysis of NOx emissions from Covanta's facility in Montgomery County, Maryland, using data shown in tons per year in the Maryland Emissions Inventory, which is produced each year by the Maryland Department of the Environment but is not publicly available online. This analysis showed that the annual average NOx emissions from Covanta's Montgomery County facility in 2006-2008 were 1,016 tons per year. After the installation of the new Low NOx controls, during the period from 2009 through 2011, average NOx emissions were 522 tons per year. This is an average reduction of 494 tons per year or 48.6% of emissions. *See* EIP Comments on Maryland's NOx RACT process (Oct. 27, 2016) at 3-4, at https://environmentalintegrity.org/wp-content/uploads/2016/11/Combined-Final-Group-Letter-to-MDE_10.27.pdf.

²⁶ Regarding the boilers at the Chester Facility, the Draft Permit Review Memo states on page 2: "The facility operates six (6) rotary waterwall combustors (Westinghouse Model RC170), commenced in 1991. Each of the combustors has a capacity to burn 448 tons/day of municipal waste and to produce 161,000 lbs/hr of steam for power generation." (Attachment 10).

Stoker boiler system with integrated reciprocating grate stokers and water walls[,] [e]ach . . . rated at 750 tons per day (nominal) waste combustion and a heat input rating of 343.75 MMBtu/hr.” Statement of Basis for Covanta Fairfax at 5 (Attachment 7).

If Covanta asserts that it is not technically feasible to install a combination of SNCR and Low NOx on the Chester facility, this presents an opportunity to evaluate this important question via an assessment like that described below. Certainly, it is clear that the two Virginia facilities do not use identical boilers, and yet each facility was able to install a combination of SNCR and Low NOx and accept NOx RACT limits of 110 ppm on a daily average and 90 ppm on an annual average. *See* Comments on the Proposed Rule Section 1b above.

f. At Minimum, Covanta Should Be Required to Conduct a Study Assessing the Most Effective NOx Controls That Can Be Installed on the Chester Facility

At minimum, Covanta should be required to assess the most efficient NOx control technology that can be operated on the Chester Facility and the lowest possible NOx limit that can be met by operating that technology in the most effective way possible. For example, SNCR can be operated in different ways that increase or reduce its effectiveness. Factors that can affect this include injector placement, temperature, and residence time. *See, e.g.,* Babcock Power Study for Wheelabrator Baltimore Incinerator at 6-9 (Attachment 4). Since Covanta is conducting a trial of SNCR on unit 1, the company should be required to assess not only the feasibility of installing that system but also how the system can be optimized to achieve the greatest possible reduction of NOx emissions and the lowest possible NOx limit.

Similarly, Covanta should also have to assess whether more effective controls, including SCR and the combination of SNCR and Low NOx, can be installed on the Chester Facility and the NOx limit associated with the most effective operation of those controls. The company should provide a rationale supporting any claim that it cannot install the most efficient controls available, keeping in mind that Pennsylvania is not constrained by the RACT standard in its selection of NOx control technology for the facility. 42 U.S.C. § 7416; 42 U.S.C. § 7410(a)(2)(D); 80 Fed. Reg. 12279.

As an example of how another state has required such an evaluation for a large incinerator located in an environmental justice community, Commenters point again to the Maryland Department of the Environment’s regulatory requirement for the Wheelabrator incinerator in Baltimore City. Among other things, Maryland required an analysis by an independent third party, required that the assessment include “technologies capable of achieving NOx emission levels comparable to those for a new source in consideration of the overall facility design at Wheelabrator Baltimore Inc.” and required that Wheelabrator “submit any other information that the [Maryland Department of Environment] determine[d] [was] necessary to evaluate the feasibility analysis” upon the agency’s written request. COMAR 26.11.08.10(E).

The Commonwealth of Pennsylvania is similarly authorized to take action to protect its residents from large pollution sources. 42 U.S.C. § 7416; 42 U.S.C. § 7410(a)(2)(D); 80 Fed. Reg. 12279. It should be especially willing to exercise this authority in communities, like Chester, that are overburdened with pollution.

5. The Department and the Board Unreasonably Fail to Address RACT Requirements for Steel Facilities in Allegheny County.

The purpose of the proposed rule is to make RACT requirements applicable to sources throughout the Commonwealth:

... *the NOX requirements* of this section and §§ 129.112—129.115 *apply Statewide* to the owner and operator of a major NOX emitting facility *and the VOC requirements* of this section and §§ 129.112—129.115 *apply Statewide* to the owner and operator of a major VOC emitting facility that were in existence on or before August 3, 2018

See [Proposed Rule](#), Section 129.111(a) (bold italics added for emphasis). But the proposed rule does not include RACT III requirements for the three U.S. Steel facilities in the Mon Valley in Allegheny County. *See id.* Moreover, the Board has only adopted “good operating practices” for electric arc furnaces like the facility operated by ATI Flat Rolled Products Holdings, LLC in Breckenridge, Allegheny County. *See id.*, Section 129.112(c)(11). Unreasonably, the Department and the Board have not provided any analysis in support of either approach, merely stating in conclusory fashion that electric arc furnaces are subject to “good operating practices.” *See [Technical Support Document](#)*, page 14 of 32. The Department and the Board should revise the Technical Support Document to include an analysis of RACT requirements for these industrial sectors.

The fact that the Allegheny County Health Department is responsible for its own air quality program would not be a reasonable justification for the Department’s failure to provide an analysis. The Air Pollution Control Act contemplates the possibility of a local government administering its own air quality program, but only if it will be no less stringent than the requirements of state law and regulations:

Section 12. Powers Reserved to Political Subdivisions.--(a)
Nothing in this act shall prevent counties, cities, towns, townships or boroughs from enacting ordinances with respect to air pollution which will not be less stringent than the provisions of this act, the Clean Air Act or the rules and regulations promulgated under either this act or the Clean Air Act. This act shall not be construed to repeal existing ordinances, resolutions or regulations of the aforementioned political subdivisions existing at the time of the effective date of this act, except as they may be less stringent than the provisions of this act, the Clean Air Act or the rules or regulations adopted under either this act or the Clean Air Act.

See Section 12, [Act of Jan. 8, \(1960\) 1959, P.L. 2119, No. 787](#) (bold italics added for emphasis). Nothing in this section of the state law constitutes an abdication of the authority of the

Department or the Board to prepare and promulgate RACT regulations for the entire Commonwealth, even in areas with an approved air quality program. *See id.*

Moreover, the Department's approval of the air quality program of the Allegheny County Health Department contemplates that Allegheny County will follow the state regulations:

The Department of Environmental Protection (***DEP or Department***) hereby approves the Allegheny County Air Quality program under Section 12 of the Air Pollution Control Act (APCA), 35 P.S. §4012, subject to the following conditions:

I. GENERAL CONDITIONS

....

b. Allegheny County shall implement regulatory requirements promulgated by the Department applicable to air contamination sources including mobile sources located in Allegheny County. Allegheny County shall also promulgate regulations to implement regulations promulgated by the Department.
Allegheny County will describe the process and timing for implementation of these regulations in the Annual Program Plan.

....

*See [Commonwealth of Pennsylvania, Department of Environmental Protection, Allegheny County Air Quality Program Approval With Conditions](#), Section I.b (unsigned and undated copy available on the Department's website) (bold italics added for emphasis) (Attachment 12). Nothing in the approval constitutes an abdication of the authority of the Department or the Board to prepare and promulgate RACT regulations. *See generally id.**

This is important to public health because the Allegheny County Health Department has attempted to give up its legal authority to adopt more stringent coke oven standards, through an agreement with U.S. Steel. (U.S. Steel operates the Clairton Coke Works as well as the Edgar Thomson Plant and the Irvin Works, all in Allegheny County). In 2019, the Allegheny County Health Department attempted to give up its legal authority to adopt more stringent emission standards, unless they are based on a feasibility test in the agreement with U.S. Steel, and unless the Allegheny County Health Department can prove that they would correlate with a measurable reduction in hydrogen sulfide and benzene levels at the Liberty monitor:

VII. ADOPTION OF MORE STRINGENT EMISSION STANDARDS

12. The Department may pursue a rulemaking to impose more stringent limits on the coke batteries (except C Battery) only if

the more stringent limits are determined to be, inter alia, technically feasible in accordance with this Paragraph. C Battery is excluded because the existing limits are based upon current Best Available Control Technology. U.S. Steel hereby agrees that it will not challenge, and hereby waives any right to challenge, any such rulemaking on the basis of technical feasibility, provided that any more stringent emission standards are shown to be achievable and maintainable, based on meeting all criteria below:

A. The consideration of EPA's Upper Prediction Limit (UPL) methodology across all Batteries based on the actual inspections performed from December 24, 2013 to December 23, 2018 (the five-year period just prior to a fire at the No. 2 Control Room that significantly affected plant operations) and shall consist of all required inspection data;

B. Standards must be based on an appropriate compliance rate which shall not be less than 99% for all regulated emissions points on the battery over any consecutive 12-month period 20 during a five-year period on a battery-by-battery basis. The database for establishing the rate of compliance shall be based on the actual inspections performed from December 24, 2013 to December 23, 2018 (the five-year period just prior to a fire at the No. 2 Control Room that significantly affected plant operations) and shall consist of all required inspection data; and

C. Any more stringent limit must be supported by a demonstration that the such limit is shown to correlate with a measurable reduction in hydrogen sulfide and benzene levels at the Liberty monitor.

See Settlement Agreement and Order dated June 27, 2019, Section VII, par. 12, pages 19-20 (Attachment 13). The Allegheny County Health Department attempted to tie its regulatory hands for as many as five years from the effective date of the agreement (which would be June 27, 2024). *See id.*, Section XIII. Effective Date and Termination, par. 32, page 28.

In fact, in the context of a pending rulemaking for coke ovens and coke oven gas, the Allegheny County Health Department has taken the position that it legally may not adopt more stringent coke emissions standards, except as provided in that agreement. Therefore, it has largely relegated its rulemaking authority over coke ovens to the ministerial task of correcting proofreading errors in its own regulations:

The ACHD Air Quality Program is also proposing to amend its regulations based on issues of stringency with federal and Pennsylvania regulations. The Pennsylvania Air Pollution Control Act states that the ACHD may enact "ordinances with respect to air pollution which will not be less stringent than the provisions of this act, the Clean Air Act or the rules and regulations promulgated under either this act or the Clean Air Act." 35 P.S. § 4012(a). During this regulatory review process, the ACHD determined that there were provisions in the Article XXI regulations pertaining to coke ovens and coke oven gas which were less stringent than the regulations promulgated under the Clean Air Act and Pennsylvania Air Pollution Control Act. As a result, the ACHD Air Quality Program is proposing to amend the applicable provisions to be at least as stringent as the Pennsylvania and federal regulations.

See [Proposed Revision to Allegheny County’s Portion of the Pennsylvania State Implementation Plan, Revision Tracking No. 87](#) (November 2021) (proposed coke oven regulations), Technical Support Document, page 21 (orange highlighting added for emphasis) (Attachment 14).

Accordingly, it proposed to revise its regulations to encompass the federal definition of “charging emissions”:

Section*	Explanation for Change
§2101.20 (Definition of “Charging emissions”)	The Pennsylvania Air Pollution Control Act states that the ACHD may enact “ordinances with respect to air pollution which will not be less stringent than the provisions of this act, the Clean Air Act or the rules and regulations promulgated under either this act or the Clean Air Act.” 35 P.S. § 4012(a). The U.S. Environmental Protection Agency’s regulations on visible emissions from by-product coke oven batteries states in a note that “[visible emissions] from open standpipes of an oven being charged count as charging emissions.” 40 C.F.R. Part 63, Appendix A, Method 303, Section 11.1.4. The ACHD determined that because its definition of “charging emissions” is “less stringent” because it does not include the language in the federal regulation. Therefore, the ACHD is proposing to amend the definition for “Charging emissions” to include the language “open standpipes of the oven being charge.”

See *id.*, page 22 (orange highlighting added for emphasis).

In addition, it proposed to revise its regulations to encompass the state definition of “Pushing operation”:

§2101.20 (Definition of “Pushing operation”)	As discussed above, the ACHD regulations cannot be “less stringent” than the regulations promulgated under the Pennsylvania Air Pollution Control Act. 35 P.S. § 4012(a). The Pennsylvania “Air Resources” regulations provide that “pushing operations” begin “when the coke side door is first removed from a coke oven.” 25 Pa.Code § 121.1. Under the current Article XXI regulation, for coke oven batteries 13, 14, 15, 20, and B at the U.S. Steel Corporation Mon Valley Works Clairton Plant, the push does not start until after the coke side door is first removed and the coke mass starts to move. For these batteries, the emissions between the time the coke side door is first removed and when the coke mass starts to move is not included in determining compliance with the pushing emissions standard. Because the ACHD regulation is less stringent, the ACHD is proposing to amend the definition of “Pushing” so that it is identical to the definition of “Pushing operation” in the Pennsylvania “Air Resources” regulations. 25 Pa.Code § 121.1.
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See *id.*, page 22 (orange highlighting added for emphasis).

In addition, it proposed to revise its regulations to eliminate an unauthorized exclusion from federal emissions standards for “door areas”:

§2105.21.b.2, b.3	When determining compliance with the emissions standards for door areas, the regulations currently provide that the ACHD must exclude the “two door areas of the last oven charged and any door areas obstructed from view.” As noted above, any regulations promulgated by the ACHD cannot be less stringent than the EPA regulations promulgated under the Clean Air Act. When calculating the percent of leaking doors, the federal regulations for determination of visible emissions from by-product coke oven batteries does not include a two door exclusion. 40 C.F.R. Part 63, Appendix A, Method 303, Section 12.5.3.1. In order to avoid being less stringent than the federal regulation, the ACHD is proposing to remove the two door exclusion.
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See *id.*, page 24 (orange highlighting added for emphasis).

In addition, it proposed to revise its regulations to encompass the state prohibition on “pushing operations” unless the operations are enclosed and the emissions are contained:

§2105.21.e	The Pennsylvania Air Pollution Control Act states that the ACHD may enact “ordinances with respect to air pollution which will not be less stringent than the provisions of this act, the Clean Air Act or the rules and regulations promulgated under either this act or the Clean Air Act.” 35 P.S. § 4012(a). Section 129.15 (“Coke pushing operations”) of the Pennsylvania “Air Resources” regulations states: “No person may permit the pushing of coke from a coke oven unless the pushing operation is enclosed during the removal of coke from a coke oven and pushing emissions are contained, except for the fugitive pushing emissions, that are allowed by subsections (c) and (e).” 25 Pa Code 129.15(a). The ACHD’s current regulations for pushing do not include this requirement. In order to avoid being less stringent than the Pennsylvania regulations, that ACHD is proposing to add this language to its regulations.
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See *id.*, page 24 (orange highlighting added for emphasis).

In addition, it proposed to revise its regulations to encompass the state requirement that emission standards for coke oven gas be determined by measuring sulfur compounds “expressed as equivalent hydrogen sulfide”:

§2105.21.h, h.3	As discussed above, the ACHD regulations cannot be “less stringent” than the regulations promulgated under the Pennsylvania Air Pollution Control Act. 35 P.S. § 4012(a). Under Section 123.23 (“Byproduct coke oven gas”) of the Pennsylvania “Air Resources” regulations, compliance with the emission standards for coke oven gas is determined by measuring sulfur compounds “expressed as equivalent hydrogen sulfide.” 25 Pa.Code § 123.23(b). The current version of the ACHD regulations are less stringent because it does not include this language. The ACHD is proposing to revise its regulations to state “expressed as equivalent hydrogen sulfide” which is consistent with the Pennsylvania regulations.
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See *id.*, page 25 (orange highlighting added for emphasis).

Finally, it proposed to revise its regulations to include state requirements for “topside emissions”:

§2105.21.j	The ACHD is proposing adding a new section titled “Miscellaneous Topside Emissions.” The requirements under this section are from the Pennsylvania “Air Resources” regulations, 25 Pa.Code §123.44(a)(6),(7). The ACHD is required to include these requirements so that the Article XXI regulations are not less stringent than the Pennsylvania regulations. 35 P.S. § 4012(a).
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See *id.*, page 27 (orange highlighting added for emphasis).

Because the Allegheny County Health Department has attempted to abdicate its authority to adopt more stringent coke oven standards and has relegated itself to the ministerial task of correcting proofreading errors in its regulations, the Department should pay special attention to sources within Allegheny County whose air emissions performance might improve through more stringent RACT standards -- including the Clairton Coke Works, the Edgar Thomson Plant, and the Irvin Works.

With respect to the Clairton Coke Works, the Department should consider a meaningful work practices plan for the control of coke oven emissions from leaking doors, lids, and offtake piping, and charging of coke oven batteries. *See* Comments of Clean Air Council, Environmental Integrity Project, and PennFuture on Proposed Regulations for Coke Ovens and Coke Oven Gas (January 21, 2020) (without attachments), Comment 8, pages 49-59 (Attachment 16). As the product of combustion, nitrogen oxides would be one of a number of harmful air pollutants emitted from this source.

In addition, the Department should consider a leak detection and repair program (“LDAR”) for volatile organic compounds. *See* Comments of Clean Air Council on Proposed Installation Permit No. 0052-I020, U.S. Steel Mon Valley Works (March 17, 2020) (RACT permit), Comments 4-5, pages 6-7 (Attachment 15).

Thank you for your consideration of these comments.

Thank you for your consideration of the comments of the Council.



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