

## EPA Issues Final Emission Standards for Oil and Gas Sector

By Tomás Carbonell

On April 18, 2012, the Environmental Protection Agency (EPA) released a final rule amending its national emission standards for new, modified, and reconstructed facilities in the oil and natural gas sector. The rule is designed to limit emissions of volatile organic compounds (VOCs), sulfur dioxide (SO<sub>2</sub>), and hazardous air pollutants (HAPs) from a variety of sources within natural gas processing plants, oil and natural gas production facilities, and natural gas transmission compressor stations. Notably, the rule will regulate emissions from certain hydraulically fractured gas wells for the first time.

This final rule reflects significant changes from the proposal issued by EPA in August 2011, which prompted the submission of over 156,000 comments to the Agency. Companies will have up to 3 years to bring existing facilities into compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) contained in the final rule, with the potential for a 1 year extension. Oil and gas facilities that are newly built, modified, or reconstructed after August 23, 2011 will be required to comply with the New Source Performance Standards (NSPS) for SO<sub>2</sub> and VOC emissions at varying dates. The rule will take effect 60 days after it is published in the *Federal Register*.

### BACKGROUND

The final rule is implemented under sections 111 and 112 of the Clean Air Act (CAA), which respectively provide for the establishment of NSPS for non-hazardous pollutants and NESHAP for hazardous pollutants.

*NSPS Provisions.* Section 111(b) of the CAA requires EPA to issue “standards of performance” (known as NSPS) for categories of new and modified sources which EPA has determined cause, or contribute significantly to, air pollution that may reasonably be anticipated to endanger public health or welfare. The NSPS must reflect the application of the “best system of emissions reductions” (BSER) that has been adequately demonstrated. The CAA requires review of NSPS every eight years. The existing NSPS for the oil and natural gas sector were issued in 1985, and regulate SO<sub>2</sub> and VOC emissions from natural gas processing plants.

*NESHAP Provisions.* Section 112(d) directs EPA to set emission standards (known as NESHAP) for existing and new facilities in each category of major sources and area sources of HAPs listed under the Act. These standards are required to reflect “maximum achievable control technology” (MACT), based on EPA’s evaluation of the best performing (lowest emitting) sources. The CAA requires review and, if necessary, revision of MACT standards every eight years. The final rule amends two NESHAPs, both promulgated in 1999. One of these standards covers the oil and gas production sector, and the other applies to natural gas transmission and storage.



*Litigation History.* This rulemaking was prompted by a lawsuit filed by environmental organizations in January 2009, alleging that EPA had missed the statutory deadlines for reviewing and updating the NSPS and NESHAP standards for the oil and gas sector. In February 2010, the U.S. District Court for the District of Columbia issued a consent decree requiring EPA to issue a proposed rule by January 2011 and a final rule by November 2011. Both deadlines were extended several times by agreement between EPA and the environmental organizations.

## OVERVIEW OF THE FINAL RULE

*NSPS for Emissions of VOCs and SO<sub>2</sub>.* The final rule expands the current NSPS to cover specific sources within a broader universe of oil and gas facilities – including: hydraulically fractured natural gas wells; certain equipment at oil wells; natural gas gathering and boosting stations; natural gas transmission compression facilities; and natural gas processing plants. Petroleum refineries and natural gas facilities located “downstream” of the transmission sector are not covered by this rule. The major requirements include:

- **Standards for hydraulically fractured gas wells.** The rule requires all new hydraulically fractured wells, and existing wells that are refractured, to control emissions of VOCs released during well completion. Prior to January 1, 2015, all such wells have the option of either combusting these emissions, or capturing them using a “green completion” device capable of separating VOCs and natural gas (methane) from the flowback fluid. After January 1, 2015, such wells – with certain exceptions – will be required to utilize green completion devices. Several states and municipalities already require the use of green completion, and in other jurisdictions many well owners and operators are implementing the technology on a voluntary basis.
- **Standards for storage vessels.** Storage vessels that are built or modified after the date of the proposed rule, and exceed a specified VOC emission threshold, are required to reduce 95% of those emissions within one year of the effective date of the final rule.
- **Standards for compressors.** Centrifugal compressors with wet seals (that are built or modified after the date of the proposed rule) must achieve a 95% reduction in VOC emissions by using flaring or emission capture devices. Compressors with dry seals are not subject to the NSPS. For reciprocal compressors, the final NSPS requires replacement of rod packing at regular intervals.
- **Standards for pneumatic controllers.** New and modified pneumatic controllers at natural gas processing plants must achieve zero emissions of VOCs; pneumatic controllers located between the wellhead and the transmission line must use “low bleed” designs after a one-year phase in period.
- **Leak detection and repair at natural gas processing plants.** The final rule imposes more stringent leak detection and repair requirements for existing gas processing plants, to be phased in one year after the NSPS take effect. In addition, the rule requires more stringent SO<sub>2</sub> controls at “sweetening” units used to remove sulfur from natural gas.



*NESHAP Standards.* EPA reviewed control technologies for air toxics emissions from storage vessels, equipment leaks at natural gas processing plants, and glycol dehydrators. The final rule makes no changes to existing standards for storage vessels and large glycol dehydrators, but imposes a new performance standard on previously unregulated small glycol dehydrators. In addition, the existing standard for equipment leaks has been made more stringent.

## IMPLICATIONS

EPA appears to have made a number of changes to the proposed standards in response to industry comments, including deferring green completion requirements for fractured natural gas wells until 2015; excluding facilities “downstream” of the gas transmission sector from the scope of the NSPS; providing a one-year deferral of the compliance deadline for certain equipment standards; and simplifying or streamlining certain notification and reporting requirements.

As a result of these changes, EPA estimates the annual gross costs of compliance with the new NSPS will reach \$170 million (in 2008 dollars) – less than 25% of the estimated costs of the proposed standard. Because compliance with the NSPS will result in the recovery of valuable products such as natural gas and condensates, however, EPA claims that the new NSPS will generate overall cost *savings* for oil and gas facilities. EPA estimates these savings will amount to approximately \$15 million per year, assuming a natural gas price of \$4 per thousand cubic feet (about twice the current price) and a condensate price of \$70 per barrel. The net estimated compliance costs associated with the new NESHAP revisions are approximately \$3.5 million.

According to EPA, the final rule will reduce annual emissions of VOCs by 190,000 to 290,000 tons, and reduce annual emissions of HAPs by 12,000 to 20,000 tons. In addition, the standards will have the co-benefit of reducing emissions of methane – a potent greenhouse gas – by 1.0 to 1.7 million tons per year (19 to 33 million metric tons CO<sub>2</sub>-equivalent). Although methane is not a regulated pollutant under NSPS, EPA has valued the avoided climate change impacts of methane reductions resulting from the new NSPS at \$440 million per year by 2015.

## FOR ADDITIONAL INFORMATION

Van Ness Feldman closely monitors and counsels clients on air regulatory developments. For more information about EPA’s new emissions standards for the oil and natural gas sector, please contact [Britt Fleming](#), [Janet Anderson](#), [Shippen Howe](#), or any member of the firm’s [Environment](#) or [Natural Gas](#) Practices in Washington, D.C. at (202) 298-1800 or in Seattle, WA at (206) 623-9372.

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