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CLEAN AIR COUNCIL



April 6, 2020

David Talley
Planning & Implementation Branch
Air & Radiation Division
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103

Re: Docket ID No. EPA-R03-OAR-2019-0562

Dear Mr. Talley:

On behalf of the Center for Biological Diversity and Clean Air Council, Air Law for All, Ltd. submits the following comments to Docket No. EPA-R03-OAR-2019-0562 in opposition to EPA's proposed action, "Air Plan Approval; Pennsylvania; Reasonably Available Control Technology (RACT) for Volatile Organic Compounds (VOC) Under the 2008 Ozone National Ambient Air Quality Standards (NAAQS)," 85 FR 12877 (Mar. 5, 2020).

I. INTRODUCTION

The Center for Biological Diversity's mission is to ensure the preservation, protection, and restoration of biodiversity, native species, ecosystems, public lands and waters, and public health through science, policy, and environmental law. Based on the understanding that the health and vigor of human societies and the integrity and wildness of the natural environment are closely linked, the Center for Biological Diversity is working to secure a future for animals and plants hovering on the brink of extinction, for the ecosystems they need to survive, and for a healthy, livable future for all of us.

Clean Air Council is a non-profit environmental health organization headquartered at 135 South 19th Street, Suite 300, Philadelphia, Pennsylvania, 19103. The Council maintains an office in Pittsburgh. 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, including members in Allegheny County.

II. BACKGROUND

As discussed in the notice for EPA's proposed approval, on March 27, 2008 EPA revised the 1997 8-hour ozone national ambient air quality standards ("NAAQS") by tightening the level to 0.075 parts per million ("ppm") averaged over an 8-hour period.¹ On May 21, 2012, EPA designated five nonattainment areas in Pennsylvania and classified them as Marginal.²

Under section 184(a) of the Clean Air Act ("CAA" or "Act"), Pennsylvania is part of an Ozone Transport Region ("OTR") consisting of twelve Eastern states.³ Section 184(b) requires states in an OTR to submit a state implementation plan ("SIP") revision to implement reasonably available control technology ("RACT") with respect to all sources of volatile organic compounds ("VOCs") covered by a control techniques guideline ("CTG") issued by EPA.⁴

Under EPA's regulations for implementation of the 2008 ozone NAAQS, submissions to address RACT requirements were due within 24 months of the effective date of designation, i.e. July 20, 2014.⁵ On February 3, 2017, EPA found that Pennsylvania had failed to submit a SIP revision to address the requirements of section 184(b) with respect to 44 categories of sources covered by CTGs.⁶ EPA made the finding almost two years after the statutory deadline for it.⁷ This finding started a two-year clock for EPA to promulgate a federal implementation plan ("FIP")⁸ and also started the clocks for highway and offset sanctions.⁹

EPA failed to timely promulgate (or even propose) a FIP for Pennsylvania with respect to these requirements. Instead, EPA now proposes, over a year after the deadline for a FIP, to approve a SIP revision submitted by the Pennsylvania Department of Environmental Protection ("PADEP") on August 13, 2018.

III. THE RELATIONSHIP BETWEEN RACT AND CTGS

Section 172 of the Act contains the general requirements for attainment plans, including in section 171(c)(1) a requirement that the attainment plan

¹ 85 FR at 12878 (citing 73 FR 16436 (Mar. 27, 2008)).

² *Id.* (citing 77 FR 30088 (May 21, 2012)).

³ 42 U.S.C. § 7511c(a).

⁴ *Id.* § 7511c(b); *see also id.* § 7502(c)(1) (generally requiring RACT in attainment plans); *id.* § 7511a(b)(2) (requiring RACT in attainment plans for Moderate ozone nonattainment areas).

⁵ 82 FR 9158, 9160 (Feb. 3, 2017).

⁶ *Id.* at 9162, tbl. 2.

⁷ 42 U.S.C. § 7410(k)(1)(B).

⁸ 42 U.S.C. § 7410(c)(1).

⁹ *Id.* § 7509.

provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of *reasonably available control technology*)¹⁰

For ozone nonattainment areas classified Moderate or above, section 182(b)(2) requires states to:

submit a revision to the applicable implementation plan to include provisions to require the implementation of *reasonably available control technology* under section [172(c)(1)] with respect to each of the following: (A) Each category of VOC sources in the area covered by a CTG document issued by the Administrator between November 15, 1990, and the date of attainment. (B) All VOC sources in the area covered by any CTG issued before November 15, 1990. (C) All other major stationary sources of VOCs that are located in the area. Each revision described in subparagraph (A) shall be submitted within the period set forth by the Administrator in issuing the relevant CTG document.¹¹

Under section 302(s), the term “VOC” means “volatile organic compound, as defined by the Administrator.”¹² And as defined in section 302(u), “CTG” means “a Control Technique Guideline published by the Administrator under section [108].”¹³

In turn, section 108(b) requires EPA to:

issue to the States and appropriate air pollution control agencies information on air pollution control techniques, which information shall include data relating to the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impact of the emission control technology. Such information shall include such data as are available on available technology and alternative methods of prevention and control of air pollution. Such information shall also include data on alternative fuels, processes, and operating methods which will result in elimination or significant reduction of emissions.¹⁴

Section 108(c) requires EPA to “review, and, as appropriate, modify, and reissue any [i]nformation on control techniques issued pursuant to this section,” and section 108(d) requires EPA to announce the issuance of the information in the Federal Register and to make the information generally available to the public.”¹⁵

Section 183 specifically addresses CTGs for ozone. Added in the 1990 Amendments, it required EPA to issue eleven additional CTGs for source categories not covered by CTGs prior to the 1990 Amendments.¹⁶ Section 183 also required EPA to “review and, if necessary, update” the pre-1990 Amendment CTGs, prioritizing those that are the most

¹⁰ 42 U.S.C. § 7502(c)(1).

¹¹ *Id.* § 7511a(b)(2).

¹² *Id.* § 7602(s).

¹³ *Id.* § 7602(u).

¹⁴ *Id.* § 7408(b).

¹⁵ *Id.* §§ 7408(c), (d).

¹⁶ 42 U.S.C. § 7511b(a).

significant contributors to ozone formation.¹⁷ Finally, section 183 requires EPA to issue alternative control techniques (“ACT”) guidelines for all categories of stationary sources of VOC and NO_x with a potential to emit of 25 tons per year (“tpy”).¹⁸

IV. EPA’S INTERPRETATION OF RACT

The 1970 version of the Act did not use the term RACT; EPA first defined it in 1971 and required implementation of RACT in limited circumstances. In 1976 EPA extended the scope of RACT and began to issue CTGs. The 1977 Amendments adopted the term, and the 1990 Amendments made it a separate requirement, apart from attainment, for Moderate ozone areas.

A. The 1970 Act

As amended in 1970, the Act did not contain any provisions specifically requiring RACT in attainment plans.¹⁹ In 1971, EPA first defined the term in issuing the original Part 420, “Requirements for Preparation, Adoption, and Submittal of Implementation Plans.”²⁰ The definition referred to Appendix B, which “set[] forth emission limitations which, in the Administrator’s judgment, are attainable through the application of reasonably available emission control technology.”²¹ According to Appendix B, the emission limitations were informational in nature and did not constitute recommendations that, if not followed, might result in disapproval of a submittal.²² However, application of RACT to VOC emissions was required in the limited circumstance that RACT for NO_x emissions (among other measures) was insufficient to attain the NO₂ standards.²³

In 1976, EPA broadened application of RACT, issuing a guidance memorandum (“Strelow Memorandum”) that made recommendations as to RACT in circumstances in which a state could not demonstrate attainment and maintenance of the NAAQS.²⁴

The Strelow Memorandum defined RACT as:

the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.²⁵

¹⁷ *Id.* § 7511b(b).

¹⁸ *Id.* § 7511b(c).

¹⁹ The attainment planning provisions were located in section 110. *See generally* 1 Legislative History of the Clean Air Amendments of 1970, Together with a Section-by-Section Index, (“1970 Legislative History”) 14-18 (Environmental Policy Division, Congressional Research Service, Jan. 1974) (Clean Air Act as amended). The *sine qua non* for an attainment plan was whether the plan provided for attainment and maintenance of the NAAQS, and not whether it imposed any particular technology standard for controls. *Cf. Union Elec. Co. v. EPA*, 427 U.S. 246, 256-269 (1975).

²⁰ 36 FR 15486, 15487 (Aug. 14, 1971). The Part 420 regulations were moved to Part 51 later that year. 36 FR 22369 (Nov. 25, 1971).]

²¹ 36 FR at 15495.

²² *Id.*

²³ *Id.* at 15491 (promulgating 42 C.F.R. 420.14(c)(3)).

²⁴ Memorandum from Roger Strelow, Assistant Administrator, to Regional Administrators, “Guidance for Determining Acceptability of SIP Regulations in Non-Attainment Areas” (Dec. 9, 1976), *available at* https://www3.epa.gov/ttn/naaqs/aqmguide/collection/cp2/19761209_strelow_ract.pdf (copy attached).

²⁵ *Id.* at 2.

EPA made clear that “reasonably available” was a stringent standard: “RACT encompasses stringent, or even ‘technology forcing,’ requirement that goes beyond simple ‘off-the-shelf’ technology.”²⁶ RACT should reflect:

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.²⁷

In tandem with this guidance memorandum, EPA began issuing the first CTGs.²⁸ The CTGs adopt the definition of RACT in the Strelow Memorandum and present emission limitations for source categories that EPA described as a “presumptive norm” for RACT.²⁹ While the CTGs do not appear to state the authority they were issued under, section 108(b)(1) of the 1970 Act required EPA to:

issue to the States and appropriate air pollution control agencies information on air pollution control techniques, which information shall include data relating to the technology and costs of emission control. Such information shall include such data as are available on available technology and alternative methods of prevention and control of air pollution. Such information shall also include data on alternative fuels, processes, and operating methods which will result in elimination or significant reduction of emissions.³⁰

B. The 1977 Amendments

With the 1977 Amendments, Congress separated attainment plan requirements into Part D of Title I of the Act.³¹ Among the requirements for attainment plans in section 172 of Part D was, in section 172(b)(3), “such reduction in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology.”

In EPA’s 1979 General Preamble for the 1977 Amendments,³² EPA stated that “the minimum acceptable level of stationary source control for ozone SIPs” would generally “include adopted RACT requirements for VOC source covered by [CTGs] that EPA issued by January 1978, and schedules to adopt and submit by each future January additional requirements for the sources covered by CTGs issued by the previous

²⁶ *Id.*

²⁷ *Id.*

²⁸ See EPA.gov, “Control Techniques Guidelines and Alternative Control Techniques Documents for Reducing Ozone-Causing Emissions,” *available at* <https://www.epa.gov/ground-level-ozone-pollution/control-techniques-guidelines-and-alternative-control-techniques> (last visited Apr. 6, 2020) (copy attached). Two guidelines were issued prior to the Strelow Memorandum. One lists control techniques without making recommendations; the other has been treated as a CTG. *See id.*

²⁹ See, e.g., “Control of Volatile Organic Emissions from Existing Stationary Sources – Volume II: Surface Coating of Cans, Coils, Paper, Fabrics, Automobiles, and Light-Duty Trucks,” EPA-450/2-77-008 iv (Office of Air Quality Planning and Standards, May 1977) (previously OAQPS No. 1.2-073) (attached).

³⁰ 1 1970 Legislative History 12.

³¹ See 3 Legislative History of the Clean Air Act Amendments of 1977, A Continuation of the Clean Air Act Amendments of 1970, Together with a Section-by-Section Index, (“1977 Legislative History”) 100-106 (Environmental Policy Division, Congressional Research Service, Aug. 1978).

³² “State Implementation Plans; General Preamble for Proposed Rulemaking on Approval of Plan Revisions for Nonattainment Areas,” 44 FR 20372 (April 4, 1979).

January.”³³ However, for “SIPs with attainment dates before the end of 1982 that [] use photochemical dispersion modeling, these RACT requirements must apply to enough sources covered by each CTG to provide for reasonable further progress and attainment as expeditiously as practicable.”³⁴

Thus, EPA’s policy in the 1979 General Preamble viewed CTGs as a trigger for RACT requirements. In a supplement to the General Preamble issued later that year, EPA stated its policy regarding the stringency of RACT and its relation to the recommendations in a CTG.³⁵

Citing the legislative history, EPA first stated that, by using the term “reasonably available control technology” in the 1977 Amendments, “Congress apparently adopted EPA’s pre-existing conception of the term” as set forth in the Strelow Memorandum.³⁶ In EPA’s view, Congress was also “aware that EPA had already begun preparing a series of CTGs to provide guidance to States and industry on controlling stationary sources of VOC.”³⁷ EPA noted that the 1977 Amendments required EPA to “publish, and make available to State air pollution control agencies, information on control of emissions from non-transportation sources including fuel transfer and storage operations and operations using solvents.”³⁸

EPA then stated that the CTGs served four functions. First, “[t]he primary purpose of each CTG is to inform the State and local air pollution control agencies of air pollution control techniques available for reducing emissions of VOC from the class of sources covered by the CTG.” Second, the CTGs established deadlines for submitting SIP requirements, in accordance with the scheduled quoted from the General Preamble above.³⁹

Third, the CTGs contained recommendations for States. EPA described these as “presumptive norms,” but noted that “[t]he presumptive norm is only a recommendation.”⁴⁰ “In many cases appropriate controls would be more or less stringent.”

Fourth, the CTGs contained information from relevant industries that would be “part of the rulemaking on which EPA’s decision [on a submittal] would be based.”⁴¹ EPA thus suggested that a State might be able to “rely solely on the information in the CTG to support its determination that the adopted requirements represent RACT.”

C. The 1990 Amendments

EPA’s approach to ozone regulation under the 1977 Amendments was a failure:

³³ *Id.* at 20376.

³⁴ *Id.*

³⁵ “State Implementation Plans: General Preamble for Proposed Rulemaking on Approval of Plan Revisions for Nonattainment Areas—Supplement (on Control Techniques Guidelines),” 44 FR 53761 (Sept. 17, 1979).

³⁶ *Id.* at 53762, 53762 nn. 2, 3.

³⁷ *Id.* at 53762.

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.* at 53763.

In 1979, EPA promulgated primary and secondary NAAQS for ozone with a limit of 0.12 parts per million (ppm)—known as the “one-hour” standards, because they measured average ozone levels over one-hour periods. The Clean Air Act as amended in 1977 required states to achieve compliance with the one-hour ozone NAAQS by December 31, 1987. The statute afforded EPA and the states broad discretion as to the means of compliance. That discretionary approach ultimately accomplished little to reduce the dangers of key contaminants. For instance, according to congressional testimony, the number of regions violating the one-hour ozone NAAQS actually increased between August 1987 and February 1989.⁴²

Congress reacted by curtailing EPA’s discretion:

After nearly a decade of debate, Congress amended the Clean Air Act in 1990 to abandon the discretion-filled approach of two decades prior in favor of more comprehensive regulation of ozone and five other pollutants. The amendments moved the prior, discretionary approach to Subpart 1 of Part D of Subchapter I, where it continued to apply as a default matter to pollutants not specifically addressed in the amended portions of the Act. Congress enacted Subpart 2 to govern ozone.⁴³

Specifically, Congress curtailed EPA’s discretion to consider RACT as satisfied when a plan demonstrated attainment. Under the classification system created by the 1990 Amendments, for areas classified Moderate and above, regardless of whether a plan demonstrates attainment states must submit a SIP revision requiring implementation of RACT for:

- (A) Each category of VOC sources in the area covered by a CTG document issued by the Administrator between November 15, 1990, and the date of attainment.
- (B) All VOC sources in the area covered by any CTG issued before November 15, 1990.
- (C) All other major stationary sources of VOCs that are located in the area.⁴⁴

Section 183 required EPA to review and periodically update existing CTGs, prioritizing those with the most impact on ozone formation, and to issue new CTGs; it also required EPA to issue ACTs.⁴⁵

Finally, the 1990 Amendments added the “RACT/BACT/LAER Clearinghouse:”

The Administrator shall make information regarding emission control technology available to the States and to the general public through a central database. Such information shall include all control technology information

⁴² *NRDC v. EPA*, 777 F.3d 456, 460 (D.C. Cir. 2014) (citations and quotations omitted).

⁴³ *Id.*; see also *S. Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882, 886 (D.C. Cir. 2006); *Whitman v. Am. Trucking Ass’ns, Inc.*, 531 U.S. 457 484-85 (2001).

⁴⁴ 42 U.S.C. § 7511a(b)(2).

⁴⁵ 42 U.S.C. § 7511b(a), (b), (c).

received pursuant to State plan provisions requiring permits for sources, including operating permits for existing sources.⁴⁶

EPA maintains the clearinghouse on EPA's website.⁴⁷ According to EPA:

The RBLC permit data base contains over 7,500 determinations that can help you identify appropriate technologies to mitigate most air pollutant emission streams. The RBLC permit data base was designed to help permit applicants and reviewers make pollution prevention and control technology decisions for stationary air pollution sources, and includes data submitted by several U.S. territories and all 50 States on over 200 different air pollutants and 1,000 industrial processes.⁴⁸

The search function allows the user to search by the Standard Industrial Classification ("SIC") code and the North American Industry Classification System ("NAICS") code.⁴⁹

D. EPA's Post-1990 Interpretation of RACT and CTGs

In 1992, EPA issued the General Preamble for implementation of Title I of the 1990 Amendments, setting forth EPA's proposed interpretation of various changes made by Congress in the 1990 amendments to Part D of title I.⁵⁰ While the General Preamble discussed the new requirements in section 182(b)(2) for RACT in Moderate (and above) ozone nonattainment areas, it did not discuss the EPA's interpretation of RACT.⁵¹ However, in a supplement for nitrogen oxides ("NOx") to the General Preamble, EPA restated its historic definition of RACT.⁵²

In 1997, EPA revoked the 1-hour ozone NAAQS and promulgated an 8-hour NAAQS.⁵³ EPA subsequently promulgated the "Phase 2" rule for implementation of the 1997 standards.⁵⁴ In the Phase 2 rule, EPA took the position that states could certify that their RACT determinations for the 1-hour ozone standards remained valid for RACT requirements for the 8-hour standards.⁵⁵ In response to adverse comments stating that even certifications were unnecessary, EPA stated: "Since RACT can change over time as new technology becomes available or the cost of existing technology decreases, EPA does not agree with comments that once a source has met RACT, it has met RACT whether or not the ozone standard is revised."⁵⁶ In response to adverse comments noting

⁴⁶ 42 U.S.C. § 7408(h).

⁴⁷ <https://www.epa.gov/catc/ractbactlaer-clearinghouse-rblc-basic-information> (last visited 3/31/2020).

⁴⁸ *Id.*

⁴⁹ <https://cfpub.epa.gov/rblc/index.cfm?action=Search.StandardSearch> (last visited 3/31/2020).

⁵⁰ "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," 57 FR 13498 (Apr. 6, 1992).

⁵¹ 57 FR at 13512-513.

⁵² 57 FR 55620, 55624 (Nov. 25, 1992) (citing 44 FR 53762 (Sept. 17, 1979)).

⁵³ 62 FR 38856 (July 18, 1997).

⁵⁴ "Final Rule To Implement the 8-Hour Ozone National Ambient Air Quality Standard—Phase 2; Final Rule To Implement Certain Aspects of the 1990 Amendments Relating to New Source Review and Prevention of Significant Deterioration as They Apply in Carbon Monoxide, Particulate Matter and Ozone NAAQS; Final Rule for Reformulated Gasoline," 70 FR 71612 (Nov. 29, 2005).

⁵⁵ 70 FR at 71617.

⁵⁶ 70 FR at 71655.

that the CTGs were out of date and therefore states should do entirely new RACT determinations, EPA stated:

[W]e agree with comments that many of the CTGs/ACTs have not been revised since issued and thus may not provide the most accurate picture of current control options. Therefore, we believe States must consider new information that has become available and certify that a 1-hour ozone RACT determination, even where controls were required, still represents an appropriate RACT level of control for the 8-hour ozone program.⁵⁷

Several months after promulgating the Phase 2 rule, EPA issued a guidance memorandum (“Harnett Memorandum”) addressing various RACT issues.⁵⁸ The memorandum stated: “While the CTGs and ACTs provide a starting point for such an analysis, RACT can change over time as new technology becomes available or the cost of existing technology adjusts.”⁵⁹

1. NRDC v. EPA

In *NRDC v. EPA*, the State of New Jersey challenged EPA’s RACT certification approach in the Phase 2 rule.⁶⁰ In New Jersey’s view, states were required to do a full RACT analysis for all sources, regardless of previous RACT determinations, “because what is ‘reasonably available’ changes over time.”⁶¹

The court found that EPA’s procedure reasonably addressed this concern:

First, the EPA has directed states to consider available information in addition to the CTG and ACT documents when making RACT determinations. If a state is presented with information indicating that a previous RACT determination is inappropriate, the state must consider that information and modify its RACT determinations accordingly. Second, when submitting RACT certifications to the EPA as part of their RACT SIP submissions, states must provide supporting information. Third, if additional information is presented during notice-and-comment rulemaking, both the state and the EPA are required to consider that information as part of the rulemaking; this includes information presented during notice-and-comment rulemaking for RACT SIP submissions for previously controlled sources. Because the EPA could reasonably conclude that these mechanisms will ensure the case-by-case determinations will take into account advances in technology, the EPA could also reasonably conclude “that the best way to address the possibility that CTGs or ACTs might not reflect all currently available technologies was by *requiring each State to consider any*

⁵⁷ *Id.*

⁵⁸ Memorandum from William T. Harnett, Director, Air Quality Policy Division, to Regional Air Division Directors, “RACT Qs & As – Reasonably Available Control Technology (RACT): Questions and Answers” (May 16, 2006), available at https://www3.epa.gov/ttn/naaqs/aqmguides/collection/cp2/20060518_harnett_ract_q&a.pdf (attached).

⁵⁹ *Id.* at 3.

⁶⁰ 571 F.3d 1245, 1253-55 (D.C. Cir. 2009).

⁶¹ *Id.* at 1254.

new available information in making its certification, which will then be reviewed by the EPA as part of the SIP submission process[.]”⁶²

Significantly, the Court found that the State’s obligation to independently consider all new available information when developing its RACT certification addressed New Jersey’s concern that reliance on public comment would be an inadequate substitute for a RACT determination.⁶³ Because the Phase 2 rule “directed states to submit supporting documentation along with RACT certifications,” EPA would have “available the information needed to verify states’ determinations that the previous controls are still appropriate under the 8–hour standard.”⁶⁴

2. EPA’s Rule for Implementation of the 2008 Ozone NAAQS

As noted above, the Pennsylvania submittal at issue here is intended to address CTG RACT requirements resulting from EPA’s promulgation of the 2008 ozone NAAQS and subsequent nonattainment designations.⁶⁵ On March 6, 2015, EPA issued an implementation rule for the 2008 ozone standards.⁶⁶ For RACT for CTG categories, EPA retained the approach from the Phase 2 rule:

[S]tates should refer to the existing CTGs and ACTs for purposes of meeting their RACT requirements, as well as all relevant information (including recent technical information and information received during the public comment period) that is available at the time that they are developing their RACT SIPs for the 2008 ozone NAAQS.⁶⁷

In its proposal for the 2015 implementation rule, EPA noted:

The EPA recognizes that existing CTGs and ACTs for many source categories have not been revised in a number of years. However, *in most cases, more recent technical information is available in other forms*, such as the BACT/LAER Clearinghouse; SIPs for other nonattainment areas, in particular those areas with higher classifications; the “Menu of Control Measures” for NOX and VOC; and emissions standards developed under CAA section 111(d) and NSR/prevention of significant deterioration (PSD) settlement agreements.

.....

The EPA generally considers controls that have been achieved in practice by other existing sources in the same source category to be technologically and economically feasible.⁶⁸

⁶² *Id.* at 1254 (quoting EPA br. at 67) (emphasis added).

⁶³ *Id.* at 1255.

⁶⁴ *Id.*

⁶⁵ *See supra*, section I.

⁶⁶ “Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements,” 80 FR 12264 (Mar. 6, 2015).

⁶⁷ 80 FR at 12279.

⁶⁸ 78 FR 34178, 34192 (June 6, 2013) (emphasis added).

EPA also rejected a concept floated in its proposal: RACT determinations could take into account whether the controls would have a “negligible effect.”⁶⁹

V. EPA MUST DISAPPROVE THE RACT SUBMITTAL’S OSTRICH APPROACH TO CTG RACT

In the submittal, PADEP certifies “that all of the provisions or regulations identified as part of this SIP revision represent controls for the applicable VOC CTG source categories in Pennsylvania that are as stringent or more stringent than EPA’s CTG RACT standards.”⁷⁰ Although equivalency with a CTG is not the test for RACT, but merely a “starting point,”⁷¹ PADEP concludes that the approved SIP provisions along with the ones submitted for approval are RACT.⁷²

According to the submittal, PADEP reviewed:

CAA RACT requirements and CTG recommendations, followed by the review of additional guidance or regulations currently implemented for the affected VOC sources, including but not limited to, EPA’s Available Control Technology (ACT) documents, federal NSPS in 40 C.F.R. Part 60, and National Emission Standards for Hazardous Air Pollutants in 40 C.F.R. Part 63 for the applicable source categories.⁷³

However, the submittal does not explain the procedure used to review this information or provide, even in summary form, any comparison of this information with CTG recommendations.⁷⁴ Thus, there is no basis for the statement in the submittal that after reviewing this information “each regulation adopted by Pennsylvania [has been found] to continue to meet RACT for the applicable source categories.”⁷⁵ This also deprives the public of the opportunity for meaningful comment. Without knowing PADEP’s methodology, the public (as well as EPA) cannot even independently replicate the results for all 43 source categories PADEP identified⁷⁶ as present in Pennsylvania. And it’s not the public’s burden to do so. The *NRDC* court addressed New Jersey’s argument that public comment was not enough to ensure a robust RACT determination by stating “EPA will have available the information needed to verify states’ determinations that the previous controls are still appropriate.”⁷⁷ That’s simply not the case here.

On its face, the notion that for all 43 CTG source categories, the CTG recommendations—even those from the late 1970’s—remain RACT after a thorough

⁶⁹ 80 FR at 12279-280.

⁷⁰ “Final State Implementation Plan Revision: Certification of Reasonably Available Control Technology for Control Techniques Guidelines under the 2008 8-Hour Ozone National Ambient Air Quality Standards and Incorporation of 25 Pa. Code Chapter 122 (Relating to National Standards of Performance for New Stationary Sources) into the Commonwealth’s State Implementation Plan,” at 8 (Pennsylvania Department of Environmental Protection, Aug. 2018) (contained in Doc. No. EPA-RO3-OAR-2019-0562-0005) (“RACT Submittal”).

⁷¹ Harnett Memorandum at 3

⁷² *Id.* at 9.; *see also id.* at 12-19 tbl. 1 (column stating basis for determination refers solely to CTGs).

⁷³ *Id.* at 11.

⁷⁴ As every high-school math teacher has said countless times: “Show your work.”

⁷⁵ RACT Submittal at 11.

⁷⁶ *See* RACT Submittal at 12-19 tbl. 1

⁷⁷ *NRDC*, 571 F.3d at 1255.

analysis is implausible; it's just not likely to be the case. This is particular true in light of the Strelow Memorandum's description of RACT as "technology-forcing."⁷⁸ Relying solely on CTGs EPA admits are outdated⁷⁹ isn't "technology-forcing"; it's "technology-stagnating."

Furthermore, EPA has failed to meet its statutory obligation under section 183(b) to review and revise pre-1990 Amendment CTGs.⁸⁰ Noting this, the *NRDC* court stated: "Although the EPA did not revise the guidance documents, the EPA's case-by-case approach adequately ensures that RACT determinations will take into account advances in technology."⁸¹ This is true only if the certification process is robust, as EPA represented to the *NRDC* court it would be: "[T]he best way to address the possibility that CTGs or ACTs might not reflect all currently available technologies was by *requiring* each State to consider *any new available information* in making its certification, *which will then be reviewed by the EPA* as part of the SIP submission process."⁸² By proposing to approve a submittal such as this one, EPA is breaking its promise to the D.C. Circuit Court of Appeals for a robust certification process.

While EPA describes CTGs as creating a "presumptive norm" for RACT, nothing in the Act supports a notion that the CTGs enjoy some sort of heightened evidentiary status. For example, section 182(b)(2) sets forth the triggering effect of CTGs for RACT requirements.⁸³ It does not say, however, that EPA must defer to a state's reliance on a CTG unless some standard (such as "clear and compelling evidence") overcomes that deference. Nor does it say that the CTGs create a presumption that the public must rebut through adverse comments, either during the state's process or EPA's process. CTGs are issued pursuant to section 108, which directs EPA to issue information on control techniques.⁸⁴ Nothing in section 108 gives special status to that information. Nor does section 183, which correctly describes CTGs as "guidance."⁸⁵ A CTG is just that—EPA's *recommendations*—and nothing more.

Regardless of EPA's recommendations in CTGs, a state's CTG RACT submission is reviewed under the usual standards set forth in sections 110(k)(3) and 110(l).⁸⁶ EPA cannot approve a submission that fails to satisfy RACT requirements. The absence of information regarding PADEP's review process makes it impossible to ensure that the submission meets RACT requirements.

Furthermore, PADEP's submittal states it reviewed information "including but not limited to" ACTs, NSPS, and NESHAPS. First, this doesn't even specify which ACTs, NSPS, and NESHAPS PADEP reviewed. Second, due to the "not limited to," it isn't possible to determine if PADEP reviewed, for example, EPA's technical document

⁷⁸ Strelow Memorandum at 2.

⁷⁹ "The EPA recognized in the proposal that existing CTGs and ACTs for many source categories have not been revised in a number of years. However, in many cases, more recent technical information is available in other forms." 80 FR at 12278.

⁸⁰ 42 U.S.C. § 7511b(b)(1).

⁸¹ *NRDC*, 571 F.3d at 1254.

⁸² *Id.* (quoting EPA Br. at 67) (emphasis added).

⁸³ 42 U.S.C. § 7511a(b)(2).

⁸⁴ 42 U.S.C. § 7508.

⁸⁵ 42 U.S.C. § 7511b.

⁸⁶ 42 U.S.C. § 7410(k)(3), (l).

“Beyond VOC CTG RACT.”⁸⁷ “Beyond VOC CTG RACT” identifies state and local rules that are more stringent than CTGs in 28 source categories.⁸⁸ The Harnett Memorandum states:

We note that this document was originally written primarily for States that needed to get reductions beyond RACT in order to attain and maintain the ozone NAAQS. However, in the ten years since that document was issued these controls may have become more economically feasible and thus it is possible that controls considered beyond RACT in that document could be considered RACT for certain sources.⁸⁹

It also isn’t possible to tell whether PADEP reviewed other states’ recent RACT determinations to see what level of controls might be technologically and economically feasible. This is something other states do routinely.⁹⁰ And it isn’t possible to tell whether PADEP reviewed permit determinations for the source categories in the RACT/BACT/LAER clearinghouse.⁹¹

Finally, EPA cannot claim that its proposed approval is justified by limited state resources for RACT determinations. Every SIP submittal, including the RACT submittal here, must meet the applicable provisions of section 110(a)(2).⁹² Among those applicable provisions is section 110(a)(2)(E)(i), which requires the state to have “adequate personnel [and] funding” to “carry out” the plan.⁹³ Furthermore, the best way for EPA to address limited state resources is to satisfy EPA’s statutory obligation to update all of EPA’s antiquated CTGs, which would make their recommendations more reliable, instead of continuing to create burdens for states that are likely to be met in the most perfunctory way possible.

PADEP states: “Where Pennsylvania has certified that a current SIP-approved regulation represents RACT under the 8-hour ozone NAAQS, PADEP states that it is not aware of significant changes in control technology that affect the original RACT determination.” This is the approach of the ostrich that puts its head in the sand in the face of danger. It’s not enough to be unaware, and it’s not the public’s burden to raise awareness. EPA must disapprove this submittal.

⁸⁷ EPA-453/R-95-010 (Control Technology Center, Apr. 1995), *available at* <https://www3.epa.gov/ttn/catc/dir1/byndract.pdf> (copy attached).

⁸⁸ *Id.* at 1-1.

⁸⁹ Harnett Memorandum at 3.

⁹⁰ *See, e.g.* South Coast Air Quality District, 2016 AQMP RACT Demonstration, EPA-R09-OAR-2016-0215-0002 at 2 (evaluating rules for six other California air districts and three other states) (copy attached); *see also* 78 FR at 31492 (states should look at rules from other state SIPs, even those for areas with higher classifications).

⁹¹ The submittal shows that, for example, PADEP reviewed the relevant NAICS codes for natural gas processing plants. RACT Submittal, App’x A, at A-3. As discussed above, *supra* section IV.C, the RACT/BACT/LAER clearinghouse can be searched by NAICS code.

⁹² 42 U.S.C. § 7502(c)(7).

⁹³ *Id.* § 7410(a)(2)(E)(i).

VI. THE SUBMITTAL'S FLAWED ANALYSIS FOR NATURAL GAS PROCESSING PLANTS DEMONSTRATES THE FAILURE OF PADEP'S APPROACH

The submittal identifies fourteen natural gas processing plants that are subject to VOC RACT due to a 1983 CTG. Ten of these are only subject to the leak detection and repair ("LDAR") requirements of subpart VV, 40 C.F.R. part 60, which was promulgated in 1985, while four are subject to the more stringent LDAR requirements of subpart VVa, which was promulgated in 2007.

Based on its flawed understanding of RACT requirements, PADEP did not analyze whether updating the SIP to apply subpart VVa to the ten older natural gas processing plants would be cost-effective. Instead, PADEP—and EPA in its proposed approval—merely compared the subpart VV requirements to the 1983 CTG, determined that the subpart VV was as stringent as the 1983 CTG, and called it a day without any further analysis.

Not only does this violate PADEP's obligation to take into account available new information, EPA's own analysis in promulgating subpart OOOO, 40 C.F.R. part 60, shows that by any rational measure subpart VVa is "reasonably available," considering technical and economic feasibility, for natural gas processing plants. This information was available to PADEP when it developed CTG RACT for the 2008 ozone standards. Furthermore, PADEP did not consider the 28LAER program used in Texas for these facilities. EPA must disapprove the submittal for both its failure to analyze applying subpart VVa to the ten plants and for its failure to require the subpart VVa LDAR program for all natural gas processing plants.

A. EPA's Analysis of Control Measures for Equipment Leaks from Natural Gas Processing Plants

In 1983, EPA issued a CTG for VOC equipment leaks from natural gas and gasoline processing plants.⁹⁴ In 1985, EPA also promulgated New Source Performance Standards ("NSPS") for VOC equipment leaks from onshore natural gas processing plants in subpart KKK of 40 C.F.R. part 60.⁹⁵ The NSPS relied on leak detection and repair ("LDAR") provisions that had been promulgated by EPA in 1983 as NSPS for VOC equipment leaks in the synthetic organic chemicals manufacturing industry.⁹⁶

In 2007, EPA revised the NSPS in subpart VV for synthetic organic chemicals manufacturing plants, placing the new NSPS in subpart VVa of 40 C.F.R. part 60.⁹⁷ Correspondingly, in 2012 EPA promulgated a new NSPS in subpart OOOO for the crude oil and natural gas production, transmission and distribution sector, including natural gas processing plants.⁹⁸ For natural gas processing plants, subpart OOOO generally

⁹⁴ "Guideline Series: Control of Volatile Organic Compound Equipment Leaks from Natural Gas and Gasoline Processing Plants," EPA-450/3-83-007 (Office of Air Quality Planning and Standards, Dec. 1983), available at https://www3.epa.gov/airquality/ctg_act/198312_voc_epa450_3-83-007_leaks_naturalgas_processing.pdf (attached).

⁹⁵ 50 FR 26124 (June 24, 1985)

⁹⁶ 48 FR 48335 (Oct. 18, 1983).

⁹⁷ 72 FR 64883 (Nov. 16, 2007).

⁹⁸ 77 FR 49542 (Aug. 16, 2012).

incorporated the LDAR requirements from the 2007 NSPS in subpart VVa for synthetic organic chemicals manufacturing plants.

Under section 111 of the Act, EPA must determine the best system of emission reductions (“BSER”) when promulgating NSPS, considering (among other things) costs.⁹⁹ EPA’s technical analysis for the final rule summarized the provisions of subpart VV as applied to natural gas processing plants under subpart KKK:

The current NSPS regulation (40 CFR part 60, subpart KKK) requires new and reconstructed natural gas processing facilities to comply with 40 CFR part 60 subpart VV standards to control emissions from equipment leaks. Equipment leaks are fugitive emissions emanating from valves, pump seals, flanges, compressor seals, pressure relief valves, open-ended lines, and other process and operation components. The standards require that the facility establish a leak detection and repair (LDAR) program to limit VOC emissions from pumps in light liquid service, compressors, pressure relief valves in gas/vapor service, sampling connection systems, valves in gas/vapor and light liquid service, pumps and valves in heavy liquid service, and pressure relief devices in light liquid or heavy liquid service and connectors. These equipment leaks are detected using a detection instrument which reads the airborne concentration of volatile organic carbons at a potential leak point on a parts per million (ppm) basis. If the leak exceeds the threshold definition of the applicable regulation, repair of the leaking equipment is required. Equipment leaks also may be defined on the basis of visual observation of certain types of equipment. For most components, subpart VV defines an equipment leak as a measured instrument reading of 10,000 ppm or greater.¹⁰⁰

EPA describes the subpart VVa requirements as follows:

The subpart VVa LDAR program requires the monitoring of pumps, compressors, pressure relief devices, sampling connection systems, open-ended lines, valves, and connectors. These components are monitored with an OVA or TVA to determine if a component is leaking and measures the concentration of the organics if the component is leaking. Connectors and valves have a leak definition of 500 ppm. Valves are monitored monthly, connectors are monitored annually, and open-ended lines and pressure relief valves must be monitored within five days after a pressure release event to ensure they are operating without any detectable emissions (e.g. at a concentration less than 500 ppm above background).¹⁰¹

This program is similar to the subpart VV monitoring program (requirements are cross-referenced in subpart KKK), but finds more leaks due to the lower leak definition,

⁹⁹ 42 U.S.C. § 7411(a)(1) (definition of “standard of performance”).

¹⁰⁰ “Oil and Natural Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution, Background Supplemental Technical Support Document for the Final New Source Performance Standards” at 8-2 (Office of Air Quality Planning and Standards, Apr. 2012) (copy attached) (“2012 NSPS Analysis”).

¹⁰¹ “Control Techniques Guidelines for the Oil and Natural Gas Industry,” EPA-453/B-16-001 at 8-9 (Office of Air Quality Planning and Standards, Oct. 2016) (copy attached) (“2016 CTG”).

increased monitoring frequency, and the addition of connectors to the components being monitored, thereby achieving better emission reductions.¹⁰²

Specifically, subpart VVa lowers the threshold for an equipment leak at valves in gas/vapor and light liquid service to 500 ppm, and second, it adds instrument monitoring for connectors in gas/vapor and light liquid service with a equipment leak threshold of 500 ppm.¹⁰³

For its determination of BSER, EPA computed the capital and operating costs for a subpart VV and a subpart VVa program at a model plant, and determined that the additional capital investment would be \$8,041, and the additional annual cost (including operation and amortized capital costs) would be \$12,261/year.¹⁰⁴ This resulted in a cost-effectiveness of \$2,691 in tons per year of VOC reduced. Based on this, EPA determined that BSER for VOC equipment leaks at natural gas processing plants was the subpart VVa LDAR program.¹⁰⁵

For purposes of its 2016 CTG for the oil and gas sector, EPA re-examined the costs analyzed for the 2012 subpart OOOO NSPS.¹⁰⁶ A conversion from 2008 dollars to 2012 dollars increased the cost-effectiveness to \$2,844 per ton of VOC removed per year. However, when the savings of natural gas were taken into account, the cost-effectiveness was \$2,010 per year. EPA also looked at the cost-effectiveness of applying subpart VVa to valves and to connectors separately. For valves, the cost-effectiveness without and with savings was \$5,095 and \$4,261 per ton of VOC removed per year, respectively, and for connectors, \$1,610 and \$776, respectively. Based on this analysis, EPA recommended the subpart VVa program as RACT for natural gas processing plants.¹⁰⁷ It is key to note that the 2016 CTG did not need to rely on any new information in making this determination; instead the information from the promulgation of subpart OOOO was sufficient.

Separately, in 2008 EPA promulgated as an alternative work practice for detecting equipment leaks the use of optical gas imaging (“OGI”).¹⁰⁸ When promulgating subpart OOOO, EPA requested comment on the use of OGI,¹⁰⁹ but ultimately did not determine BSER on the basis of use of OGI. In the 2016 CTG, EPA discusses use of OGI as an alternative work practice, but does not present cost-effectiveness values.¹¹⁰

B. The 28LAER Leak Detection Program in Texas

But subpart VVa is not the end of the analysis.

¹⁰² *Id.*

¹⁰³ 2012 NSPS Analysis at 8-3.

¹⁰⁴ *Id.* at 8-6.

¹⁰⁵ “Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews,” 77 FR 49490, 49498 (Aug. 16, 2012).

¹⁰⁶ 2016 CTG at 8-11.

¹⁰⁷ *Id.* at 8-13.

¹⁰⁸ 73 FR 78199 (Dec. 22, 2008).

¹⁰⁹ 76 FR 52738, 52755 (Aug. 23, 2011).

¹¹⁰ 2016 CTG at 8-11 to 8-12.

It turns out that facilities in Texas are performing even better than the requirements of subpart VVa, through a state leak detection program known as 28LAER. Like subpart VVa, this program contains requirements that do not require retrofits.

The Texas Commission on Environmental Quality (“TCEQ”) created this leak detection program in the mid-1990s:

28LAER – This LDAR program was developed for fugitive emissions subject to nonattainment new source review permitting. It combines the most stringent aspects of all the available LDAR programs and was developed in the mid-90’s.¹¹¹

This is one of a number of leak detection programs developed in Texas.¹¹² TCEQ implements this program through special conditions in air permits.¹¹³ According to the guidance document, this program applies to leaks of fugitive emissions from equipment, and is not limited to one industrial sector.¹¹⁴ It applies to oil and gas production operations, the synthetic organic chemical manufacturing industry, and refineries.¹¹⁵ Differences in emissions factors for different industrial processes may lead to different quantitative results for air emissions.¹¹⁶ But the 28LAER program sets the framework.

The following table from TCEQ’s guidance document¹¹⁷ demonstrates that the 28LAER program contains more stringent leak definitions, directed maintenance, and monitoring frequency than similar requirements under subpart VVa:

¹¹¹ TCEQ, Air Permit Technical Guidance for Chemical Sources Fugitive Guidance (APDG 6422), page 28 (June 2018), *available at* <https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/fugitive-guidance.pdf> (copy attached).

¹¹² *See id.* at 27-28.

¹¹³ *See* New Source Review (NSR) Boilerplate Special Conditions, *available at* https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/bpc_rev28laer.pdf (“28LAER Piping, Valves, Pumps, Agitators, and Compressors - Intensive Directed Maintenance – 28LAER”) (copy attached). All these documents can be obtained from TCEQ’s main webpage for equipment leaks under the new source review program. *See* NSR Guidance for Equipment Leak Fugitives, https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/fugitives/nsr_fac_eqfug.html.

¹¹⁴ *See* APDG 6422, page 1 (June 2018) (“The equipment leak fugitive emissions discussed in this guidance document package refer to the emissions from piping components and associated equipment including, but not limited to valves, connectors, pumps, agitators, compressor seals, relief valves, process drains, and open-ended lines.”).

¹¹⁵ *See id.* at 3.

¹¹⁶ *See id.* at 4-5.

¹¹⁷ *See id.* at 21.

Leak Detection and Repair (LDAR) Program Instrument Monitoring

Options

LDAR Program	28M	28RCT	28VHP	28MID	28LAER	28CNTQ	28CNTA
Leak Definition for Pumps and Compressors	10,000 ppmv	10,000 ppmv	2,000 ppmv	500 ppmv	500 ppmv	N/A	N/A
Leak Definition for All Other Components	10,000 ppmv	500 ppmv	500 ppmv	500 ppmv	500 ppmv	500 ppmv	500 ppmv
Applicable Vapor Pressure	>0.5 psia at 100°F	>0.044 psia at 68°F	>0.044 psia at 68°F	>0.044 psia at 68°F	>0.044 psia at 68°F	>0.044 psia at 68°F	>0.044 psia at 68°F
Monitoring Frequency	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Annually
Directed/Nondirected Maintenance	Nondirected	Nondirected	Nondirected	Directed	Directed	Nondirected	Nondirected
Most Common State/Federal Programs with Similar Requirements	40 CFR Part 60 Subpart VV 40 CFR Part 61.30 TAC §115.322	30 TAC §115.352 ¹	40 CFR Part 60 Subpart VVa 40 CFR Part 63 Subparts H, CC	N/A	Nonattainment NSR	N/A	40 CFR Part 60 Subpart VVa, 40 CFR Part 63 Subparts H, CC

Comparing the information in the columns of the table, it is clear that the requirements for 28LAER are equal to or more stringent than the requirements for 28VHP and 28CNTA, identified above as containing requirements similar to those of subpart VVa.

This is underscored by another table in which TCEQ compares the control efficiencies for the different leak detection programs in Texas.¹¹⁸ Across the board, the control efficiencies for 28LAER are equal to or more stringent than the control efficiencies for 28VHP, identified above by TCEQ as containing requirements similar to those of subpart VVa. It is notable that the control efficiencies in this document are not tied to a particular industrial sector.

In addition, a search of the RACT/BACT/LAER Clearinghouse by Clean Air Council¹¹⁹ demonstrates that a number of facilities in Texas are operating under 28LAER:

¹¹⁸ See Control Efficiencies for TCEQ Leak Detection and Repair Programs, available at https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/control_eff.pdf (copy attached).

¹¹⁹ This figure was prepared by Clean Air Council based on a search performed on December 18, 2019 (search parameters and results attached).

RBLC ID:	TX-0864	TX-0865	TX-0852	TX-0801	TX-0684
Corporate/Company:	EQUISTAR CHEMICALS, LP	EQUISTAR CHEMICALS, LP	MAGELLAN TERMINALS HOLDINGS, L.P.	FLINT HILLS RESOURCES HOUSTON CHEMICAL LLC	ENTERPRISE PRODUCTS OPERATING LLC
Facility Name:	EQUISTAR CHEMICALS CHANNELVIEW COMPLEX	EQUISTAR CHEMICALS CHANNELVIEW COMPLEX	CORPUS CHRISTI WATERFRONT TERMINAL	PL PROPYLENE HOUSTON OLEFINS PLANT	ENTERPRISE MONT BELVIEU COMPLEX
Process:	Fugitive Components	FUGITIVES	Fugitive Components	Fugitives	Fugitive Components
Case-by-Case Basis:	LAER	LAER	BACT-PSD	BACT-PSD	LAER
Other Applicable Requirements:	NSPS, SIP	NSPS, NESHAP, SIP			
Emission Limit 1:	500.0000 PPMV		0	0	1.2900 LB/H
Emission Limit 2:		0	0	0	5.6100 T/YR
P2/Add-on Description:	28LAER & 28PI	28LAER, 28PI LDAR	28LAER	LDAR 28LAER	28LAER leak detection and repair program

To illustrate, the Equistar Chemicals Channelview Complex in Harris County, Texas is subject to the emissions limitation of 500 ppmv for fugitive emissions under 28LAER, referenced in the TCEQ’s table above.¹²⁰

The requirements of 28LAER—more stringent leak definitions, directed maintenance, and monitoring frequency—do not require any retrofit control technology. They are analogous to the requirements of subpart VVa, but they are more stringent. PADEP’s submittal failed to analyze the cost-effectiveness of the 28LAER program and determine whether it is technically and economically feasible; as a result EPA must disapprove the submittal.¹²¹

C. PADEP’s Analysis of RACT for Natural Gas Processing Plants

In Appendix A to the submittal, PADEP states that after reviewing its emission inventory, PADEP found fourteen natural gas processing plants within the source category addressed by the 1983 CTG.¹²² Ten were constructed after subpart KKK was proposed and were therefore subject to its requirements; four were constructed after subpart OOOO was proposed and were subject to its more stringent requirements.¹²³

The submittal provides, in Appendix F, an analysis that purports to show that subparts KKK and VV are “as stringent as the EPA’s RACT recommendations in the 1983 Natural Gas Processing Plants CTG.”¹²⁴ Appendix F then concludes that this demonstrates that incorporating the NSPS provisions into the SIP is sufficient “to meet the CTG RACT requirements under the Clean Air Act and the implementing regulations for the 2008 ozone NAAQS.”¹²⁵

In Table A1, Appendix A to the submittal notes that ten of the facilities are subject to subparts VV and KKK, “which are equivalent to the CTG,” and four are subject to subparts VVa and OOOO (and in one case OOOOa), “which are more stringent than the

¹²⁰ See TX-0864, Equistar Chemicals, LP, https://cfpub.epa.gov/rblc/index.cfm?action=PermitDetail.ProcessInfo&facility_id=28693&PROCESS_ID=112953 (copy attached).

¹²¹ See *infra*, section VI.D.

¹²² RACT Submittal, App’x A, Control of Volatile Organic Equipment Leaks from Natural Gas/Gasoline Processing Plants at A-1. There were no gasoline processing plants, the other type of source addressed by the 1983 CTG.

¹²³ *Id.* at A-4 - A-5, Tbl. A-1.

¹²⁴ RACT Submittal, App’x F, Pennsylvania Department of Environmental Protection, Regulatory Comparison Demonstration, at F-3. The references in the comparison table are all to provisions in subparts KKK and VV. See *id.*, Tbl. 7.1.

¹²⁵ *Id.*

CTG.¹²⁶ Appendix A then notes that the submittal requests that 25 Pa. Code Chapter 122, which incorporates by reference NSPS promulgated in 40 CFR part 60 in their entirety, be adopted into the Pennsylvania SIP.¹²⁷ Appendix A then concludes, based on the analysis in Appendix F, that the submitted NSPS provisions “are at least as stringent as the 1983 Natural Gas Processing Plants CTG, as implemented by the Department through its 25 Pa. Code Chapter 122 regulations, and therefore, represents RACT for this CTG source category.”¹²⁸ The RACT certification in the submittal summarizes these appendices and reaches the same conclusion without any additional analysis.¹²⁹

D. EPA Must Disapprove the Submittal for Natural Gas Processing Plants

Under EPA’s rule for implementation of the 2008 ozone standards:

*States should refer to the existing CTGs and ACTs for purposes of meeting their RACT requirements, as well as all relevant information (including recent technical information and information received during the public comment period) that is available at the time that they are developing their RACT SIPs for the 2008 ozone NAAQS.*¹³⁰

First, it should be noted that, while the incremental cost-effectiveness for subpart OOOO was developed for new or modified natural gas processing plants, the changes in subpart VVa as compared to subpart VV—lower leak detection threshold, monitoring of connectors, and increased monitoring frequency—do not require any retrofit control technology. Thus the information for subpart OOOO applies equally to existing natural gas processing plants. EPA’s 2016 CTG confirms this, as it relies almost entirely on the analysis for subpart OOOO, supplementing it only with a conversion from 2008 to 2012 dollars and an analysis of cost-effectiveness taking into account the savings of natural gas from a better LDAR program.

In fact, PADEP proposed its SIP revision for public comment on June 16, 2018.¹³¹ This included Appendix A and Appendix F. Notably, Appendix A references EPA’s 2016 CTG,¹³² as does Appendix F.¹³³

Thus during the time PADEP was developing its SIP, the information in subpart OOOO and in the 2016 CTG were available. Having delayed its development of the SIP by several years, PADEP must take the bitter with the sweet and consider all available information as of the time PADEP actually developed its SIP.¹³⁴

¹²⁶ RACT Submittal, App’x A, at A-4 - A-5, Tbl. A1.

¹²⁷ *Id.* at A-5.

¹²⁸ *Id.*

¹²⁹ RACT Submittal at 9-11.

¹³⁰ 80 FR at 12279.

¹³¹ 48 Pa.B. 3644 (June 16, 2018) (attached to RACT Submittal).

¹³² RACT Submittal, App’x A, at A-1.

¹³³ RACT Submittal, App’x F, at F-1.

¹³⁴ Under the 2008 ozone implementation rule, states were required to develop RACT SIPs following designation in 2012 for submittal by July 20, 2014, but PADEP submitted this SIP revision on August 13, 2018. *See supra*, section II. The information cited above from the promulgation of subpart OOOO regarding incremental cost-effectiveness of subpart VVa as compared to VV was available to states on August 16, 2012. 77 FR 49490.

Furthermore, as noted above EPA first allowed use of OGI as an alternative work practice in 2008. This is a new and available technology. And Texas has been applying its 28LAER program since the 1990's, another potential RACT option.¹³⁵

The submittal entirely fails to analyze this available information. On that basis alone, EPA must disapprove it.¹³⁶ Furthermore, EPA provides no analysis of its own to support PADEP's determination; instead EPA merely repeats PADEP's mistaken understanding of CTG RACT as satisfied solely by reference to the CTG and not subsequent available information.¹³⁷

EPA must also disapprove the submittal because it is unreasonable to fail to require a subpart VVa program for all natural gas processing plants in Pennsylvania. As discussed above, even without the savings in natural gas accounted for, the incremental cost-effectiveness of a subpart VVa program is \$2,844 per ton of VOC removed per year, in 2012 dollars. In its 2016 CTG, EPA viewed even a cost-effectiveness of \$4,400 to \$5,000 per ton of VOC removed per year as reasonable and representing RACT.¹³⁸ Indeed, in its 2006 submittal for CTG RACT for the 1997 ozone standards, PADEP stated:

The Department previously used a range of \$3,000-\$5,000/ton of VOC as a benchmark value when determining cost-effective control technology for VOC sources subject to the RACT requirements adopted for the 1-hour ozone standard.¹³⁹

Thus, by PADEP's own measure, a subpart VVa program is reasonable and represents RACT for all natural gas processing plants.

In the Harnett Memorandum, EPA noted: "EPA has never issued a general cost of control guideline for VOC, but costs of control in the CTGs generally ranged around \$2000/ton in 1980s dollars."¹⁴⁰ Using the same tool as EPA used in its 2016 CTG to convert 2008 dollars to 2012 dollars, the first quarter of 1986 has an index of 55.231, where 2012's reference index is 100.¹⁴¹ This results in a cost-effectiveness of \$3,766 per ton of VOC removed per year in 2012 dollars, well above the incremental cost-effectiveness in 2012 dollars for a subpart VVa LDAR program. Even using the index from the first quarter of 1990 results in a cost-effectiveness of \$3,187 per ton of VOC removed per year.

Furthermore, given that there is no additional retrofit cost for applying the subpart VVa LDAR program to natural gas processing plants previously subject to the subpart VV

¹³⁵ A facility in Ohio has voluntarily agreed, as part of a settlement, to apply the 28LAER program to its petrochemical facility. Motion to Voluntarily Dismiss, Case No. ERAC 19-6988, Settlement Agreement and Voluntary Release, at 3 and App'x A (copy attached). While this facility is not a natural gas processing plant, the settlement agreement shows that 28LAER has been used outside of Texas.

¹³⁶ See *supra*, section II.

¹³⁷ See 85 FR at 12880; EPA-R03-OAR-2019-0562-0003 at 16 (technical support document). Should either EPA or PADEP attempt to justify the RACT determination through additional information, EPA must subject that information to public notice and comment.

¹³⁸ 2016 CTG at 4-21.

¹³⁹ EPA-R03-OAR-2016-0561-0004 at 4.

¹⁴⁰ Harnett Memorandum at 2.

¹⁴¹ Gross Domestic Product: Implicit Price Deflator (GDPDEF), FRED Economic Data, Federal Reserve Bank of St. Louis, available at <https://fred.stlouisfed.org/series/GDPDEF> (last accessed 4/1/2020).

LDAR program, there can be no rational reason to treat the older plants differently than the newer plants that are already subject to subpart VVa. In particular, PADEP cannot refuse to extend subpart VVa to all natural gas processing plants based on some sort of *de minimis* argument.¹⁴²

Another possibility that PADEP failed to analyze was adopting portions of the subpart VVa LDAR program for the older natural gas processing plants. For example, extending the LDAR program to connectors as in subpart VVa but retaining the subpart VV requirements for valves would have a cost-effectiveness of \$1,610 per ton of VOC removed per year, not even taking into account cost savings from reductions in natural gas loss.¹⁴³ This is a highly cost-effective measure that is unreasonable to fail to require as RACT.

In addition, although EPA and TCEQ may not have developed cost-effectiveness values for use of OGI and 28LAER, respectively, that does not relieve PADEP of its obligation to consider these options.¹⁴⁴

Finally, EPA must correct its erroneous approval of PADEP's submittal for CTG RACT for the 1997 ozone standards with respect to natural gas processing plants.¹⁴⁵ In that 2006 submittal, PADEP certified that it had no sources covered by the 1983 CTG (also known as a negative declaration).¹⁴⁶ In the 2018 submittal, PADEP identifies six plants that were constructed before 2006.¹⁴⁷ Furthermore, EPA approved the 2008 submittal in 2017, when all fourteen plants had been constructed, and EPA must have known that the negative declaration was erroneous in light of the extensive oil and gas development taking place in Pennsylvania.

EPA proposes now to approve the 2018 submittal. EPA has therefore determined (or will have determined if EPA finalizes its proposal) that EPA's approval of the 2006 submittal was erroneous. Under section 110(k)(6) of the Act, after such a determination EPA is required to "revise the action as appropriate",¹⁴⁸ in other words, disapprove the 2006 submittal with respect to CTG RACT requirements for natural gas processing plants.

VII. CONCLUSION

The submittal fails to adequately justify its RACT determinations; on that basis alone EPA must disapprove it. The failure of the submittal to require analyze, at a minimum, a subpart VVa program for natural gas processing plants demonstrates the flaws in the

¹⁴² See 80 FR at 12281-82.

¹⁴³ 2016 CTG at 8-11 tbl. 8-6.

¹⁴⁴ Of relevance to the applicability of 28LAER, note that "EPA generally considers controls *that have been achieved in practice* by other existing sources in the same source category to be technologically and economically feasible." 78 FR at 34192 (emphasis added).

¹⁴⁵ 82 FR 31464 (July 7, 2017). To the extent EPA views this comment as outside the scope of its proposed rule, EPA should also consider this comment a petition for rulemaking under the Administrative Procedure Act. See 5 U.S.C. § 553(e).

¹⁴⁶ *Id.* at 31468 tbl. 1; EPA-R03-OAR-2016-0561-0004 at 22.

¹⁴⁷ RACT Submittal, App'x A, A-4 - A-5 tbl. A1.

¹⁴⁸ 42 U.S.C. § 7410(k)(6).

submittal's approach, and EPA must disapprove the submittal with respect to that source category.

Respectfully,

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