

MJB&A Summary ■ August 17, 2020

Summary of Final Policy and Technical Amendments to EPA’s New Source Performance Standards for Oil and Natural Gas

On August 13, 2020, the Environmental Protection Agency (EPA or Agency) released final policy and technical amendments to the 2016 New Source Performance Standards (NSPS) for the oil and natural gas sector (Final Policy Rule and Final Technical Rule, respectively, or Final Rules). In the Final Policy Rule, EPA adopts what it referred to as the “primary proposal” in its September 2019 proposed action regarding policy amendments (2019 Policy Proposal), which removes the transmission and storage segment of the industry from the source category (leaving only the production and processing segments) and rescinds the methane requirements for sources in the production and processing segments. The Final Policy Rule also adopts “an interpretation of Clean Air Act (CAA) section 111 under which EPA, as a predicate to promulgating NSPS for certain air pollutants, must determine that the pertinent pollutant causes or contributes significantly to dangerous air pollution.”¹

In the Final Technical Rule, EPA reduces the fugitive emission monitoring requirements for select sources and establishes how new technologies and state regulations can demonstrate equivalency with the Final Technical Rule’s standards. The Final Technical Rule also includes changes to regulatory language and definitions intended to clarify requirements and reduce the regulatory burden for affected facilities.

This summary highlights key takeaways and reviews the main components of the Final Rules, including the implications for regulating existing sources.

Key Takeaways

Final Policy Rule

- EPA rescinds methane emission standards for new sources in the oil and natural gas source category but retains volatile organic compound (VOC) standards for the same sources. EPA concludes that the methane standards are unnecessary because the VOC and methane standards are duplicative.
- EPA removes 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.
- By removing the methane standards, EPA removes the predicate for regulating methane emissions from existing sources in the oil and natural gas source category under section 111(d) of the CAA. EPA states without further analysis 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 /

¹ EPA states in the Final Policy Rule that rather than the statutory terms of “endanger public health or welfare,” it sometimes refers to the phrase as “dangerous air pollution.”

reconstruction of existing sources under the NSPS) as well as market incentives, voluntary programs, and state regulations.

- EPA adopts an interpretation of CAA section 111 that “limit[s] the standards of performance to only those air pollutants that [EPA] determined cause or contribute significantly to dangerous air pollution when listing the source category under CAA section 111(b)(1)(A).” EPA explains that, “[i]f [EPA] did not, when listing the source category, determine that a particular air pollutant causes or contributes significantly to dangerous air pollution, then [EPA] must do so as a predicate to promulgating standards of performance for that air pollutant.” Based on this interpretation, EPA concludes that this standard was not met in promulgating the 2016 NSPS, which EPA uses as additional reasoning in the Final Policy Rule to rescind the methane requirements.

Final Technical Rule

- EPA maintains the semi-annual (i.e., twice a year) fugitive emission monitoring requirement for well sites with daily production greater than 15 barrels of oil equivalent per day (non-low producing wells). EPA removes the fugitive emission monitoring requirements for low producing well sites (defined as well sites with daily production equal to or below 15 barrels oil equivalent per day) and decreases the monitoring frequency at natural gas compressor stations from quarterly to semi-annually based on updated cost-effectiveness analysis.
- EPA adopts language to streamline the application process for alternative monitoring technologies and practices to demonstrate equivalence under the Final Technical Rule’s Alternative Means of Emissions Limitations (AMEL) provisions. These amendments are intended to facilitate approval of new emission reduction technologies and practices not included in the Final Technical Rule.
- EPA finalizes a list of state fugitive emissions programs that are deemed equivalent to the fugitive emission standards in the Final Technical Rule. Well site and compressor station facilities in California, Colorado, Ohio, Pennsylvania, and Texas, and well site facilities in Utah, may comply with EPA standards by complying with state requirements. The Final Technical Rule clarifies the application process for demonstrating AMEL for additional state programs.

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 proposed changes to the fugitive emissions requirements, technology and state equivalency provisions, and definitions and language that affect operational and reporting requirements.

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. This review resulted in EPA’s 2019 Policy Proposal to remove methane requirements for the oil and natural gas source category and remove the transmission and storage segment from the source category.

EPA’s August 13, 2020 actions finalize both the technical and policy proposals.

Final Policy Revisions

In the Final Policy Rule, consistent with the 2019 Policy Proposal, EPA rescinds the methane-specific requirements of the NSPS and removes the transmission and storage segment from the oil and natural gas source category. EPA also adopts a new interpretation of the endangerment finding.

Rescission of Methane-Specific Requirements

The Final Policy Rule rescinds the methane NSPS for sources in the production and processing segments, finding that these standards are “entirely redundant” with the NSPS for VOC emissions and provide no additional health protections. By maintaining the NSPS for VOC emissions, EPA argues this portion of the Final Policy Rule has no impact on expected methane emission reductions “because the controls that reduce VOC emissions simultaneously reduce methane emissions.” EPA also notes there will be no change in the number of affected sources in the production and processing segments subject to the rule.

To justify this aspect of the Final Policy Rule, EPA refers to the reasoning it used in the 2019 Policy Proposal, noting that: 1) methane and VOC emissions 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.

Removal of the Transmission and Storage Segment and Associated Standards

Consistent with the 2019 Policy Proposal, the Final Policy Rule removes all sources in the transmission and storage segment from regulation under the NSPS and rescinds all emissions limitations for both VOC and methane for sources in that segment. EPA bases this removal on its conclusion that:

- 1) the transmission and storage segment’s processes and operations are distinct from those found in the production and processing segments;
- 2) the purposes of the operations are different between the segments; and
- 3) the natural gas that enters the transmission and storage segment has different composition and characteristics than the natural gas that enters the production and processing segments.

EPA also notes that the Agency has made similar distinctions between other source categories with segments that handle the production and processing of a material and subsequent transport of the product (e.g., for the regulation of hazardous air pollutants). EPA states that to include the transmission and storage segment, the Agency “is required to treat it as a separate source category and determine that in and of itself it causes or contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare,” which EPA concludes was not done in promulgating the 2016 NSPS.

As a result of the Final Policy Rule, EPA states that transmission and storage segment sources “are not part of a listed source category under CAA section 111(b)(1)(A) and, thus, are not subject to regulation under CAA section 111(b) (for new sources) or CAA section 111(d) (for existing sources that emit certain air pollutants).” To further clarify that this segment is not regulated under the NSPS, the Final Policy Rule adds a definition of “natural gas transmission and storage segment” to describe the boundaries of the segment:

Natural gas transmission and storage segment means the transport or storage of natural gas prior to delivery to a ‘local distribution company custody transfer station’ (as defined in this section) or to a final end user (if there is no local distribution company custody transfer station). For the purposes of this subpart, natural gas enters the natural gas transmission and storage segment after the natural gas processing plant, when present. If no natural gas processing plant is present, natural gas enters the natural gas transmission and storage segment after the point of ‘custody transfer’ (as defined in this section). A compressor station that transports natural gas prior to the point of ‘custody transfer’ or to a natural gas processing plant (if present) is not considered a part of the natural gas transmission and storage segment.

EPA’s Interpretation of the Endangerment Finding

In the 2019 Policy Proposal, EPA requested comment on, but did not propose a change to, 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” if it had a “rational basis” for regulating the source category’s emissions. However, in the Final Policy Rule, EPA adopts a new interpretation stating that CAA section 111 “requires, or at least authorizes the Administrator to require a pollutant-specific [significant contribution finding] as a predicate for promulgating a standard of performance for that air pollutant.”

When requesting comment as part of the 2019 Policy Proposal, EPA stated that its prior interpretation was vague and not guided by any statutory criteria. EPA also raised a concern in the proposal that the existing approach could result in EPA promulgating standards for air pollutants that are emitted in relatively minor amounts. Based on that reasoning and comments, the Final Policy Rule concludes that “[i]f the Administrator did not, when listing the source category, determine that a particular air pollutant causes or contributes significantly to dangerous air pollution, then the Administrator must do so as a predicate to promulgating standards of performance for that air pollutant.”

CAA section 111(b)(1)(A) requires EPA to list source categories that “contribute significantly to air pollution which may reasonably be anticipated to endanger public health or welfare.” CAA section 111(b)(1)(B) requires EPA to propose and finalize standards of performance for listed sources. In the Final Policy Rule, EPA revises its prior interpretation and finds that section 111(b)(1)(B) does not require EPA to promulgate standards for *all* air pollutants but requires EPA to only promulgate standards for those pollutants that EPA has determined cause or contribute significantly to air pollution that “EPA has determined to be dangerous when listing the source category.” Under this reasoning, EPA states that if it did not determine at the time of listing that a particular pollutant causes or contributes significantly to air pollution (e.g., methane), then section 111 requires “or, at least authorizes” EPA to require a pollutant-specific significant contribution finding before regulating that air pollutant.

Additionally, citing *Utility Air Regulatory Group v. EPA*,² the Final Policy Rule states the Supreme Court found that the fact that the CAA-wide definition of “air pollutant” included GHG emissions did not mean that all

² 573 U.S. 302 (2014).

references to “air pollutant” in the CAA’s operative provisions necessarily include GHG emissions. Therefore, EPA reasons that it can conclude that CAA section 111(b)(1)(B) does not mandate “and cannot reasonably be read to authorize” EPA to promulgate standards of performance for an air pollutant for which EPA has not made a significant contribution finding. And, at a minimum, EPA argues that it is reasonable to interpret the provisions as authorizing EPA to “decline to promulgate standards” without first making such a finding.

Regarding EPA’s prior approach of using a rational basis test, the Final Policy Rule notes that the prior approach would allow “EPA virtually unfettered discretion in determining which air pollutants to regulate.” EPA further argues that:

it would be unreasonable to interpret CAA section 111(b)(1)(B) to allow the Agency to regulate air pollutants from the source category merely by making an administrative determination under the open-ended and undefined rational basis test. Rather, it is logical to interpret CAA section 111(b)(1)(B) to require that the Agency apply the same degree of rigor in determining which air pollutants to regulate as it does in determining which source categories to list for regulation.

In response to comments asserting that the requirement of a rational basis standard is appropriate in that it is equivalent to the “arbitrary and capricious” standard, EPA states that, while the rational basis test “offers some protection against arbitrary or capricious decisions by the EPA,” the CAA does not contain explicit criteria to guide the application of such a test. EPA states this “could potentially incorporate a wide range of considerations and lead to inconsistent results,” which EPA states “creates uncertainty for the regulated industry and other stakeholders over whether particular additional pollutants will be regulated or not.”

Rescission of 2016 Significant Contribution Finding of Methane from Oil and Natural Gas Source Category

The Final Policy Rule finds that the 2016 determination that the oil and natural gas source category significantly contributes to “dangerous air pollution” was “flawed and must be rescinded for two reasons.” First, EPA states that the determination was based on methane emissions from the production, processing, and transmission and storage segment, instead of just the production and processing segments. Given that the Final Policy Rule removes the transmission and storage segment, EPA states that “[u]ntil the EPA makes an appropriate determination that methane emissions from the Oil and Natural Gas source category, properly calculated, contribute significantly to dangerous air pollution,” it does not have the authority to promulgate performance standards for methane for the source category.

Second, EPA argues that the 2016 determination “failed to support that determination with either established criteria or some type of reasonably explained and intelligible standard or threshold for determining when an air pollutant contributes significantly to dangerous air pollution.” The Final Policy Rule states that without a standard or criteria to distinguish between a contribution and a significant contribution, the 2016 determination is arbitrary and capricious.

EPA highlights that several commenters “contend that oil and gas methane emissions are too small to be considered significant,” and EPA acknowledges that “such a relatively small contribution to the national and global pool of methane emissions may not be deemed significant.” However, EPA notes that it cannot make such a determination until it reviews and assesses those emissions against the criteria it intends to adopt. EPA states that it intends to undertake a rulemaking shortly to “identify thresholds and/or criteria and to apply them in future significance determinations.”

Implication for Regulation of Existing Sources

EPA acknowledges that rescission of the methane emission standards for the oil and natural gas source category will 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 concludes 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.

Final Technical Revisions

The Final Technical Rule changes the fugitive emission monitoring frequency for select sources, defines the criteria for demonstrating equivalency using different technologies or state regulatory programs, and makes changes to definitions to clarify specific requirements.

Fugitive Emissions Requirements

The 2016 NSPS required methane monitoring twice a year for well sites. The Final Technical Rule maintains the semi-annual monitoring requirement for non-low production well sites (well sites with daily production greater than 15 barrels of oil equivalent/day). EPA had proposed moving to annual monitoring for these sources but determined that semi-annual inspections remained cost effective. The Final Technical Rule removes all monitoring requirements when all major production and processing equipment is removed from a well site such that it becomes a wellhead-only well site.

The Final Technical Rule does not include any methane monitoring at low production well sites (daily production at or below 15 barrels of oil equivalent/day), which were previously subject to the semi-annual requirement. EPA had proposed biennial monitoring for low production well sites but removed all monitoring requirements for these sources based on a revised cost-effectiveness analysis.

The Final Technical Rule requires semi-annual monitoring at natural gas compressor stations in the production and gathering and boosting segments. These sources were subject to quarterly monitoring under the 2016 NSPS. Because EPA removed the transmission and storage segment from the source category under the Final Policy Rule, monitoring requirements do not apply to compressor stations in that segment.

Non-low production well sites and all compressor stations on Alaska's North Slope are subject to separate monitoring requirements, with both sources subject to annual monitoring.

The Final Technical Rule also includes several changes to clarify the definition of "modification" for certain sources, set initial monitoring requirements, revise repair timing requirements, and exclude certain third-party equipment and disposal wells from the monitoring requirements.

Alternative Means of Emissions Limitations Provisions

The 2016 NSPS allowed owners and operators to request an alternative means of emission limitation for specific standards for well completions, reciprocating compressors, and fugitive emissions components at well sites and

compressor stations. An AMEL request would have to demonstrate that an alternative means would achieve at least equivalent emission reductions and include an agreement to submit to compliance monitoring. These alternatives could be based on emerging technologies or requirements under state or local programs.

EPA finalizes amendments to language related to emerging technologies to allow anyone, including technology vendors or trade associations, to submit AMEL applications. While the Final Technical Rule maintains the existing requirement that AMEL applications be site-specific, EPA states that it may consider revisions in the future that would allow an AMEL to apply to multiple sites with similar characteristics (e.g., a methane detection technology could be used as an alternative at different well pads without submission of separate AMEL applications).

Additionally, the Final Technical Rule allows state regulations that provide equivalency to the well site and compressor station fugitive emissions standards to serve as AMEL. EPA evaluated state fugitive emissions programs and determined that regulations in California, Colorado, Ohio, Pennsylvania, and Texas may serve as alternatives for the federal well site and compressor station standards. In Utah, EPA is finalizing state equivalency for the well site requirement only. For state programs that also have equivalent reporting requirements, facilities may submit copies of their state reports rather than submit duplicative information via NSPS reporting procedures. If any state program with equivalency does not cover aspects of the Final Technical Rule's fugitive emissions standards or reporting requirements, facilities must still meet applicable requirements. Additional applications for state program equivalency may be submitted as states develop new fugitive emission monitoring requirements.

Additional Revisions

The Final Technical Rule includes additional technical revisions that clarify affected facility compliance obligations. Key changes include:

- **Pneumatic Pumps.** Operators at greenfield well sites may declare that it is technically infeasible to control emissions from pneumatic pumps. This declaration was not available to greenfield well sites under the 2016 NSPS. Additionally, the Final Technical Rule allows in-house engineers to support technically infeasible determinations; this could only be performed by third-party engineers under the 2016 NSPS.
- **Pneumatic Pump and Storage Tank Closed Vent Monitoring.** The 2016 NSPS requires monitoring of closed-vent systems at pneumatic pumps and storage tanks. The Final Technical Rule adds additional monitoring options for both sources. Specifically, the Final Technical Rule adds monthly audio/visual/olfactory (AVO) monitoring and optical gas imaging (OGI) monitoring at the site's fugitive emission monitoring frequency to annual Method 21 inspection as options for monitoring at pneumatic pumps. OGI at a site's mandated fugitive emission monitoring frequency is added to monthly AVO inspections as a monitoring option at storage tanks.
- **Closed-Vent System Certification.** The Final Technical Rule allows in-house engineers to certify the design and operation of closed-vent systems; this could only be performed by third-party engineers under the 2016 NSPS.
- **Storage Tank Potential Emissions Calculation.** EPA finalizes specific design and operational criteria that allow for averaging potential VOC emissions across individual storage tanks at tank batteries for the purpose of determining if individual tanks are affected sources. The rule also finalizes methodologies for

calculating potential VOC emissions from storage tanks that do not meet the qualifications for emissions averaging, as well as the potential emissions calculations for storage tanks at processing plants and compressor stations.

- **Processing Plant Limited-Use Exemption.** The Final Technical Rule exempts equipment at natural gas processing plants in VOC service less than 300 hours per year from the fugitive emission monitoring requirements. The exemption applies to equipment used only during emergencies, used as a backup, or operated only during startup and shutdown.

Combined Impacts of Final Policy and Technical Rules

In an accompanying Regulatory Impact Analysis (RIA), EPA projects that the Final Rules will result in an increase in emissions, a loss of climate-related benefits, and savings in total compliance costs. The combined impacts are projected relative to a baseline representing the regulatory landscape in the absence of implementation of the Final Rules (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 2021 through 2030. Table 1 summarizes the key findings with all monetized impacts of these changes presented in 2016 dollars.

Table 1: EPA Projections of Impacts of Final Policy and Technical Rules Relative to Current Regulatory Baseline from 2021-2030

| | Emission | Final Rules | |
|---|---|--------------------|-------------|
| Emissions Impacts | Methane (<i>short tons</i>) | 850,000 | |
| | (<i>metric tons</i>) | 770,000 | |
| | (<i>MMt CO2e</i>) | 19 | |
| | VOC (<i>short tons</i>) | 140,000 | |
| | HAP (<i>short tons</i>) | 5,000 | |
| Cost Impacts (Impacts to Compliance Costs and Domestic Climate Benefits) | Present Value Cost (<i>millions, \$2016 dollars</i>) | Final Rules | |
| | | 7% Discount | 3% Discount |
| | Net Benefits (<i>benefits minus costs</i>) | \$750 | \$850 |
| | Benefits (<i>compliance cost savings minus foregone value of product recovery</i>) | \$780 | \$990 |
| | Costs (<i>foregone domestic climate benefits</i>) | \$35 | \$130 |

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

Emission Impacts: EPA estimates that the Final Rules will lead to an increase in emissions compared to baseline emissions levels. From 2021 to 2030, relative to the Current Regulatory Baseline, EPA estimates the Final Rules would increase methane emissions by 850,000 short tons, VOC emissions by 140,000 short tons, and HAPs by 5,000 short tons.

Cost Impacts: EPA estimates that the Final Rules will result in net compliance cost savings. Relative to the Current Regulatory Baseline, EPA projects total savings from 2021 through 2030 of \$780 million (7 percent discount rate) or \$990 million (3 percent discount rate). The total cost savings reflect both the benefit of compliance cost savings associated with the Final Rules 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 2020 Annual Energy Outlook.

Climate Impacts: EPA estimates the Final Rules will lead to foregone climate benefits resulting from the increase in methane emissions. Relative to the Current Regulatory Baseline, EPA estimates the total present value of foregone domestic climate benefits at \$35 million (7 percent discount rate) or \$130 million (3 percent discount rate).

EPA calculated 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 science and economics." EPA notes that this estimate represents only a partial accounting of domestic climate impacts from methane emissions.

Air Quality and Public Health Impacts: EPA "expects that the forgone VOC emission reductions will worsen air quality and adversely affect health and welfare due to the contribution of VOCs to ozone, PM_{2.5}, and HAP," but the Agency was "unable to quantify these impacts at this time," noting that "[t]his omission does not imply that these forgone benefits do not exist." EPA states that the currently available data makes it difficult in modeling the direct and indirect impacts. EPA also notes that the Final Rules are expected to result in other non-monetized impacts of visibility impairment, as well as vegetation and ecosystem effects.

Other Impacts: Regarding labor impacts, EPA expects reductions in the labor required for compliance-related activities of affected units. EPA discusses but does not quantify energy market, distributional, or small business impacts associated with the Final Rules. EPA expects that the Final Rules "will reduce the energy market impacts associated with the 2016 NSPS, may have unevenly distributed impacts across the U.S. population, and will have neutral or beneficial impacts on small businesses."

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