Proposed Climate, Air Quality and Permitting Rules for the Oil and Natural Gas Industry: Fact Sheet

Overview

- On August 18, 2015, the U.S. Environmental Protection Agency (EPA) proposed a suite of commonsense requirements that together will help combat climate change, reduce air pollution that harms public health, and provide greater certainty about Clean Air Act permitting requirements for the oil and natural gas industry.

- The proposals are a key component, under the President's Climate Action Plan, needed to set the Administration on track to achieve its goal to cut methane emissions from the oil and gas sector by 40 to 45 percent from 2012 levels by 2025. These commonsense standards will reduce emissions from this rapidly growing industry, helping ensure that development of these energy resources is safe and responsible.

- Today's proposals would require methane and VOC reductions from hydraulically fractured oil wells, some of which can contain a large amount of gas along with oil, and would complement the agency's 2012 standards addressing emissions from this industry. A key component of the 2012 rules was a requirement to capture emissions from hydraulically fractured and refractured natural gas wells – a step estimated to yield a 95 percent reduction in VOCs, and a similar methane reduction as a co-benefit.

- In addition to reducing emissions from hydraulically fractured oil wells, the new proposals would extend emission reduction requirements further "downstream", covering equipment in the natural gas transmission segment of the industry that was not regulated in the agency's 2012 rules.

- EPA also is proposing to require owners/operators to find and repair leaks, which can be a significant source of both methane and VOC pollution.

- In addition to the requirements for new and modified emissions sources, draft guidelines for states will reduce VOC emissions from existing oil and gas sources in areas with smog problems. And two proposals would clarify permitting requirements in states and Indian country and make them more efficient.

- EPA sought input from states, tribes, industry and environmental groups as it developed the proposed methane and VOC requirements, including through a series of meetings with states and tribes over several months. A number of states regulate, or are considering regulating, air pollution from the oil and natural gas industry, and today's proposals would allow them to continue to do so. Under the Clean Air Act, states have

the authority to regulate air emissions from sources within their boundaries, provided their requirements are not weaker than federal rules.

- The standards for new and modified sources are expected to reduce 340,000 to 400,000 short tons of methane in 2025, the equivalent of reducing 7.7 to 9 million metric tons of carbon dioxide. EPA estimates the rule will yield net climate benefits of $120 to $150 million in 2025.

- EPA will take comment on the proposals for 60 days after they are published in the Federal Register. The agency will hold public hearings. Details will be announced shortly.

Why Reducing Methane is Important

Combatting Climate Change

- Methane -- the key constituent of natural gas -- is a potent greenhouse gas with a global warming potential more than 25 times greater than that of carbon dioxide. Methane is the second most prevalent greenhouse gas emitted in the United States from human activities, and nearly 30 percent of those emissions come from oil production and the production, transmission and distribution of natural gas.

- In January, EPA and the Obama Administration announced a strategy for reducing methane emissions from the rapidly growing oil and gas industry, noting that, while methane emissions from the oil and gas sector have declined 16 percent since 1990, they are projected to significantly increase over the next decade without additional actions to lower them.

- EPA's proposed actions will complement the methane reductions the country is seeing today as co-benefits of the agency's 2012 rules to reduce VOC emissions from the oil and gas industry. These rules, along with the agency's proposed voluntary Natural Gas STAR Methane Challenge Program, and upcoming actions from other federal agencies, such as the Department of Interior's Bureau of Land Management, will help ensure safe and responsible oil and natural gas development.

Improving air quality

- Methane from the oil and gas industry comes packaged with other pollutants: VOCs, which are a key ingredient in ground-level ozone (smog); and a number of pollutants known as "air toxics" – in particular, benzene, toluene, ethylbenzene and xylene.

- Ozone is linked to a variety of serious public health effects, including reduced lung function, asthma attacks, asthma development, emergency room visits and hospital admissions, and early death from respiratory and cardiovascular causes. Air toxics are known or suspected to cause cancer and other serious health effects.

SUMMARY OF PROPOSED ACTIONS

The proposed actions are:

- Proposed updates to the agency's New Source Performance Standards that would set methane and VOC requirements for additional new and modified sources in the oil and gas industry;
- Draft guidelines for reducing VOC emissions from existing oil and gas sources in certain ozone nonattainment areas as well as in the mid-Atlantic and northeastern states in the Ozone Transport Region;
- Proposed updates to clarify the agency's air permitting rules as they apply to the oil and natural gas industry; and
- A proposed Federal Implementation Plan to implement minor New Source Review permitting in Indian country.

Reducing Methane and VOCs from New and Modified Sources

- Building on its 2012 New Source Performance Standards (NSPS) for VOC emissions for the oil and natural gas industry, EPA's proposed updates would require that the industry also reduce methane. Sources already subject to the 2012 NSPS requirements for VOC reductions that also would be covered by the proposed 2015 methane requirements would not have to install additional controls, because the controls to reduce VOCs reduce both pollutants.
- The proposed updates also add emissions reduction requirements for sources of methane and VOC pollution that were not covered in the 2012 rules. These include requirements that owners/operators:
  - **Find and repair leaks,** which can be a significant source of both methane and VOCs. The proposal also includes incentives to spur the oil and gas industry to minimize leaks.
  - **Capture natural gas from the completion of hydraulically fractured oil wells.** Many hydraulically fractured wells that are drilled primarily for oil also contain natural gas. This gas contains methane, VOCs and a number of air toxics. Owners/operators of hydraulically fractured and refractured oil wells would be required to capture the gas using a proven process known as a "reduced emissions completion" or "green completion."
    - In a green completion, special equipment separates gas and liquid hydrocarbons from the flowback that comes from the well as it is being prepared for production. The gas and hydrocarbons can then be treated and used or sold, avoiding the waste of natural resources that cannot be renewed. EPA required green completions for hydraulically fractured natural gas wells in its 2012 rules.

- **Limit emissions from new and modified pneumatic pumps**, which are used throughout the industry from well sites to transmission compressor stations.
- **Limit emissions from several types of equipment used at natural gas transmission compressor stations and at gas storage facilities, including compressors and pneumatic controllers.** These agency did not cover these in the 2012 rules.

- For details on the proposed requirements by site, see http://www.epa.gov/airquality/oilandgas/actions.html

Reducing VOCs from Existing Source in Areas with Smog Problems

- EPA also is issuing draft Control Techniques Guidelines (CTGs) for reducing VOC emissions from existing equipment and processes in the oil and natural gas industry.

- CTGs are not regulations and do not impose legal requirements on sources; rather, they provide recommendations for state and local air agencies to consider in determining reasonably available control technology (RACT) for reducing emissions from covered processes and equipment. States may use different technology and approaches, subject to EPA approval and provided they achieve the required pollution reductions. The draft CTGs include information on cost-effective control technologies to help states in making their RACT determinations.

- Under the Clean Air Act, RACT applies in ozone nonattainment areas classified as "Moderate" and above, and throughout the Ozone Transport Region. Affected areas and states would have to address the sources covered in the CTGs as part of state plans for meeting EPA's ozone health standards. Oil and gas development occurs in a number of these areas and states.
    - The Ozone Transport Region encompasses 11 northeast states and the metropolitan statistical area that includes Washington D.C. and portions of northern Virginia. The states are: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

- The draft guidelines include EPA's RACT recommendations for storage tanks, pneumatic controllers, pneumatic pumps, centrifugal and reciprocating compressors, equipment leaks from natural gas processing plants, and other equipment leaks that are known as "fugitive emissions." Many of the RACT recommended levels of control are similar to the VOC requirements under the 2012 NSPS and today's proposal.

- The draft CTG includes detailed information on the costs of available controls to help states as they determine RACT for the affected sources in their areas. The draft CTGs also include model rule language that states could adopt if they choose reduce VOCs from their oil and gas sources using EPA's recommended controls.

- In November 2014, EPA proposed to strengthen the ozone health standard to improve public health protection. The agency intends to issue a final rule by October 1, 2015; however designations of attainment and nonattainment areas would not be made until October 2017. Those designations likely would be based on air quality data from 2014-2016. Actions taken today that improve air quality will help lower ozone in 2015 and 2016 – two of the three years that will be considered in determining attainment areas.

- For details on the sources covered by the draft CTG, by site, see http://www.epa.gov/airquality/oilandgas/actions.html

Clarifying permitting requirements

- EPA is issuing two proposals to clarify permitting requirements in the states and in Indian country and make them more efficient.

- The proposed ***Source Determination Rule*** seeks broad public feedback on options for determining when multiple pieces of equipment and activities in the oil and gas industry must be deemed a single source that is subject to requirements under Clean Air Act air permitting programs.

- Those programs are the Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review preconstruction permitting programs and the Title V Operating Permits program. EPA previously addressed this definition through policy interpretation and guidance.

- A proposed ***federal implementation plan (FIP) would implement the Minor New Source Review Program in Indian Country*** for oil and natural gas production. The proposed plan would limit emissions of harmful air pollution while making the preconstruction permitting process more efficient for this rapidly growing industry.
- The proposed FIP would be used instead of site-specific minor New Source Review (NSR) preconstruction permits in Indian country and would incorporate emissions limits and other requirements from six federal air standards to ensure air quality is protected. These include the 2015 proposed updates to the New Source Performance Standards for the oil and natural gas industry, along with standards for stationary engines, boilers and liquid storage tanks.
- The FIP would apply throughout reservation areas in Indian country and any other areas of Indian country for which a tribe or EPA has demonstrated that the tribe has jurisdiction. It would apply in areas designated attainment or unclassifiable for a National Ambient Air Quality Standard. Requirements in the FIP would apply to all new and modified true minor sources in the production segment of the oil and natural gas industry.
- For more information on the proposed FIP, see

http://www.epa.gov/airquality/oilandgas/actions.html

COSTS AND BENEFITS – NEW SOURCE PERFORMANCE STANDARDS

- EPA conducted a regulatory impact analysis (RIA) that looks at illustrative benefits and costs of the proposed NSPS for the years 2020 and 2025. The 2020 estimates reflects a single year of benefits and costs for sources that become affected in that year. The 2025 estimates are larger, because they include sources that become affected in 2025 as well as sources that become affected in the 2020-24 time period and are assumed to be in continued operation in 2025, thus incurring compliance costs and emissions reductions in 2025.

- The estimated climate benefits reflect a net reduction in climate change damages, which include human health impacts, property damages from flood risk, and the value of ecosystem services, among other effects.

- Reductions in other pollutants, including volatile organic compounds and air toxics, also are expected to yield benefits; however, EPA was not able to quantify those. Those benefits include reductions in health effects related to fine particle pollution, ozone and air toxics, along with improvements in visibility.

- In 2020, EPA estimates the proposal will have climate benefits of $200 million to $210 million (2012$), which outweigh the costs of $150 to $170 million. Net benefits are estimated at $35 million to $42 million.

- In 2025, EPA estimates the proposal will have climate benefits of $460 million to $550 million, which outweigh the costs of $320 to $420 million. Net benefits are estimated at $120 million to $150 million.

- EPA estimates a range of costs and benefits because of uncertainty in how many well sites might be affected by a proposed exclusion from fugitive emission requirements for low production well sites.

- EPA did not conduct an RIA for the Control Techniques Guidelines, because CTGs are not regulations; they are RACT recommendations for states. The agency estimates that the CTGs would reduce about 82,000 tons of VOCs a year, if affected states were to implement the recommendations as outlined in the guidelines. Those VOC reductions would yield about 220,000 tons of methane reductions as a co-benefit. States have flexibility in determining what measures to implement to meet RACT requirements.

- The estimated costs of the control measures outlined in the guidelines are $76 million annually. These costs could change based on the steps states take to reduce pollution from the covered sources in their areas.

BACKGROUND

- In 2009, EPA determined that greenhouse gas pollution threatens Americans' health and welfare by leading to long-lasting changes in our climate that can have a range of negative effects on human health and the environment.

- Climate change is one of the greatest environmental and public health challenges we face. Climate impacts affect all Americans' lives – from stronger storms and longer droughts to increased insurance premiums, food prices and allergy seasons.

- The most vulnerable among us – including children, older adults, people with heart or lung disease and people living in poverty – may be most at risk from the impacts of climate change.

- In March 2014, the Obama Administration issued the Climate Action Plan: Strategy to Reduce Methane Emissions. As part of that strategy, EPA developed a series of five technical white papers that focused on technical issues covering emissions, and mitigation techniques that targeted methane and VOCs. The agency sought independent peer review of the white papers, and received more than 43,000 comments from the public.

- In January 2015, EPA and the Administration announced a broad-based strategy for reducing methane and VOCs from the rapidly growing oil and gas industry. Focusing on the equipment and processes covered in the white papers, EPA asked states and tribes to volunteer to participate in a series of discussions on approaches the agency should consider in setting standards. Today's proposals reflect those discussions.

FOR MORE INFORMATION

- For more information on today's proposed actions and instructions on submitting comments, visit http://www.epa.gov/airquality/oilandgas/actions.html

- To read the Climate Action Plan – Strategy to Reduce Methane Emissions, visit https://www.whitehouse.gov/blog/2014/03/28/strategy-cut-methane-emissions