

# **Control of VOC Emissions from Oil and Natural Gas Sources**

CHAPTER 121. GENERAL PROVISIONS  
CHAPTER 129. STANDARDS FOR SOURCES

Draft Final-Form Rulemaking

**Air Quality Technical Advisory Committee**  
December 9, 2021

# Draft Final-Form Rulemaking

- DEP's Draft Final-Form Rulemaking places controls on VOC emissions from field gas in oil and natural gas operations. This rulemaking will also reduce methane emissions from these sources as a co-benefit.
- Each source that was selected for DEP's RACT (Reasonable Available Control Technology) regulation determination has been evaluated to ensure alignment with EPA's Control Techniques Guidelines (CTG) and complies with the Clean Air Act (CAA), and other applicable Federal requirements.
- Wells are not affected sources under the CTG or the final-form rulemaking.

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- For each source, DEP's RACT regulation achieves equivalent or greater VOC reductions than the respective CTG recommendation.
- VOC RACT emission reduction measures for these sources are required to achieve and maintain the 8-hour ozone National Ambient Air Quality Standards (NAAQS) and to satisfy related CAA requirements.

# EQB and Public Comment

On December 17, 2019, the Environmental Quality Board (EQB) adopted the proposed rulemaking by a vote of 18-1. The proposed rulemaking was published for public comment, three virtual hearings were held, and the comment period ended on July 27, 2020.

The Department received roughly 4,500 comments from approximately 36,000 commentators.

# General Supportive Comments

- Some Commentators supported the efforts in Pennsylvania which balance societal, environmental, energy, and economic objectives.
- Some Commentators stated that the economic benefits of the proposed rulemaking are well thought out and documented both quantitatively and qualitatively in the proposal.
- Some Commentators pointed out that Pennsylvania has some of the strictest emission requirements in the nation; in fact, the State Review of Oil and Natural Gas Regulations have rated Pennsylvania's oil and natural gas program highly, and other state regulatory agencies use Pennsylvania's program as a reference.

# General Adverse Comments

- Some Commentators suggested that the Department is not meeting its obligations to protect Pennsylvania's air, land, and water from pollution, nor providing for the health and safety of its citizens through a cleaner environment.
- Some Commentators claimed that the EQB failed to adhere to requirements in Act 52 because the EQB failed to distinguish conventional from unconventional oil and natural gas operations in the proposed rulemaking.
- Some Commentators stated that the Commonwealth cannot afford to neglect the looming climate crisis and its impacts on public health and the environment, including environmental justice communities.

# Specific Section Comments

- Some Commentators suggested that the low-production well exemption for wells that produce, on average, 15 barrels of oil equivalent (BOE) per day and the step-down provision should be removed.
- Some Commentators suggested that the frequency of instrument-based Leak Detection and Repair (LDAR) requirements should be higher or lower than in the proposed rulemaking.
- Some Commentators suggested that the applicability for storage vessels should be at a higher or lower VOC emission threshold than in the proposed rulemaking, and that applicability should be determined with throughputs representative of current operation.

# Public Comment

All public comments can be found in their original form on the Department's [eComment webpage](#) as well as on the IRRC web site (search on IRRC #3256).

The Department is preparing the Comment and Response document and final-form rulemaking documents that will be submitted to the EQB.



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## **§ 129.121: General provisions and applicability.**

- Updated the applicability for natural gas-driven pneumatic controller to clarify the final-form rulemaking applies to natural gas-driven continuous bleed pneumatic controller.

## **§ 129.122: Definitions, acronyms and EPA Methods.**

- Some unnecessary terms were removed, and minor edits made to other terms for clarification.

## **§ 129.123. Storage vessels.**

- Applicability for 95% VOC control is reduced to 2.7 tons per year (TPY) threshold for all storage vessels.
- Maximum daily average throughput changed to monthly average throughput to calculate actual VOC emissions.

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## **§ 129.124. Natural gas-driven continuous bleed pneumatic controllers.**

- Changed the term natural gas-driven pneumatic controller to natural gas-driven continuous bleed pneumatic controller for clarity.

## **§ 129.125. Natural gas-driven diaphragm pumps.**

- Minor edits for clarification, no significant changes were made.

## **§ 129.126. Compressors.**

- Changed the applicability for reciprocating compressors to require rod packing changes for reciprocating compressors located at well sites.
- Allowed routing the VOC emissions from a reciprocating compressor to a control device in addition to a process.

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## § 129.127. Fugitive emissions components.

- Well site producing, on average, equal to or greater than 15 BOE per day, with at least one well producing, on average, equal to or greater than 15 BOE per day, must perform quarterly LDAR inspection.
- Well site producing, on average, equal to or greater than 15 BOE per day, and at least one well producing, on average, equal to or greater than 5 BOE per day but less than 15 BOE per day must perform annual LDAR inspections. Operators in this category can request an exemption from the annual instrument-based LDAR inspection on a case-by-case basis.

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## § 129.127. Fugitive emissions components.

- Removed 2% leak step-down provision and replaced it with the following production-based provision:
  - Well site production and individual well production must be calculated on an annual basis.
  - If the result of the calculation would allow the well site to inspect at a lower frequency, the owner or operator may adopt the less frequent inspections after two consecutive calculations.
  - If the result of the calculation would require the well site to inspect at a higher frequency, the owner or operator shall adopt the higher frequency of inspection immediately.

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## **§ 129.128. Covers and closed vent systems.**

- The requirements for initial AVO inspections were changed from 30 days to 60 days after the effective date of the final-form rulemaking.

## **§ 129.129. Control devices.**

- Minor clarifications are made to performance testing requirement.

## **§ 129.130. Recordkeeping and reporting.**

- Minor edits were made to reflect the reduction to 2.7 TPY threshold for storage vessels and refer to natural gas continuous bleed pneumatic controllers.

# Estimated Emissions Reductions

- The Department estimates that implementation of the final-form rulemaking could reduce VOC emissions by as much as 2,236 TPY from fugitive emissions components, 282 TPY from storage vessels, 61 TPY from reciprocating compressors at well sites, 5 TPY from pneumatic pumps, and 9,102 TPY from pneumatic controllers.
- The Department estimates that the control measures implemented for VOC emissions simultaneously control methane emissions as a co-benefit, and could reduce methane emissions by as much as 37,122 TPY from fugitive emissions components, 41 TPY from storage vessels, 1,172 TPY from reciprocating compressors at wells sites, 58 TPY from pneumatic pumps, and 175,171 TPY from pneumatic controllers.

# Estimated Emissions Reductions

- Total estimated emissions reductions for the final-form rulemaking across the oil and natural gas industry are 11,686 TPY VOC and 213,564 TPY methane.
- Total estimated emissions reductions include 714 TPY VOC and 11,913 TPY methane from the additional stringency of the Department's final-form rulemaking.
- Total estimated emissions reductions for the final-form rulemaking represent an additional 7,392 TPY VOC and 137,979 TPY methane over the emissions reduction estimated in the proposed rulemaking.

# ▶ Anticipated Final Rulemaking Schedule

- Air Quality Technical Advisory Committee – December 9, 2021
- Citizens Advisory Council Policy and Regulatory Oversight Committee – January 2022
- Citizens Advisory Council – January 18, 2022
- Small Business Compliance Advisory Committee – January 27, 2022
- Environmental Quality Board – 1<sup>st</sup> Quarter 2022
- Final-Form Rulemaking Promulgated and submitted to EPA as State Implementation Plan revision – 2<sup>nd</sup> Quarter 2022



# Questions and Contacts

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