

MJB&A Summary ■ September 3, 2019

EPA Proposal to Remove Methane Control Provisions from the New Source Performance Standards for Oil and Natural Gas

On August 29, 2019, the Environmental Protection Agency (EPA) released “Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources Review,” a proposal to amend the 2012 and 2016 new source performance standards (NSPS) for the oil and natural gas source category. This action is separate from EPA’s 2018 proposal to make technical modifications to the 2016 NSPS. Comments will be due 60 days after the proposal’s publication in the Federal Register. This document highlights key takeaways and reviews the main components of EPA’s proposal, including the implications for regulating existing sources.

Key Takeaways

- EPA proposes to rescind methane emission standards for new sources in the oil and natural gas source category but retain VOC standards for the same sources. EPA argues that the methane standards are unnecessary because the VOC and methane standards are duplicative.
- Additionally, EPA proposes to remove the transmission and storage segment from the oil and natural gas source category. Requirements for transmission and storage sources were added in the 2016 NSPS.
- As an alternative proposal, EPA would retain the transmission and storage segment in the NSPS for VOC controls but rescind the methane standards for all covered sources.
- Consistent with EPA’s finding that the methane and VOC standards are duplicative, the only emission increases and cost savings are attributed to removing control requirements from the transmission and storage segment.
- EPA discusses, but does not quantify, the impact of the proposal on future regulations. By removing the methane standards, EPA removes the predicate for regulating existing sources in the oil and natural gas source category under section 111(d) of the Clean Air Act (CAA). EPA states that regulating existing sources would have minimal impact on future emissions because of the rapid pace of change in the industry (i.e., regulation of new investments or modification / reconstruction of existing sources under the NSPS) as well as market incentives, voluntary programs, and state regulations.
- While the proposal retains EPA’s interpretation of section 111 related to the endangerment finding, EPA requests comment on its prior interpretations of the CAA and outlines arguments EPA could use to reach a different interpretation. In this alternative, EPA would be required to make a significant contribution finding on a pollutant-specific basis for each source category before regulating emissions of a pollutant. If EPA were to move forward with this new interpretation, the proposal requests comment on what criteria should be used to determine a significant contribution of a pollutant.

Background

In 2012 and 2016, EPA promulgated rules that established NSPS for sources in the oil and natural gas sector. In the 2012 rule, “Oil and Natural Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews; Final Rule,” EPA established NSPS for VOC emissions from sources in the oil and natural gas source category at 40 Code of Federal Regulations (CFR) part 60, subpart OOOO. In the 2016 rule, “Oil and Natural Gas Sector: Emissions Standards for New, Reconstructed, and Modified Sources; Final Rule,” EPA established additional NSPS for VOC and added NSPS for methane emissions at 40 CFR part 60, subpart OOOOa.

In October 2018, EPA proposed technical amendments to aspects of the 2016 NSPS. EPA outlined changes to: (1) fugitive emissions requirements, (2) well site pneumatic pump standards, and (3) requirements for professional engineer certification of closed vent systems, as established in the 2016 NSPS regulations. While the comment period has closed on these proposed amendments, the proposal has not been finalized.

EPA indicated in materials accompanying the proposed technical amendments to the 2016 NSPS that it was continuing to consider broad policy issues in the 2016 rule, including the regulation of greenhouse gas (GHG) emissions in the oil and natural gas sector. This review was undertaken in response to Executive Order 13783, “Promoting Energy Independence and Economic Growth,” which directed federal agencies to review all existing rules and regulations that impose significant costs on the development of domestic energy sources, including oil and natural gas. The new proposal is based on EPA’s findings.

Proposed Revisions

In its primary proposal, EPA seeks to rescind the methane-specific requirements of the NSPS and remove sources in the transmission and storage segment from the oil and gas source category.

As an alternative to the primary proposal, EPA proposes to rescind the methane requirements in the 2016 NSPS that apply to all sources in the oil and gas industry without removing sources from the oil and gas source category.

Proposal to Rescind the Methane-Specific Requirements

EPA proposes to rescind the methane NSPS for sources in the production and processing segments. EPA argues that these standards are “entirely redundant” with the NSPS for VOCs and provide no additional health protections. By maintaining the NSPS for VOCs, EPA argues this portion of the proposal has no impact on expected methane emission reductions.¹

To justify this aspect of the proposal, EPA notes that: 1) emissions of methane and VOC occur through the same emission points and processes; 2) the technologies available to capture or control the emissions are the same and do not selectively control VOC versus methane emissions; 3) there are market incentives to capture and sell methane as product; and 4) a number of states have programs in place to control emissions from the industry.

Proposal to Remove Sources in the Transmission and Storage Segment and Rescind the Associated Standards

In addition to rescinding the methane regulations for the production and processing segments, EPA proposes that it was not appropriate to include the transmission and storage segment as part of the oil and natural gas source category in the 2016 rule. EPA states that “[b]ecause the transmission and storage segment constitutes a separate

¹ Of note, EPA explicitly states that it is not reopening that VOC-only best system of emission reduction determination for production, processing, and transmission and storage segments made in the 2016 rule.

source category from the production and processing segments, the EPA could have listed it for regulation under CAA section 111(b) only by making a significant contribution and endangerment findings as required by the statute, which the EPA never did.” With this action, EPA “proposes to rescind the standards applicable to sources in the transmission and storage segment of the oil and gas industry.”

The proposal explains that if EPA finalizes these provisions, the transmission and storage segment will “revert to the status of a segment of the oil and natural gas industry not listed as a source category...and, thus, will not be subject to regulation under CAA section 111(b) (for new sources) or CAA section 111(d) (for existing sources that emit certain air pollutants).”

Alternative Proposal to Rescind the Methane Requirements

As an alternative to the primary proposal summarized above, EPA would rescind the methane requirements for all oil and natural gas sources without removing the transmission and storage segment from the oil and natural gas source category. EPA explains that the reason for this alternative proposal would be that the methane standards are entirely redundant with the VOC standards as discussed above.

Request for Comment on EPA’s Interpretation of the Endangerment Finding

For this proposal, EPA relies on its prior interpretation that the CAA does not require EPA to make a determination that a specific pollutant from each source category “causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health and welfare.” In prior rules, EPA concluded that it did not need to make a pollutant-specific significant contribution finding provided it had a “rational basis” for regulating the source category’s emissions. EPA further argued in prior rules, including the 2016 NSPS, that even if it was required to make a significant contribution finding, emissions from the source category did contribute significantly and were reasonably expected to endanger public health and welfare—i.e., EPA had a rational basis for regulating the source category’s emissions.

However, the proposal requests comment on the legal reasoning underlying significant contribution finding. EPA asks for comment on whether it should revise its prior position that it does not need to make a pollutant-specific significant contribution finding for methane from oil and natural gas sources. Specifically, EPA asks:

- 1) whether section 111 requires EPA to make a pollutant-specific significant contribution finding for GHGs from the source category as a prerequisite to regulating those emissions;
- 2) if so, whether the significant contribution finding for methane emissions that EPA made in 2016 properly satisfied that requirement; and
- 3) what criteria are appropriate for EPA to consider in making a significant contribution finding.

If EPA determines that its 2016 interpretation was in error and it has not satisfied the significant contribution finding, EPA asks whether it would be compelled or authorized to repeal the 2016 NSPS. EPA states that if the statutory provisions are ambiguous, “the benefits of assuring that only pollutants for which the EPA makes a [significant contribution finding] become subject to NSPS, as opposed to pollutants that, for example, may be emitted in relatively minor amounts, support interpreting the provisions to require a pollutant-specific” finding. EPA also outlines its legal arguments for this new interpretation including EPA’s conclusions regarding the practical implications of not requiring pollutant-specific findings, the need to legally define the “rational basis” justification, and Congress’s intent and legislative history on why EPA would argue this approach on which it is taking comment might be reasonable.

If EPA determines that it is required to make a significant contribution finding for methane emissions from the oil and gas source category, EPA notes that under its primary proposal, it would only need to make that determination for methane emissions from production and processing sources. EPA requests comment on whether the 2016 interpretation remains appropriate “in light of the fact that it was based on a greater amount of emissions than are in the source category as proposed in this rulemaking.” EPA also states that “nowhere in the course of developing and promulgating [the 2016 rule] did the EPA set forth the standard by which the ‘significance’ of the contribution of the methane emissions from the source category (as revised) was to be assessed.” Thus, EPA asks if the Agency failed to engage in a reasoned decision-making by not identifying such a standard.

Finally, in seeking comment on the criteria EPA would use if it were to determine it must make a pollutant-specific significant contribution finding, EPA notes that it “does not intend for these comments to inform the finalization of this rule, but rather to inform the EPA’s actions in future rules.” However, in addition to seeking comment on its discretion to develop qualitative or quantitative criteria or factors to determine significant contribution, EPA notes that methane is emitted from a variety of natural and anthropogenic sources and activities, and that domestic methane emissions are likely to represent a smaller share of global GHG emissions in the future.

Implication for Regulation of Existing Sources

EPA acknowledges that the rescission of the methane emission standards for the oil and natural gas source category would remove the trigger for existing source standards under section 111(d) of the CAA. Existing sources are regulated under section 111(d) for air pollutants that have standards established under section 111(b) and are not subject to national ambient air quality standards (NAAQS) or listed as hazardous air pollutants (HAP). In addition to methane, the oil and natural gas source category must meet VOC and HAP emission requirements. As an ozone precursor, VOC emissions are considered subject to NAAQS and would not trigger existing source regulation under 111(d). By definition, HAP emissions would likewise not trigger regulation under 111(d).

However, EPA argues that the lack of regulation of existing sources will have a minimal impact on future emissions because of the pace of change in the industry, which will result in sources being controlled under the NSPS as new, modified, or reconstructed sources, as well as market incentives, existing voluntary programs, and state regulation of emissions from oil and gas sources. EPA presents data from three sources to support its argument on the rate of equipment turnover in the industry: equipment counts in EPA’s annual GHG Inventory; well completion activity available through DrillingInfo, a commercial data platform; and compliance reports submitted by companies under the OOOOa rule. In addition, EPA requests data from companies regarding affected facility useful life and affected facilities that commenced construction, modification, or reconstruction.

In its discussion of market incentives, EPA references Energy Information Agency data on decreasing percentages of gas being lost to venting and flaring in the U.S. since 1936. EPA also cites data from the GHG Inventory showing relatively constant methane emissions from the NSPS OOOOa-relevant industry segments from 1990 to 2016, a period over which gross withdrawals increased about 50 percent.

EPA reviews the progress made through voluntary programs to reduce methane emissions, including participation in EPA’s Natural Gas STAR Program and Methane Challenge Program, as well as non-EPA initiatives such as the Environmental Partnership and the Climate and Clean Air Act Coalition Oil and Gas Methane Partnership. EPA also summarizes information about state regulations that cover oil and gas sources.

Projected Impacts of Proposed Rule

In an accompanying Regulatory Impact Analysis (RIA), EPA projects that finalizing the primary proposal would result in an increase in emissions, a loss of climate-related benefits, and savings in total compliance costs. EPA estimates the impacts of rescinding the requirements for transmission and storage sources relative to two alternative baseline scenarios: 1) one including the impacts of the October 2018 proposed technical amendments (2018 Proposed Regulatory baseline) and 2) one excluding the impacts of the October 2018 proposed technical amendments (Current Regulatory baseline). The analysis includes estimates of impacts to all affected sources (new, reconstructed, and modified sources under NSPS OOOOa) for the analysis years 2019 through 2025. Table 1 summarizes the key findings with all monetized impacts of these changes presented in 2016 dollars.

Regarding the alternative proposal, EPA states “because methane control options are redundant with VOC control options, there are no expected changes in the cost or emissions from rescinding the methane requirements” relative to either the 2018 Proposed Regulatory or Current Regulatory baselines.

Table 1: EPA Projections of Impacts of Primary Proposal Relative to 2018 Proposed Regulatory and Current Regulatory Baselines from 2019-2025

	Emission	2018 Proposed Regulatory		Current Regulatory	
Emissions Impacts	Methane (tons) (MMt CO ₂ e)	350,000 7.9		370,000 8.4	
	VOC (tons)	9,700		10,000	
	HAP (tons)	290		300	
Cost Impacts (Impacts to Compliance Costs and Domestic Climate Benefits)	Present Value Cost (millions, \$2016 dollars)	2018 Proposed Regulatory		Current Regulatory	
		7% Discount	3% Discount	7% Discount	3% Discount
	Net Benefits (benefits minus costs)	\$69	\$54	\$83	\$70
	Benefits (compliance cost savings minus foregone product recovery)	\$81	\$103	\$97	\$123
	Costs (foregone domestic climate benefits)	\$13	\$49	\$13	\$52

Source: EPA RIA; estimates in chart may not sum due to rounding.

Emission Impacts: EPA estimates that the primary proposal will lead to an increase in emissions compared to baseline emissions levels. From 2019 to 2025, relative to the Current Regulatory baseline, EPA estimates the primary proposal would increase methane emissions by 370,000 tons, VOC emissions by 10,000 tons, and HAPs by 300 tons.

Cost Impacts: EPA estimates that the primary proposal will result in net compliance cost savings to affected entities relative to baseline compliance costs. Relative to the Current Regulatory baseline, EPA projects total savings from 2019 through 2025 of \$97 million (7 percent discount rate) or \$123 million (3 percent discount rate), or \$17 million and \$19 million a year (7 percent and 3 percent discount rates, respectively). The total cost savings reflect both the benefit of compliance cost savings associated with the proposed changes to requirements in the rule and the foregone value of natural gas that would not be recovered as a result of these changes. EPA uses projected natural gas prices from the EIA’s 2018 Annual Energy Outlook.

Climate Impacts: EPA estimates the primary proposal will lead to foregone climate benefits resulting from the increase in methane emissions due to the proposed changes. Relative to the Current Regulatory baseline, EPA estimates the total present value of foregone domestic climate benefits at \$13 million (7 percent discount rate) or \$53 million (3 percent discount rate). This is equivalent to \$2.3 or \$8.1 million per year, using 7 percent and 3 percent discount rates, respectively.

EPA calculates these foregone climate benefits using an interim estimate of the domestic social cost of methane (SC-CH₄). EPA states that the interim estimate was developed under Executive Order 13783 “for use in regulatory analyses until an improved estimate of the impacts of climate change to the U.S. can be developed based on the best available sciences.” EPA notes that this estimate represents only a partial accounting of domestic climate impacts from methane emissions.

Air Quality and Public Health Impacts: EPA states its expectation that “foregone VOC emissions reductions will degrade air quality and are likely to adversely affect health and welfare associated with exposure to ozone, PM_{2.5}, and HAP,” but that the agency was unable to quantify these effects in the RIA. EPA also notes that the primary proposal is expected to result in other non-monetized impacts of visibility impairment, and vegetation effects.

Other Impacts: Regarding energy impacts, EPA projects that under the primary proposal, changing requirements affecting the operation of emission control devices would have negligible impact on national energy demand. Regarding labor impacts, EPA expects “slight reductions” in the labor required for compliance-related activities of affected units. EPA acknowledges that as a result of the rule, existing sources in the source category will not be subject to regulation under 111(d). However, EPA does not estimate the potential impacts of not proceeding with an existing source rule, noting that such an analysis would be outside of its scope.

Next Steps

EPA will hold a public hearing on the proposal, with details to be announced, and accept comments for 60 days following the publication of the proposal in the Federal Register.

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