

Draft Proposed RACT Rulemaking

CHAPTER 121. GENERAL PROVISIONS CHAPTER 129. STANDARDS FOR SOURCES

Control of VOC Emissions from Oil and Natural Gas Sources

Small Business Compliance Advisory Committee
April 17, 2019

Advisory Committee Presentations

- The proposed concepts were presented to the Air Quality Technical Advisory Committee (AQTAC) on December 14, 2017.
- On December 13, 2018, DEP presented a preliminary draft of the proposed Annex A. Since then, additional revisions have been made to the proposal.
- On January 23, 2019, DEP presented the preliminary draft to the Small Business Compliance Advisory Committee (SBCAC).

DEP's DRAFT PROPOSED REGULATION

- DEP's draft proposed rulemaking places controls on VOC emissions which in turn reduce methane as a co-benefit since both VOC and methane are found in field gas in oil and gas operations.
- Each source that was selected for RACT recommendations in the CTG has been evaluated to determine whether DEP's RACT regulation complies with the CTG.
- For each source, DEP's RACT regulation achieves equivalent or greater VOC reductions than the comparable CTG requirement.

PROPOSED REGULATION

§ 129.121. General provisions.

§ 129.122. Definitions, acronyms and EPA methods.

§ 129.123. Storage vessels.

§ 129.124. Natural gas-driven pneumatic controllers.

§ 129.125. Natural gas-driven diaphragm pumps.

§ 129.126. Compressors.

§ 129.127. Fugitive emissions components.

§ 129.128. Covers and closed vent systems.

§ 129.129. Control devices.

§ 129.130. Recordkeeping and reporting.

PROPOSED REGULATION

§ 129.121 and § 129.122: Minor clarifications are made.

§ 129.123. Storage vessels.

- Applicability is changed for storage vessels at certain facilities based on a lower VOC PTE threshold.
- Minor clarifications are made.
- Cover and closed vent requirements are moved to § 129.128.
- Control device requirements are moved to § 129.129.
- Recordkeeping and reporting requirements are moved to § 129.130.

§ 129.124. Natural gas-driven pneumatic controllers.

- Minor clarifications are made.
- Recordkeeping and reporting requirements are moved to § 129.130.

PROPOSED REGULATION

§ 129.125. Natural gas-driven diaphragm pumps.

- Minor clarifications are made.
- Closed vent system requirements are moved to § 129.128.
- Control device requirements are moved to § 129.129.
- Recordkeeping and reporting requirements are moved to § 129.130.

§ 129.126. Compressors.

- Minor clarifications are made.
- Cover and closed vent system requirements are moved to § 129.128.
- Control device requirements are moved to § 129.129.
- Recordkeeping and reporting requirements are moved to § 129.130.

§ 129.127. Fugitive emissions components.

- Minor clarifications are made.
- Recordkeeping and reporting requirements are moved to § 129.130.

PROPOSED REGULATION

§ 129.128. Covers and closed vent systems.

- Minor clarifications are made.
- Monitoring and repair requirements refer to § 129.127.
- Recordkeeping and reporting requirements moved to § 129.130.

§ 129.129. Control devices.

- Minor clarifications are made.
- Performance testing requirements are incorporated.
- Continuous parameter monitoring system requirements are incorporated.
- Recordkeeping and reporting requirements moved to § 129.130.

§ 129.130. Recordkeeping and reporting.

- Minor clarifications are made.
- Recordkeeping and reporting requirements from all other sections are incorporated.

SUMMARY OF RACT RECOMMENDATIONS

Sources Covered	EPA CTG — Reasonably Available Control Technology (RACT) Recommendation	Pennsylvania Proposed Reasonably Available Control Technology (RACT)
Storage vessels		
	Individual storage vessel with a potential to emit (PTE) greater than or equal to 6 TPY VOC require 95% reduction of VOC emissions unless storage vessel maintains less than 4 TPY uncontrolled actual VOC emissions, as determined monthly, for 12 consecutive months.	<ul style="list-style-type: none"> Storage vessel at a conventional well site regardless of date of installation or at an unconventional natural gas well site installed prior to August 10, 2013 with PTE greater than or equal to 6 TPY VOC require 95% VOC reduction unless actual VOC emissions without control are less than 4 TPY on a 12-month rolling basis. Storage vessel at an unconventional well site installed on or after August 10, 2013 or at a natural gas gathering and boosting station, natural gas processing plant, or in the natural gas transmission and storage segment regardless of date of installation with PTE greater than or equal to 2.7 TPY VOC require 95% VOC reduction unless actual VOC emissions without control are less than 2.7 TPY on a 12-month rolling basis.
Natural gas-driven pneumatic controllers		
<ul style="list-style-type: none"> Individual continuous bleed, natural gas-driven pneumatic controller at a natural gas processing plant. 	<ul style="list-style-type: none"> Natural gas bleed rate of zero standard cubic feet per hour (scfh). Some exceptions for functional needs including, but not limited to, response time, safety and positive actuation that require higher bleed rate. 	<ul style="list-style-type: none"> Same requirements as CTG.
<ul style="list-style-type: none"> Individual continuous bleed natural gas-driven pneumatic controller located from the wellhead to the natural gas processing plant or point of custody transfer to an oil pipeline. 	<ul style="list-style-type: none"> Natural gas bleed rate less than or equal to 6 scfh. Some exceptions for functional needs including, but not limited to, response time, safety and positive actuation that require higher bleed rate. 	

SUMMARY OF RACT RECOMMENDATIONS

Sources Covered	CTG — Reasonably Available Control Technology (RACT) Recommendation	Pennsylvania Proposed Reasonably Available Control Technology (RACT)
Natural gas driven diaphragm pumps		
<ul style="list-style-type: none"> Individual natural gas-driven diaphragm pump located at a natural gas processing plant. 	<ul style="list-style-type: none"> Zero VOC emissions. 	<ul style="list-style-type: none"> Same requirements as CTG.
<ul style="list-style-type: none"> Individual natural gas-driven diaphragm pump located at a well site. 	<ul style="list-style-type: none"> Require routing of VOC emissions from the pump to an existing onsite control device/process. 	
	<ul style="list-style-type: none"> Require 95% control, unless the onsite existing control device/process cannot achieve 95%. If onsite existing device/process cannot achieve 95%, maintain documentation demonstrating the percent reduction the control device is designed to achieve. Maintain records if there is no existing control device at the location of the pump. 	
<ul style="list-style-type: none"> Individual natural gas-driven diaphragm pump located at a well site that is in operation for any period of time each calendar day for less than a total of 90 days per calendar year. 	<ul style="list-style-type: none"> Not covered; RACT would not apply. 	

SUMMARY OF RACT RECOMMENDATIONS

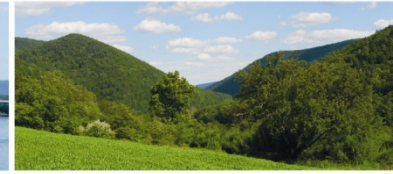
Sources Covered	CTG — Reasonably Available Control Technology (RACT) Recommendation	Pennsylvania Proposed Reasonably Available Control Technology (RACT)
Compressors (Centrifugal & Reciprocating)		
<ul style="list-style-type: none"> Individual reciprocating compressor located between the wellhead and point of custody transfer to the natural gas transmission and storage segment. 	<ul style="list-style-type: none"> Reduce VOC emissions by replacing reciprocating compressor rod packing on or before 26,000 hours of operation or 36 months since the most recent rod packing replacement. Alternatively, route rod packing emissions to a process through a closed vent system under negative pressure. 	<ul style="list-style-type: none"> Same requirements as CTG.
<ul style="list-style-type: none"> Individual reciprocating compressor located at a well site, or an adjacent well site and servicing more than one well site. 	<ul style="list-style-type: none"> Not covered; RACT would not apply. 	
<ul style="list-style-type: none"> Individual centrifugal compressor using wet seals that is located between the wellhead and point of custody transfer to the natural gas transmission and storage segment. 	<ul style="list-style-type: none"> Reduce VOC emissions from each centrifugal compressor wet seal fluid gassing system by 95%. 	
<ul style="list-style-type: none"> Individual centrifugal compressor using wet seals located at a well site, or an adjacent well site and servicing more than one well site. 	<ul style="list-style-type: none"> Not covered; RACT would not apply. 	
<ul style="list-style-type: none"> Individual centrifugal compressor using dry seals. 	<ul style="list-style-type: none"> Not covered; RACT would not apply. 	

SUMMARY OF RACT RECOMMENDATIONS

Sources Covered	CTG — Reasonably Available Control Technology (RACT) Recommendation	Pennsylvania Proposed Reasonably Available Control Technology (RACT)
Fugitive emissions components		
<ul style="list-style-type: none"> Fugitive emissions (leaks) from individual well sites with wells with a gas-to-oil ratio (GOR) ≥ 300 that produce, on average, > 15 barrel of oil equivalents (boe) per well per day. 	<ul style="list-style-type: none"> Develop and implement semiannual optical gas imaging (OGI) monitoring and repair plan covering fugitive emissions components within a company-defined area. 	<ul style="list-style-type: none"> Conduct monthly Audio, Visual and Olfactory (AVO) inspection. Develop and implement quarterly OGI monitoring and repair plan. Step down to semiannual OGI monitoring and repair if less than 2% of total components are found leaking in two consecutive quarterly inspections. If more than 2% leaking components are found in any semiannual inspection, return to quarterly OGI inspections.
	<ul style="list-style-type: none"> Method 21 can be used as an alternative to OGI. 	<ul style="list-style-type: none"> Method 21 or another leak detection method as approved by DEP can be used as an alternative to OGI.
<ul style="list-style-type: none"> Fugitive emissions (leaks) at individual gathering & boosting stations located from the wellhead to the point of custody transfer to the natural gas transmission and storage segment, or an oil pipeline. 	<ul style="list-style-type: none"> Develop and implement a quarterly OGI monitoring and repair plan that covers the collection of fugitive emissions components at gathering and boosting stations within a company-defined area. 	<ul style="list-style-type: none"> Conduct monthly Audio, Visual and Olfactory (AVO) inspection. Develop and implement a quarterly OGI monitoring and repair plan.
	<ul style="list-style-type: none"> Method 21 can be used as an alternative to OGI. 	<ul style="list-style-type: none"> Method 21 or another leak detection method as approved by DEP can be used as an alternative to OGI.
<ul style="list-style-type: none"> Equipment leaks from components in VOC service located at a natural gas processing plant. 	<ul style="list-style-type: none"> Implement the 40 CFR part 60, subpart VVa leak detection and repair (LDAR) program for natural gas processing plants. 	



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