

VOC RACT Rule – Oil & Gas Reporting

Bureau of Air Quality
11/06/2025



Agenda

Control of VOC
Emissions from Oil and
Natural Gas Sources

- History of the regulation
- Regulatory requirements
- Unconventional O&G industry
- Conventional O&G industry
- Reporting assistance

History

Control of VOC Emissions from Oil and Natural Gas Sources

Twin regulations for reducing VOC emissions were promulgated in late 2022. These were based on the EPA's Control Techniques Guidelines for the Oil and Natural Gas Industry ("2016 O&G CTG"), and the rulemakings adopted these as reasonably available control technology (RACT) requirements and RACT emission limits for Pennsylvania. The regulations were split into separate but identical versions, 25 Pa. Code §129.121-129.130 for *unconventional* oil & natural gas sources and §129.131-129.140 for *conventional* oil & natural gas sources. The emergency certified final-omitted rulemakings for both regulations were published in the *Pa. Bulletin* on Dec. 10, 2022, and became effective immediately.

History

Control of VOC Emissions from Oil and Natural Gas Sources

The DEP issued a suspension of enforcement in the *Pa. Bulletin* that the initial reports for three weeks in December 2022 would be due with the calendar year 2023 reports on June 1, 2024.

DEP began receiving annual reports from unconventional industry facilities on June 1, 2024.

A legal challenge was filed by Pennsylvania Independent Oil & Gas Association (PIOGA), Pennsylvania Grade Crude Oil Coalition (PGCC), and Pennsylvania Independent Petroleum Producers Association (PIPA) regarding the conventional O&G regulation, and a settlement agreement was approved by the court on April 8, 2025.

DEP began receiving annual reports from unconventional industry facilities on June 1, 2025.

Control of VOC Emissions from Oil and Natural Gas Sources

Nicknames

The Existing Source Rule

The Pennsylvania Existing Source Rule

2022 Oil & Gas Rule

The VOC Reduction Rule

The VOC RACT Rule

The Oil & Gas VOC RACT Rule

Rule 129

129.121 and 129.131

The VOC CTG

Types of Facilities

Applies to the listed sources of VOC emissions “installed at a un/conventional well site, a gathering and boosting station or a natural gas processing plant in this Commonwealth which were constructed on or before December 2, 2022:”

- Storage tanks (natural gas transmission and storage segment also)
- Natural gas-driven continuous bleed pneumatic controllers
- Natural gas-driven diaphragm pumps
- Reciprocating compressors and centrifugal compressors
- Fugitive emissions components

Pennsylvania has:

More than 113,000 active oil & gas wells
12,000 unconventional gas wells
>100,000 conventional wells

472 compressor stations and other midstream sites

126 mainline compressor stations

Owned and operated by over 100 unconventional production and midstream companies, and nearly 5,000 conventional oil and gas companies and individuals.

Regulatory Requirements

Storage Tanks – If VOC emissions are greater than 2.7 tpy, then emissions must be reduced by 95% through destruction or capture

Pneumatic Controllers – Continuous bleed natural gas pneumatic controllers must keep bleed rate below 6 scf/hr (or 0 scf/hr if installed at a natural gas processing plant)

Pneumatic Pumps – Reduce VOC emissions by 95% through any available destruction or capture device or process.

Centrifugal Compressors - Reduce VOC emissions from each wet seal fluid degassing system by 95% through destruction or capture

Reciprocating Compressors – Replace rod packing every 26,000 hrs/36 months or route VOC emissions to a control device

Fugitive Emission Components - Applies to well sites producing on average ≥ 15 barrels of oil equivalent (BOE) per day. Requires monthly AVO inspections, and either quarterly or annual LDAR inspections.

Covers, closed vent systems, and control devices – Must be included in all AVO and LDAR inspections, must conduct monthly VE inspections, and have other requirements depending on type of control device.

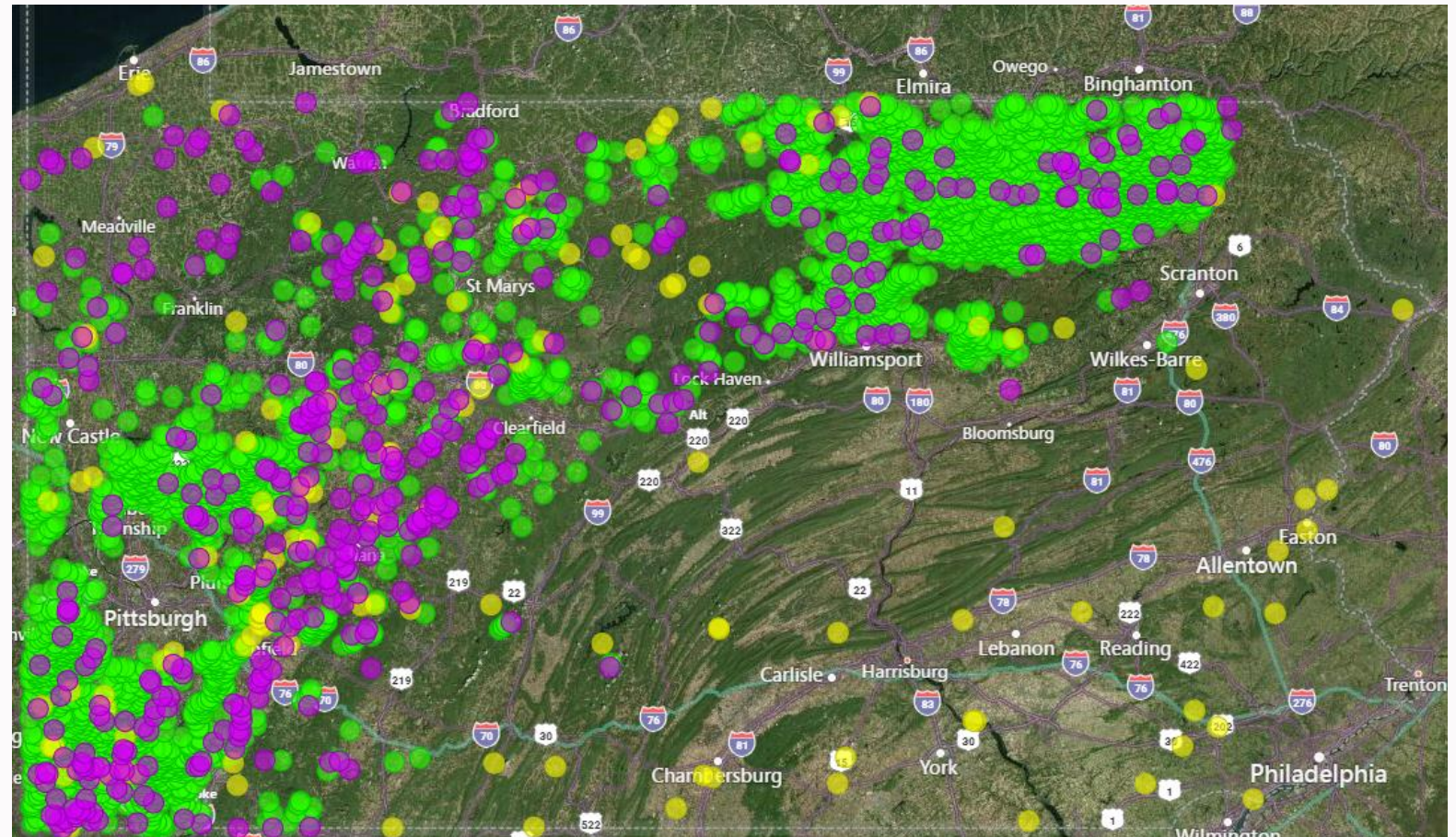


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Unconventional Industry

25 Pa. Code
§129.130

- Gas Well
- Mid-Stream Compressor Station
- Main Line Compressor





Pennsylvania
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Unconventional Industry

25 Pa. Code
§129.130

Approximately 100 companies in the unconventional gas industry have subject facilities, including nearly 12,000 existing unconventional gas wells and 469 midstream sites.

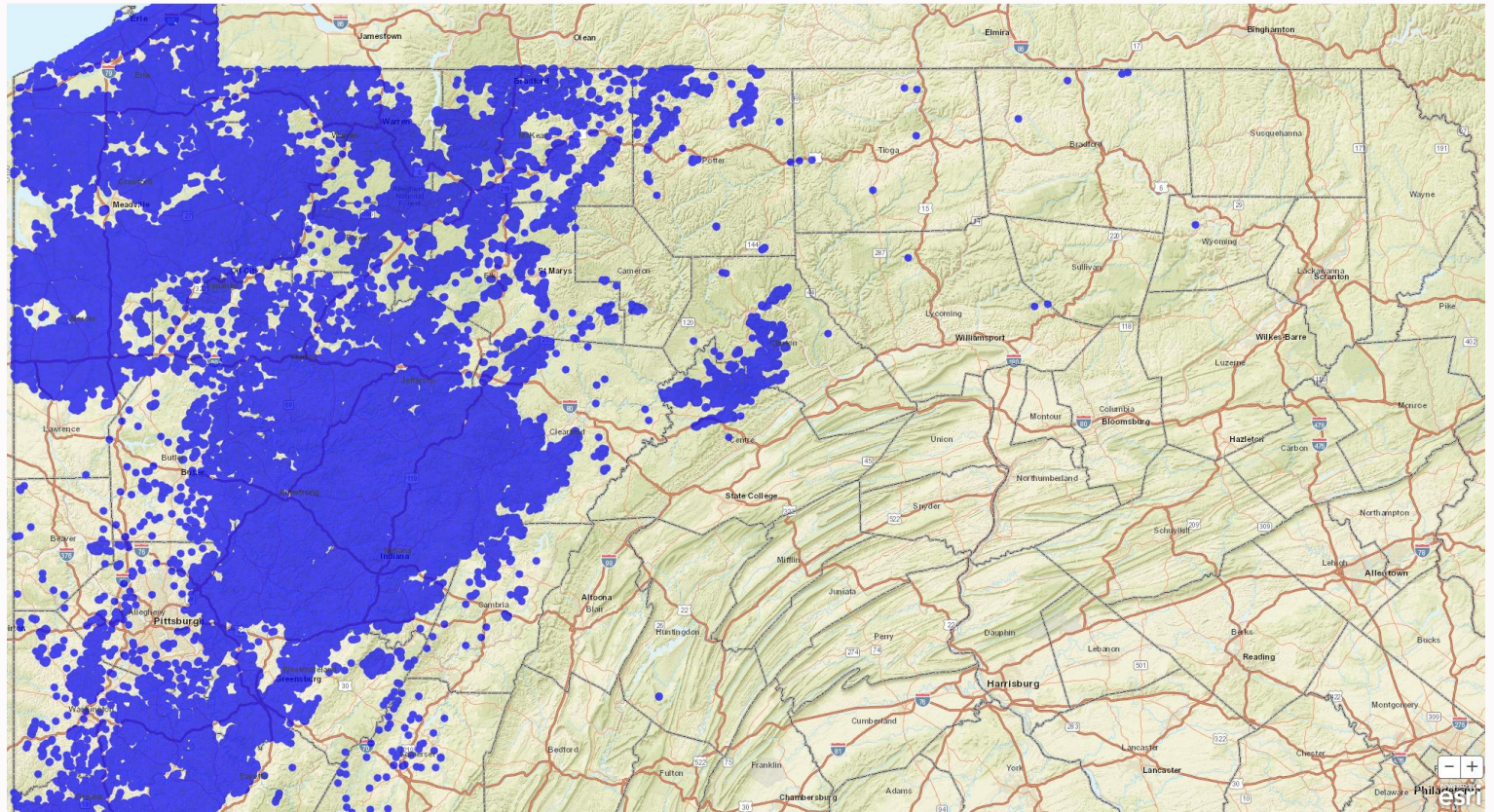
The unconventional gas industry submits a number of air quality reports to DEP already. Many companies used the reporting template provided by DEP for their submittals.



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Conventional Industry

25 Pa. Code
§129.140



Conventional Industry

25 Pa. Code §129.140

Nearly 5,000 conventional oil and gas owners have subject facilities, including more than 100,000 existing conventional wells in production. Only ~850 operators have more than 5 wells, and only ~260 have more than 50 wells.

Most of these operators have never had any interaction with the DEP's Air Quality Program prior to this regulation.

DEP outreach and assistance efforts include:

- Reporting spreadsheet template
- Reporting template video guide
- FAQ and emission tables (Exhibit B) in settlement agreement
- Fact sheet handouts



Reporting Assistance

Reporting template was developed and made available on the DEP's website in January 2024. Use of the template is not required but is strongly recommended. It is designed to include all possible reporting data required by the regulation.

[illegible]



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Reporting Assistance

A video guide for using the reporting template was developed and made available on the website in September 2025. The guide integrated feedback from both Bureau of Air Quality and conventional industry operators.

An instructional video for using the template to report VOCs from conventional oil and natural gas resources can be found below.

The video player shows a thumbnail with the following text: 'Conventional Oil & Gas VOC Reporting ... Control of VOC Emissions from Oil and Natural Gas Sources', '25 Pa. Code 129.140', 'Reporting Template', 'RA-epAir', 'Bureau of Air Quality', 'Aug. 28, 2025'. The video is hosted on YouTube and includes a 'Watch later' button and a 'Share' button. The video is titled 'Conventional Oil & Gas VOC Reporting Template Instructional Video'.

Conventional Oil & Gas VOC Reporting Template
Instructional Video

Testin
Comp
Asbe
Air Q
Infor
Regu
Clear



Reporting Assistance

Two tables were created as part of the legal settlement agreement. These were designed to give conventional operators some threshold values for when their equipment would be subject to the control requirements of the regulation.

Brine Tanks Only with less than 5% hydrocarbon liquids

Using DEP calculator with 50 MW and 8.5 RVP

Tank Size in gallons (Poly tanks)	Tank Size in barrels (42 gallons/bbl)	Annual Production Through Tank in barrels	Average Daily Production in barrels	Tons per year VOC emissions
1025	24.4047619	2,128,500	5,832	2.69
2000	47.61904762	2,062,000	5,649	2.69
3000	71.42857143	2,019,000	5,532	2.69
4000	95.23809524	1,994,000	5,463	2.69
6000	142.8571429	1,961,000	5,373	2.69
8000	190.4761905	1,880,000	5,151	2.69
15000	357.1428571	1,601,000	4,386	2.69

Reporting Assistance

Also working with Environmental Management Assistance Program (EMAP) and the Small Business Ombudsman's Office to reach out to oil & gas operators and industry organizations, and make sure that they can access all the resources and assistance that the DEP is providing.



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Understanding Annual Reporting Obligations for VOC Rules in Oil & Natural Gas Sources

On December 10, 2022, Pennsylvania introduced regulations regarding the control of VOC (Volatile Organic Compounds) emissions from both **unconventional** and **conventional** oil and natural gas sources. These regulations, detailed in **25 Pa. Code §§ 129.121-130** and **25 Pa. Code §§ 129.131-140**, require businesses to submit annual reports containing specific compliance information.

When is the Report Due?

The deadline for the annual report is June 1 every calendar year.

How to Report:



Pennsylvania
Department of
Environmental Protection

Get In Touch

Cary Miller
DEP/ Bureau of Air Quality
400 Waterfront Dr.
Pittsburgh, PA 15222

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412-442-4277/ carymiller@pa.gov

The Department of Environmental Protection's mission is to protect Pennsylvania's air, land and water resources and to provide for the health and safety of its residents and visitors, consistent with the rights and duties established under the Environmental Rights Amendment (Article 1, Section 27 of the Pennsylvania Constitution).