

Oil and Natural Gas Sector Climate Review

Standards of Performance for
New, Reconstructed, and
Modified Sources and Emissions
Guidelines for Existing Sources

NOVEMBER 21 PROPOSAL
& SUPPLEMENTAL
PROPOSAL

Overview of Rulemaking



Proposal

November 2021

Proposes to:

- Add sources not previously regulated
- Update and strengthen standards for sources already regulated
- Establish first nationwide Emission Guidelines for states to regulate existing sources



Supplemental Proposal

Undergoing interagency review with the Office of Management and Budget



Final Rule

Crude Oil and Natural Gas Industry: Where EPA's Proposed Methane Rules Would Apply

Production & Processing

EPA's methane proposal covers equipment & processes at:

1. Onshore well sites
2. Storage tank batteries
3. Gathering & boosting compressor stations
4. Natural gas processing plants

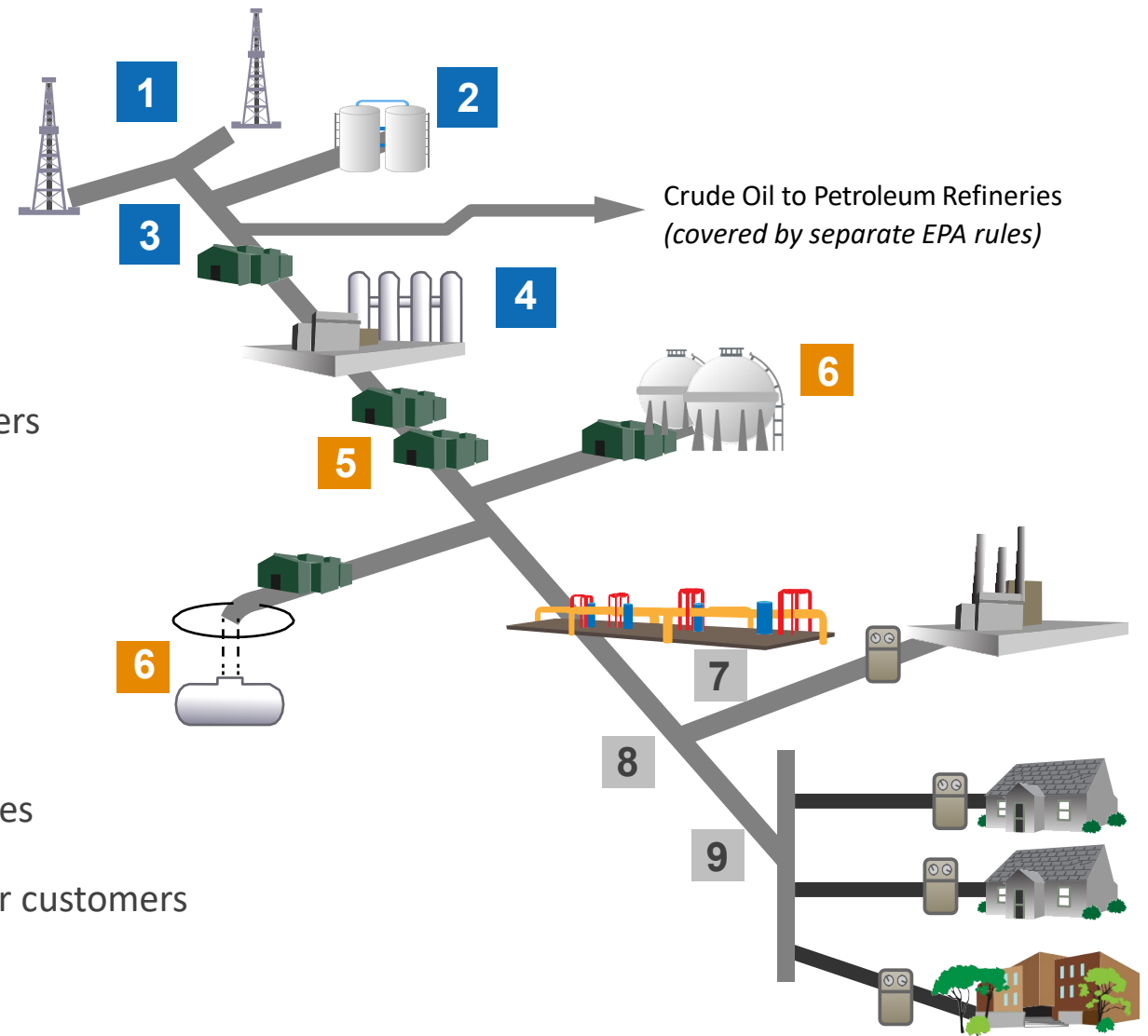
Natural Gas Transmission & Storage

EPA's methane proposal covers equipment & processes at:

5. Compressor stations
6. Storage tank batteries

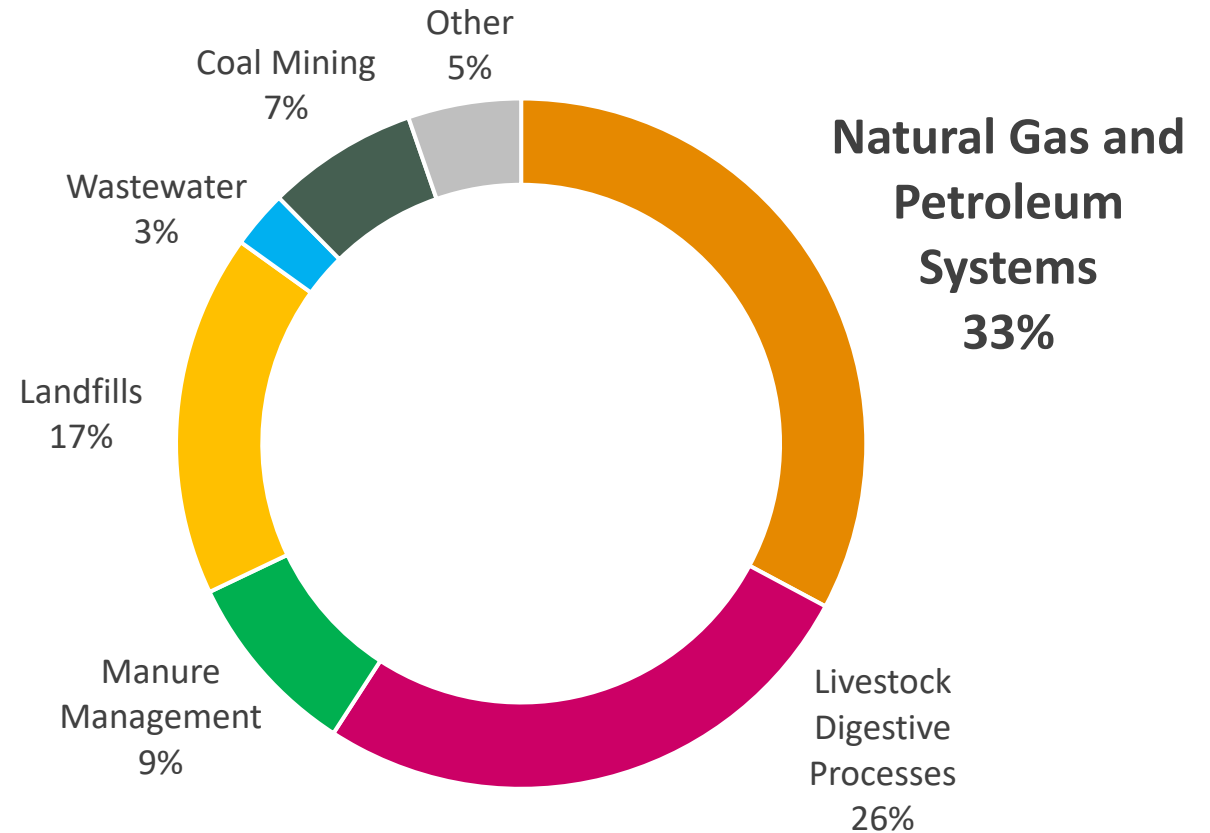
Distribution *(not covered by EPA rules)*

7. Distribution mains/services
8. City gate
9. Regulators and meters for customers



Methane Emissions from the Oil and Gas Sector

- The oil and gas sector is the **largest industrial source of methane emissions** in the United States
- Methane is responsible for approximately **one-third of current warming** from human activities
- The oil and gas sector also emits **other harmful pollutants**, like smog-forming volatile organic compounds, and toxic chemicals like benzene



EPA's Nov. 2021 Proposal for the Oil and Natural Gas Source Category

- On November 2, 2021, EPA announced a proposed rule that would:
 - Limit emissions from important sources of methane and VOC pollution from new and modified facilities **that are not currently regulated** under section 111(b)
 - Update, **strengthen, and expand current requirements** under section 111(b) for methane and VOC pollution from new and modified facilities
 - Establish the **first nationwide emissions guidelines** for states to limit methane pollution from existing sources of methane in the source category
- EPA also sought comment on additional sources of pollution that offer opportunities for emissions reductions in a **supplemental rulemaking** proposal under section 111

Public Input on Nov. 2021 Proposal

EPA received over 470,000 comments

300 people spoke at the public hearing

Continued outreach to stakeholder groups

- Including hosting discussions about meaningful engagement with state and local air agencies, and with communities, tribes and small businesses

Major Areas of Comment on Nov. 2021 Proposal

Pneumatic Controllers

Support non- or zero-emitting; request for flexibilities

Pneumatic Pumps

Support subcategorization based on electricity availability

Centrifugal Compressors

Suggest EPA was using outdated information

Well Site Fugitives

Support more frequent monitoring at sites with large emissions

Advanced Monitoring

Support for inclusion of new technologies

Super-Emitters

Mixed reaction to EPA's solicitation of comment on identifying and mitigation large emission events

Well Closures

Support concept of closure plans

Flares

Support appropriate improvements to compliance assurance



Key Technical Components of the Nov. 2021 Proposal

Finding and Repairing Methane Leaks at New and Existing Well Sites and Compressor Stations

Nov. 2021 Proposal

- Focus monitoring efforts on sites and equipment that are most likely to have large emissions
 - Larger well sites (estimated emissions ≥ 3 tons per year): Must monitor for leaks at least once every three months and promptly repair any leaks found
 - Smaller well sites (estimated emissions < 3 tons per year): Must conduct a one-time survey to demonstrate no leaks or malfunctions; ongoing monitoring not required
- EPA co-proposed a requirement that well sites with estimated emissions between 3 and 8 tons per year be monitored semi-annually, rather than quarterly
- All new and existing compressor stations would monitor and repair leaks at least once every three months
- Surveys must include inspections of equipment most prone to large leaks and malfunctions, including storage vessels and flares

Sample of Comments

- Equipment-based thresholds could ensure frequent OGI monitoring occurs at sites with sources of known “super-emission” events
- Calculation is overly complicated, and industry and states request that EPA develop and provide a calculator for sources to use if emissions thresholds are maintained
- Potential for majority of sites to calculate emissions < 3 tpy, thus exempting them from regular monitoring
- Sites with the largest emissions should monitor more frequently (bimonthly or monthly)

Encouraging Innovation by Incorporating Advanced Measurement Technologies

Nov. 2021 Proposal

- To find major leaks rapidly and at a lower cost, many stakeholders have expressed strong support for the use of advanced measurement technologies
- EPA's proposal included an alternative to the proposed fugitive monitoring requirements
 - Any technology capable of meeting a rigorous minimum detection threshold would be permitted
 - To ensure smaller leaks are detected, surveys must be supplemented by annual monitoring using optical gas imaging or EPA Method 21

Sample of Comments

- Overall support for the development of a screening program using advanced technologies
- EPA should develop a matrix framework that allows flexibility in technologies, detection thresholds, and screening frequencies
- EPA should utilize models to directly compare detection thresholds and screening frequencies to the required OGI surveys
- Continuous monitoring systems should be evaluated and included in the rule

Transitioning to Zero-Emitting Technologies for Pneumatic Controllers

Nov. 2021 Proposal

- EPA proposed to:
 - Regulate emissions from intermittent vent pneumatic controllers for the first time
 - Require all new and existing pneumatic controllers in production, processing, and transmission and storage facilities to have zero methane and VOC emissions
- Natural gas-driven pneumatic controllers are used extensively
 - The vast majority of these emissions come from intermittent vent controllers that are currently unregulated under the Clean Air Act
 - Multiple zero-emitting alternatives to these pneumatic controllers exist

Sample of Comments

- General support across stakeholders for moving to controllers that are “non-emitting” and/or “zero-emitting”, particularly at new sites and large existing sites (>100 controllers); however, limitations were identified
- Requests for additional flexibility for options on how to achieve the standard, sufficient phase-in period for existing sites, and requests for EPA to retain the functional needs exemption for emergency shutdown devices
- Opposition to any exemptions, but supportive of EPA allowing for tailored accommodations if zero-emitting standards cannot be achieved

Eliminating Venting of Associated Gas from Oil Wells

Nov. 2021 Proposal

- EPA proposed to:
 - Eliminate venting of associated gas from oil wells and requires at least a 95 percent reduction in methane and VOC emissions from associated gas that cannot be captured and sold
 - Ensure that flares are operating properly through recordkeeping and reporting requirements
- Oil wells frequently produce large amounts of associated natural gas
 - In many areas, there is no sales line for this associated gas, so producers vent or flare the gas
 - This venting, currently unregulated under the Clean Air Act, releases large amounts of methane into the air (nearly 40,000 tons in 2019 alone)

Sample of Comments

- Routine flaring of associated gas is wasteful and should be eliminated except for safety/emergency reasons
- Mixed feedback on whether 98% combustion efficiency is reliably achievable for this sector due to operations not being steady-state and fluctuations in gas quality
- Various commenters provided options for technologies/strategies that can be utilized to demonstrate continuous or enhance compliance assurance with standards

Identifying and Mitigating Super-Emitters

Nov. 2021 Proposal

- Solicited comment on:
 - Data collected by communities reported directly to owner/operator
 - Detection of large emission events triggers investigation and remediation by owner/operator

Sample of Comments

- EPA lacks legal authority to rely on third party data
- Leak detection technologies and detection methods must meet same standard as regulatory requirements on the industry
- EPA's role as intermediary should include data validation
- EPA should develop and maintain a public database where community data on large emission events is compiled, including industry response to emissions

Broadening the Type of Pneumatic Pumps Covered by the Rule

Nov. 2021 Proposal

- The proposal would extend current requirements for new pneumatic pumps to include all natural gas-driven diaphragm and piston pumps in the production segment of the industry, and diaphragm pumps in the transmission segment
- Standards require pneumatic pumps with access to an onsite control device to reduce emissions by 95 percent
- For existing sources, the presumptive methane standards for pneumatic pumps would mirror those proposed for the NSPS but exclude piston pumps
- EPA took comment on whether it is feasible to further strengthen the proposed standard, including by requiring the use of zero-emitting pneumatic pumps at new and existing facilities with access to electric power

Sample of Comments

- Support subcategorization based on electricity availability

Proposed Emission Guidelines for Existing Sources

Proposed **best system of emission reduction** for existing sources

Presumptive standards based on the best system of emission reduction for existing sources (called “designated facilities”)

- Most presumptive standards mirror the standards EPA is proposing for new sources
- Once Emissions Guidelines are final, states may adopt the presumptive standards as part of their plans, or they may develop their own standards that generally are as strict

Would require **meaningful engagement** with the public, including overburdened and underserved communities, during the development of state plans

On September 2, 2022, the Office of Management and Budget accepted EPA’s proposed rule “Implementing Regulations Under 40 CFR Part 60 Subpart Ba Adoption and Submittal of State Plans for Designated Facilities” for interagency review

- Will provide additional direction to states and tribes on related issues, such as the timelines to submit state plans and consideration of the remaining useful life of a source

EPA's Oil and Natural Gas Supplemental Proposal

On August 15, 2022, the Office of Management and Budget accepted EPA's supplemental proposal for **interagency review**

Provide proposed regulatory text for public comment

Address important implementation details that were not part of the Nov. 2021 proposal

Revisit, refine, or expand upon elements of the Nov. 2021 proposal in response to public input



Rulemaking Process



For More
Information

epa.gov/controlling-air-pollution-oil-and-natural-gas-industry