

## EPA PROPOSES NEW, BROAD RANGING AIR REGULATIONS APPLICABLE TO THE OIL AND GAS SOURCE CATEGORY

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On July 28, 2011, the United States Environmental Protection Agency (“EPA”) proposed broad ranging and stringent air regulations applicable to the Oil and Natural Gas Production source category including for the first time performance standards applicable to hydraulic fracturing operations.<sup>1</sup> The proposed regulations are in the form of either New Source Performance Standards (“NSPS”) proposed under Section 111 of the Clean Air Act (“CAA”) or National Emission Standards for Hazardous Air Pollutants (“NESHAP”) proposed under Section 112. The proposed regulations follow from a lawsuit filed by environmental groups on January 24, 2009, alleging that EPA failed to meet its obligations under CAA Sections 111(b)(1)(B), 112(d)(6) and 112(f)(2) to take actions relative to the review/revision of the NSPS and the NESHAP for the Oil and Natural Gas Production source category. On February 4, 2010, the court in the case approved a consent decree setting a deadline of July 28, 2011 for EPA to sign proposed standards or determinations not to issue standards pursuant to CAA Sections 111(b)(1)(B), 112(d)(6) and 112(f)(2) and a second deadline of February 28, 2012 to take final action.

Currently, NSPS regulations are applicable only to natural gas processing facilities. The proposed regulations would expand the reach of NSPS to include: (1) oil and gas production including hydraulic fracturing operations; (2) natural gas processing; (3) natural gas transmission including underground storage; and (4) natural gas distribution. The

EPA is proposing an expansive definition of production equipment which would include the wells and related casing heads, tubing heads and piping, as well as pumps, compressors, heater treaters, separators, storage vessels, pneumatic devices and dehydrators. Production operations also would include well drilling, well completion and workover processes. Further, the proposed regulations would regulate emissions of volatile organic compounds (“VOCs”) as precursors to ozone and particulates, sulfur dioxide (“SO<sub>2</sub>”), and Hazardous Air Pollutants (“HAPs”).

Significantly, the proposed NSPS standards would be applicable not only to new wells, but also to existing wells that are fractured or refractured after the date of publication of the final rule in the Federal Register. Such fracturing or refracturing would be considered a “modification” under Section 111 of the CAA; however, in such instances the NSPS would be applicable to the wellhead only and not associated production operations and equipment as would be the case for a new well. Further, the proposed rules would impose extensive notification, recordkeeping and recording requirements. The biggest impact of the proposed rules, if adopted, would be the application of reduced emission completion (“REC”) requirements to hydraulically fractured wells and operations.

There will be a 60-day (from the date of publication in the Federal Register) public comment period, which will include public hearings in Dallas, Pittsburgh, and Denver at dates yet to be scheduled.

### 1. Performance Standards for the Control of Emissions of VOCs and SO<sub>2</sub> from the Oil and Gas Source Category

*A. Introduction.* Under Section 111 of the CAA, EPA is required to list categories of stationary sources, if such sources cause or contribute significantly to air pollution which reasonably may be expected to endanger public health or welfare. EPA is then required to issue

1. See EPA Proposed Rule, “Standards of Performance for New Stationary Sources: Oil and Natural Gas Production and Natural Gas Transmission and Distribution; National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities; and National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities,” available at EPA website, <http://www.epa.gov/airquality/oilandgas/pdfs/20110728proposal.pdf> (604 pages) — published at 76 Fed. Reg. 52738 (August 23, 2011).

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performance standards for such categories of stationary sources. Such standards are to reflect the degree of emission reduction achievable through application of the Best System of Emission Reduction (“BSER”) that EPA determines has been adequately demonstrated. In determining such performance standards, EPA is permitted to consider certain costs and certain non-air quality health benefits and economic and energy requirements. The performance standards so issued are applicable to new or modified sources and are known as New Source Performance Standards (“NSPS”).

Under Section 111(b)(1)(B), EPA is required, at least every eight years, to review such performance standards and to revise such standards unless EPA determines based upon readily available information that such revision is not appropriate. When reviewing such standards, EPA has the discretion to revise such standards to add pollutants or sources that are not then currently regulated, provided that such revisions are adequately supported by the administrative record.

In 1979, EPA listed crude oil and natural gas production as a source category on its priority list for the promulgation of NSPS. In 1985, EPA issued an NSPS for the category applicable to the emission of VOCs from components of gas processing plants susceptible to leaks (40 C.F.R. Part 60, Subpart KKK). Later that year, EPA promulgated a second NSPS applicable to emissions of SO<sub>2</sub> from gas processing plants (40 C.F.R. Part 60, Subpart LLL). EPA has promulgated no other NSPS applicable to the source category.

EPA is purportedly using its authority under Section 111(b)(1)(B) of the CAA to propose the regulation of pollutants and sources (the entire Oil and Natural Gas Production source category) not previously regulated.

*B. Organization of Proposed Rules.* Under the proposed regulations, a new Subpart OOOO to 40 C.F.R. Part 60 would be created. All affected facilities constructed, reconstructed or modified after the date of publication of the final rule in the Federal Register would be subject to the requirements of this subpart. As noted, under the proposed rules the fracturing or refracturing of existing wells after the date of publication of the final rule in the Federal Register would be considered a modification under the CAA, subjecting such wells to the well completion requirements — specifically the reduced emission completion require-

ments (“REC”) — included in the new rule, but on a more limited basis (i.e., only the wellhead, but not ancillary facilities as would be the case for a new well).

The proposed rule would also incorporate and strengthen the substance of the standards set forth at Subparts KKK and LLL so that all rules applicable to new sources would be found in one subpart. Existing subparts KKK and LLL would be retained and sources already subject to those requirements would continue to be so subject unless application of the new standards were to be triggered as specified in the proposed regulations.

*C. The Proposed Performance Standards for VOCs and SO<sub>2</sub>.* The following affected facilities are covered by the proposed rule if construction, modification or reconstruction of such facilities is commenced after the date of publication of the final rule in the Federal Register: the gas wellhead (as noted, existing gas wellheads are subject to the rules if fractured or refractured after the effective date); centrifugal compressors except centrifugal compressors located at the wellsite; reciprocating compressors except reciprocating compressors located at the wellsite; pneumatic controllers, storage vessels, compressors and equipment located at natural gas processing plants; equipment associated with a compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering systems or liquefied natural gas units if located at a natural gas processing plant; and certain sweetening units. Proposed 40 C.F.R. § 60.5365(a) through (g).

For completions of wells that have been hydraulically fractured or refractured, the proposed regulations distinguish between exploratory and delineation wells and gas producing wells. An exploratory well is often the first well drilled in a well field to determine the existence of a gas producing reservoir and its commercial viability. A delineation well is a well drilled to determine the boundaries of the well field. Typically, exploratory and delineation wells are isolated and located some distance away from the gas producing well field and the associated gas gathering lines.

For production wells, EPA is proposing the following operational standards for well completion: (1) emissions associated with venting of hydrocarbon fluids and gas over the duration of flowback must be minimized by routing the recovered liquids into storage vessels and routing

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the recovered gas into a gas gathering line or collection system; (2) sand traps, surge vessels, separators, and tanks must be employed during flowback and cleanout to maximize resource recovery and minimize releases to the environment; (3) flowback emissions that cannot be directed to the gathering lines must be captured and directed to a completion combustion device. Proposed 40 C.F.R. § 60.5375.

Due to the location of exploratory and delineation wells away from the well field and gas gathering lines, EPA is proposing less extensive well completion requirements for such wells when they have been hydraulically fractured, consisting primarily of pit flaring using a completion combustion device. Proposed 40 C.F.R. § 60.5375(f).

Also, EPA believes that produced water ponds are a significant source of emissions and is seeking comments as to whether such ponds should be subject to regulation.

For centrifugal compressors, the proposed regulations would require that each rotating compressor shaft be equipped with a dry seal system upon initial start-up. Proposed 40 C.F.R. § 60.5380.

For reciprocating compressors, the proposed regulations would require replacement of the reciprocating compressor rod packing before the compressor has operated for 26,000 hours. Continuous monitoring of the number of hours of operation would be required beginning upon initial start-up, or the date of publication of the final rule, or the date of the previously reciprocating compressor rod packing replacement, whichever is later. Proposed 40 C.F.R. § 60.5385.

For pneumatic controllers a different standard would be applicable depending upon whether the controller is located in a gas processing plant or not. For pneumatic controllers located in a natural gas processing plant, a zero emissions standard of natural gas is proposed, effectively eliminating the use of natural gas powered pneumatic controllers in such situations. For pneumatic controllers located elsewhere, natural gas emissions can be no greater than six standard cubic feet per hour. Lastly, neither standard applies if it is demonstrated to the Administrator's satisfaction that the use of a high bleed device is required. Proposed 40 C.F.R. § 60.5390.

As discussed below, for storage vessels, proposed 40 C.F.R. § 60.5395 would require that such vessels meet

the requirements of 40 C.F.R. Part 63, Subpart HH, § 63.766(b) and (c). Those sections require that storage vessels be equipped with a cover connected to a control device (enclosed combustion device, vapor recovery device or flare) by means of a closed system. Further, such vessels so equipped must be operated with no detectable emissions at all times that material is in the storage vessel. Proposed 40 C.F.R. § 63.766(b)(2). However, 40 C.F.R. § 63.766(c) allows for safety devices that vent directly to the atmosphere to be used on such storage vessels.

For natural gas processing plants, EPA is proposing that the requirements for the control of VOCs and SO<sub>2</sub> emissions both be made more stringent. With respect to VOCs from leaking components at such facilities, EPA is proposing that owners and operators of such facilities be required to comply with the requirements of 40 C.F.R. Part 60, Subpart VVa. EPA has determined that those requirements are more appropriate than the current requirements set forth at 40 C.F.R. Part 60, Subpart VV in that Subpart VVa requires more frequent monitoring and monitoring of connectors. With respect to control of SO<sub>2</sub> emissions, EPA is proposing that the maximum initial and continuous reduction efficiency be raised to 99 percent for facilities with a sulfur feed rate of greater than five long tons per day and H<sub>2</sub>S concentrations equal to or greater than 50 percent.

## **2. Proposed Performance Standards for the Control of HAPs from Oil and Natural Gas Production**

EPA's proposed alterations to the NESHAPs relating to oil and gas production, transmission and storage expand those regulations in several directions at once. The new NESHAP regulations establish standards for previously unregulated emissions sources, tighten some existing standards based on a new risk review, and eliminate some exemptions to standards that had existed for start-up, shutdown, and malfunctions of equipment.

EPA's proposal includes new maximum achievable control technology ("MACT") standards for subcategories of glycol dehydrators for which standards were not previously promulgated (called "small dehydrators" in the proposed regulations). Glycol dehydrators are used to remove water from natural gas to prevent transport and storage problems. These new standards would apply to small dehydrators in both the production category and the

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transmission and storage category for oil and gas operations. In the production category, small dehydrators are deemed to be those glycol dehydrators with an annual average natural gas flowrate less than 85,000 standard cubic meters per day or average benzene emissions less than 0.9 megagrams per year. In the transmission and storage category, a small dehydrator is one with an actual annual average natural gas flowrate less than 283,000 standard cubic meters per day or actual average benzene emissions less than 0.9 megagrams per year.

Imposing MACT standards for the subcategory of small dehydrators at oil and gas production facilities means that existing units must meet an emissions limit of  $1.10 \times 10^{-4}$  grams per standard cubic meters-parts per million by volume for benzene, ethylbenzene, toluene, and xylene. New dehydrator units will have to meet even stricter standards. The new requirements are similar for small dehydrator units at natural gas transmission and storage sources.

As discussed, in the section on proposed NSPS, certain types of storage vessels are another previously unregulated category that is now targeted by the new regulations. The current MACT standards apply only to storage vessels with the potential for flash emissions (“PFE”). The original analysis of pollution control technology for storage vessels accounted for all storage vessels, both with and without the PFE. EPA therefore found it appropriate to apply the current MACT standards of 95 percent emission reduction to every storage vessel at major source oil and natural gas production facilities. This means that emissions from all storage vessels, and not just those from storage vessels with the PFE, will be included in the major source determination for oil and gas production sites.

The CAA requires EPA to conduct two types of reviews of air toxics standards for major sources of air pollution: a one-time residual risk assessment and a technology review every eight years. EPA has concluded that, based on its risk assessment, only a couple of changes were necessary. For both the production and the transmission and storage categories, EPA found that the current levels of emissions allowed by the MACT reflect acceptable levels of risk. But the level of emissions allowed by the alternative compliance option for glycol dehydrator MACT, which gives operators the option of reducing benzene emissions to less than 0.9 megagrams per year in lieu of the MACT standard of 95 percent control, has now been found to reflect an unacceptable level of risk and will be

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eliminated under the new regulations, if adopted. With these revisions, EPA believes that the MACT for these two source categories provides an ample margin of safety to prevent environmental harm and protect public health.

As for EPA’s technology review, the agency says that it did not identify any practices, processes, or control technologies applicable to storage vessels in these categories that were not evaluated during the original MACT development and it is therefore not proposing any revisions to the existing MACT standards for storage vessels. As discussed in the section on proposed NSPS, EPA is, however, proposing to revise the equipment leak requirements in the regulations to lower the leak definition for valves to an instrument reading of at least 500 parts per million. This is the result of its technology review concluding that new valves can cost-effectively prevent more leaks than the valves required under the current regulations.

EPA is also proposing what may be described as tweaks to bring the NESHAP up-to-date based on what the agency has learned regarding control devices and compliance since the original regulations were promulgated. One such tweak is a proposed alternative performance test for non-flare, combustion control devices that would be conducted by the device manufacturer to demonstrate the device’s destruction efficiency. This would allow a source to purchase a performance tested device for installation at their site without being required to conduct its own test. Other tweaks include revising the parametric monitoring calibration provisions; requiring new periodic performance testing; removing the allowance of a design analysis for all control devices other than condensers; removing the requirement for a minimum residence time for an enclosed combustion device; and adding record-keeping and reporting requirements to document carbon replacement intervals.

One of the most significant changes proposed is the elimination of the start-up, shutdown, and malfunction (“SSM”) exemption in the NESHAP for the production, transmission and storage of oil and natural gas. EPA is proposing that the established standards in this NESHAP apply at all times, including when control devices are malfunctioning. Along with eliminating the SSM exemption, EPA is proposing revised SSM-associated reporting and recordkeeping requirements in and new regulations to require reporting and recordkeeping for periods of malfunction.

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But as EPA's proposal takes away the SSM exemption to NESHAP, it also gives to operators a new affirmative defense to civil penalties for exceedances of emission limits caused by malfunctions. To establish the affirmative defense, an operator must satisfy nine criteria that show that the exceedance could not have been prevented and that it did everything possible to stop the exceedance and prevent it from happening again. The operator must also notify EPA within two days of the exceedance and submit a report within 45 days proving that it qualifies for the affirmative defense. EPA has proposed removing the SSM exemption for the oil and gas NSPS as well, and has likewise set up an affirmative defense to penalties for violating the NSPS with the same proof requirements as the NESHAP affirmative defense.

### **3. Notification, Recordkeeping and Recording Requirements**

The EPA's proposed rule will also impose additional notification, reporting and recordkeeping requirements on affected facilities to assist in documenting compliance with the provisions of the NSPS.

*A. Notification Requirements.* Under the proposed regulations, owners and operators of affected facilities would submit an initial notification to the agency within a year of becoming subject to 40 C.F.R. Part 60, Subpart OOOO, or one year after the publication of the final rule in the Federal Register, whichever is later. Wellhead affected facilities would also be required to submit a notification to the agency of the owner or operator's intent to complete a gas well using hydraulic fracturing at least 30 days before each well completion or recompletion. The notification must include the anticipated date of commencement of the well completion operation, the geographic coordinates of the well, and identifying information concerning the owner or operator and responsible company official. The EPA believes that this advance notification requirement will allow sufficient time for inspections or audits to certify or verify that the operator will have in place and use the appropriate controls during the completion process. However, due to the volume of expected notifications the EPA is considering requiring a third-party verification system for such notifications.

*B. Recordkeeping Requirements.* Owners and operators will be required to maintain records for each gas wellhead

affected facility. The records must contain information identifying each well completion operation and record of deviations in cases where well completion operations with hydraulic fracturing were not performed in compliance with Section 60.5375 of the proposed rule. Further, the gas wellhead affected facilities must keep daily logs for each well completion operation, which must include information pertaining to the location of the well, duration of the flowback, duration of combustion, duration of venting, and specific reasons for venting in lieu of capture or combustion.

*C. Reporting Requirements.* Owners and operators must submit annual reports to the agency. The initial report is due one year after the initial start-up date of the affected facility or one year after the date of publication of the final rule in the Federal Register, whichever is later. Subsequent annual reports will be due on the same date each year as the initial report. Each report is required to provide the company name and address of the affected facility, identification of each affected facility included in the report, and the beginning and ending dates of the reporting period. The annual reports for gas wellhead affected facilities must also contain the abovementioned records and logs for the reporting period at issue.

### **4. Title V Applicability**

Under the proposed rules, EPA would exempt from Title V permitting requirements sources that would be subject to such requirements for the first time only by virtue of the proposed rule.

### **5. Public Comment Period**

Comments will be due on or before 60 days from the date of publication of the proposed rule in the Federal Register. Public hearings on the proposed rule will be held in Dallas, Texas, Pittsburgh, Pennsylvania and Denver, Colorado on dates to be announced.

### **6. Conclusion**

Given the significant breadth and scope of these proposed regulations — including the extension of regulation to include virtually every air emissions source upstream and downstream of the processing plant; the application of what may prove to be cumbersome, costly and unworkable operational standards to well completions for hy-

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draulically fractured wells; the solicitation of public comments concerning whether regulations should be extended to emissions from produced water ponds; and the imposition of additional notification requirements, including the requirement that at least 30 days advance written notice be given of the completion of a hydraulically fractured well – these proposed regulations and the Technical Support Document on which they are purportedly based warrant close scrutiny. Further, serious consideration should be given to submitting comprehensive comments to these proposed rules to identify and hopefully avoid potential issues before the regulations are finalized.

If you would like to discuss the proposed rules and how they may affect your business or operations, please do not hesitate to contact one of the individuals listed below. ♦

*This document is a basic summary of legal issues. It should not be relied upon as an authoritative statement of the law. You should obtain detailed legal advice before taking legal action.*

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