Fracking and the Clean Air Act

The public policy discussions surrounding the use of fracking and horizontal well drilling technology to develop energy from shale formations have largely focused on issues and concerns related to groundwater pollution, water supply, and quality-of-life impacts. These issues are for the most part local in nature, and different states have responded to these concerns differently. Some states have imposed moratoriums. Other states have responded with their own regulatory programs. In Illinois, the Hydraulic Fracturing Regulatory Act requires that prior to fracking a well, operators must demonstrate, through a permitting process, how it is that their proposed fracking operations will be safe, and local communities and citizens are afforded an opportunity to participate in that permitting process and challenge a permit applicant’s proposal.

While many environmental issues associated with fracking have largely been left to the states, the federal government, through the United States Environmental Protection (“EPA”), is directly involved in one important, and sometimes overlooked, aspect of the regulation of fracking operations. Air emissions associated with fracking are strictly regulated by the EPA under the authority granted to it by the Clean Air Act. There are three separate Clean Air Act regulations that are applicable to fracking – a New Source Performance Standard (“NSPS”) adopted under Section 111 of the Clean Air Act, and two National Emission Standards for Hazardous Air Pollutants (“NESHAPs”) which were previously adopted for the oil and gas industry under Section 112 of the Clean Air Act, and which were amended recently in part to address new fracking operations.

Under the Clean Air Act’s NSPS provisions, the EPA was required to first identify source categories, and then to adopt regulations for those categories. In 1979, the EPA identified the oil and gas industry as a NSPS source category, and in 1985, the EPA adopted two sets of regulations for emissions from the oil and gas industry – one set of regulations to control volatile organic compound (“VOCs”) emissions from leaking components at onshore natural gas processing plants, and one set of regulations to control sulfur dioxide emissions from natural gas processing plants. 40 CFR Part 60, Subparts KKK and LLL. Recently, the EPA adopted a third set of NSPS regulations for the oil and gas industry which includes requirements for emissions controls at fracking operations. 40 CFR Part 60, Subpart OOOO.

The most significant aspect of Subpart OOOO is a requirement that fracking wells utilize a technology called Reduced Emissions Completions, sometimes called “Green Completions.” Green Completions separate natural
gas from the water and sand in the flowback, and the new rule requires a 95% reduction in the emission of VOCs. The Subpart OOOO regulations also control emissions from compressors that move natural gas along the pipeline from the well. Fracking operators are required to utilize wet seal centrifugal compressors that reduce VOC emissions by 95%. Additionally, a limit is established on the bleed rate from the pneumatic controllers, which are regulators used to control the pressure, flow and temperature between the well and the entry into the transmission and storage segment. There is a requirement for a 95% reduction in emissions from storage tanks. Finally, there are stricter Leak Detection and Repair (commonly referred to as “LDAR”) requirements for on-shore natural gas processing plants.

The NESHAP provision contained in Section 112 of the Clean Air Act similarly required that the EPA identify industrial source categories of hazardous air pollutant (“HAP”) emissions. In 1992, the EPA identified oil and natural gas production facilities as a source category. In 1998, the EPA identified natural gas transmission and storage facilities as a source category. The EPA adopted regulations for both of these source categories in 1999. 40 CFR Part 63, Subparts HH and HHH. In 2011, the EPA completed a residual risk review of the 1999 standards, and amended standards were adopted in 2012. The primary new requirements in the amended NESHAPs that impact fracking operations are emission controls on previously unregulated glycol dehydrators. Glycol dehydrators are devices that remove water vapor from natural gas. Additionally, there are new requirements to reduce emissions from crude oil and condensate tanks, and there are stricter standards for valve leaks.

The particulars and details of the NSPS and NESHAP regulations are lengthy, technical, and complicated, and it is essential that fracking operators obtain competent legal and engineering advice to ensure compliance. The importance of compliance with the Clean Air Act regulations cannot be overstated. Some broad, overriding issues that make these regulations so important are discussed below.

First, this is one area in the regulation of fracking that is unequivocally driven at the federal level. These regulations are enforceable by the EPA. However, through incorporation in Illinois’ Environmental Protection Act, these regulations can also be enforced at the state level. Finally, these regulations are enforceable by private citizens through the Clean Air Act’s citizen suit provisions. Thus, fracking operators should be aware that they can be targeted for enforcement from multiple directions.

Second, because the NSPS and NESHAP regulations are complicated, lengthy, and detailed, it is easy for a fracking operator to forget something or make a mistake. Compliance with these regulations will require a high level of technical competence and attention to detail.

Third, while the regulations are supposed to standardize good environmental practices, because of the ongoing public policy discussions surrounding fracking, these regulations should be viewed as dynamic and changing. The NSPS and NESHAP regulations were adopted in 2012, and they were immediately challenged, both administratively and judicially, and by both industry and environmental advocacy interests. An amendment to the NSPS regulation has been adopted, and further amendments to the NESHAPs are sure to come. In addition, neither industry nor the environmental advocacy interests seem satisfied with the regulations in the present form regardless, and they will certainly push for further changes.

Fourth, compliance with the new NSPS and NESHAP regulations will be costly. The EPA’s regulations require the installation and operation of all types of pollution control technology, along with monitoring and testing requirements. In evaluating the potential costs and profits associated with any fracking operation, the costs of compliance with the NSPS and NESHAP regulations must be factored into the economics analysis.
Finally, a fracking operator who fails to comply with the NSPS and NESHAP regulations runs the risk of looking incompetent and untrustworthy. Opinions on the merits of fracking have quite a broad range – some want a complete moratorium and some want no or minimal regulation. Most Americans are somewhere in the middle of this range, and it appears that most Illinoisans embrace the site-by-site permitting process of the Hydraulic Fracturing Regulatory Act. While much of the opposition or skepticism has focused on the more well-known issues such as the potential for water and groundwater pollution, any failures by fracking operators to follow the Clean Air Act regulations, no matter how small, will resonate and fit the narrative that the oil and gas industry cannot be relied upon to develop energy resources from Illinois’ shale in a responsible manner. Full compliance with the Clean Air Act regulations will be an essential part of fracking operators’ establishing and maintaining credibility.

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