March, 2012, the Delaware Riverkeeper Network, seven municipalities, and Dr. Mehiernosh Khan filed legal action challenging Act 13, which was signed into law by Governor Corbett on February 14, 2012. Act 13 amended the Pennsylvania Oil and Gas Act, and among other things, preempted municipal zoning of oil and gas development. The plaintiffs challenged the new law on the grounds it violated the Pennsylvania and Constitution and endangered public health, natural resources, communities and the environment. On December 19, 2013, the Pennsylvania Supreme Court issued a final decision declaring portions of the law unconstitutional, giving the Environmental Rights Amendment of the Pennsylvania Constitution strong substantive importance, and remanding portions of the law for additional litigation. Since issuance of the PA Supreme Court decision there have been many questions asked about the substance, meaning and application of this precedent setting decision. The Delaware Riverkeeper Network and our legal counsel are working to answer these important questions for the community in a series of FAQ information sheets.

The Pennsylvania Supreme Court’s decision in Robinson Township, Delaware Riverkeeper Network, et al. v. Commonwealth, 83 A.3d 901 (2013), reinforced that municipalities can validly zone oil and gas operations like any other industrial use. If a municipality has a zoning ordinance in place that identifies specific districts where this industrial activity is allowed, the municipality cannot allow drilling to occur where it is not permitted, even if a gas drilling company has a lease and even if the company has a permit from the Pennsylvania Department of Environmental Protection (“DEP”).

In addition, when carrying out governmental functions, municipalities must comply with Article I, Section 27 of the Pennsylvania Constitution. This means that municipalities are restrained from unduly infringing on the individual environmental rights of citizens, just as municipalities may not unduly infringe on private property rights. Thus, municipalities cannot allow unchecked shale gas development at the expense of citizens’ rights to clean air, pure water and a healthy environment.

Citizens who have been trying to protect their communities from unreasonable expansion of industrial gas development have confronted opposition from those who place corporate profits above public health and welfare. We hope that this series of FAQ responses helps strengthen community understanding of the PA Supreme Court decision.
Is unconventional shale gas development an industrial activity?

Yes. Unconventional gas development is a heavy industrial use that brings round-the-clock noise and light, dust, flaring, truck traffic, risks of explosion and industrial-scale emergencies, including evacuations.

Indeed, the nature and extent of unconventional shale gas development is markedly different than the vertical (“conventional”) wells that have at times been found in parts of Pennsylvania. In contrast to the relatively small footprint and simple process involved in conventional well drilling,¹ shale gas well development requires at least five (5) or more acres, multiple laterals, repeated high-volume hydraulic fracturing, staging areas, and all the equipment necessary to that development, including trucks, cranes, numerous compressors to supply the required horsepower for the fracking operations, chemicals, and explosives. There is significantly more waste and wastewater to handle because of the number of wellbores and the high-volume hydraulic fracturing process. Further, due to laterals, more opportunity exists for accidents such as the recent one in Connoquenessing Township, in which XTO drilled into a mine shaft, releasing mine drainage into a nearby creek.

The hydraulic fracturing process on an unconventional shale gas well requires explosive charges to perforate the well casing, and a mixture of millions of gallons of water, fine sand (or another type of “proppant”) to hold open the fractures, and large quantities of different chemicals, including many carcinogenic, toxic and hazardous substances. One unconventional well may use several million gallons of water. The process also requires an extraordinarily large amount of hydraulic horsepower² in order to pump the fracturing mixture into the approximately mile-deep wellbore and out through the perforated casing at a pressure high enough to fracture the shale and to allow gas to flow.

An unconventional well can be fractured multiple times, and this process is then multiplied by the number of wells on a particular wellpad. Further, an operator may decide to return several years later to drill a well deeper and engage in additional high-volume hydraulic fracturing to gather more gas from an already-drilled well, creating disruptions well into the future. As a result, a single unconventional gas site with multiple wellbores may require, over the entire development process, thousands of water trucks, hundreds of chemical storage trailers, numerous compressor engines, storage of explosives, sand-mixing trucks, monitoring equipment, and other vehicles and equipment in order to execute the fracturing process and fully develop all the wells on the wellpad. During that time, the site may also contain large impoundments of hazardous wastewater. A shale gas wellpad could take at least a year, if not two or more, to develop from start to finish. The well site remains indefinitely with various pipes, valves, and tanks that require servicing throughout the life of each well.

¹ Fracking: A Look Back, “Likewise, the hydraulic horsepower (hhp) needed to pump fracking material has risen from an average of about 75 hhp in the early days to an average of more than 1,500 hhp today, with big jobs requiring more than 10,000 hhp.” https://www.asme.org/engineering-topics/articles/fossil-power/fracking-a-look-back; https://www.museumoftheearth.org/files/marcellus/Marcellus_issue6.pdf
² Fracking: A Look Back, https://www.asme.org/engineering-topics/articles/fossil-power/fracking-a-look-back These greater horsepower requirements mean more emissions and noise per wellpad, given the compressor engines required for horsepower generation during the fracturing process.

FAQ 5 - Page 2 of 4
Unconventional gas development has a lasting impact on the landscape and the community including by its fragmentation and destruction of agricultural and other open space land; the removal of land from other types of development or preservation; the continued ability to return to the well to frack it years later given the sharp decline of natural gas from unconventional gas wells; and a negative impact on property values, especially for those who rely on local groundwater supplies.

The Supreme Court’s decision in the Act 13 case explicitly recognized the industrial nature of unconventional gas development. As the court noted:

The industry uses two techniques that enhance recovery of natural gas from these “unconventional” gas wells: hydraulic fracturing or “fracking” (usually slick-water fracking) and horizontal drilling. Both techniques inevitably do violence to the landscape. Slick-water fracking involves pumping at high pressure into the rock formation a mixture of sand and freshwater treated with a gel friction reducer, until the rock cracks, resulting in greater gas mobility. Horizontal drilling requires the drilling of a vertical hole to 5,500 to 6,500 feet—several hundred feet above the target natural gas pocket or reservoir—and then directing the drill bit through an arc until the drilling proceeds sideways or horizontally. One unconventional gas well in the Marcellus Shale uses several million gallons of water.

***

The public natural resources implicated by the “optimal” accommodation of industry here are resources essential to life, health, and liberty: surface and ground water, ambient air, and aspects of the natural environment in which the public has an interest. As the citizens illustrate, development of the natural gas industry in the Commonwealth unquestionably has and will have a lasting, and undeniably detrimental, impact on the quality of these core aspects of Pennsylvania’s environment, which are part of the public trust.

***

By any responsible account, the exploitation of the Marcellus Shale Formation will produce a detrimental effect on the environment, on the people, their children, and future generations, and potentially on the public purse, perhaps rivaling the environmental effects of coal extraction.

***

Insofar as Section 3304 permits the fracking operations and exploitation of the Marcellus Shale at issue here, the provision compels exposure of otherwise protected areas to environmental and habitability costs associated with this particular industrial use: air, water, and soil pollution; persistent noise, lighting, and heavy vehicle traffic; and the building of facilities incongruous with the surrounding landscape.


FAQ 5 - Page 3 of 4
Municipalities must balance property rights with constitutionally-protected rights to clean air and pure water, and with the rights of present and future generations to healthy public natural resources. Robinson Township, Delaware Riverkeeper Network, et al. v. Commonwealth, 83 A.3d 901 (Pa. 2013). Likewise, municipalities must balance the property rights of all those in a community, as all community members – not just those with gas leases – have a right to the use and enjoyment of their property. To comply with these constitutional mandates, a municipality simply cannot allow industrial gas development in non-industrial areas.

Primary author of this document is attorney Jordan Yeager. Jordan Yeager is Partner and Chair of the Environmental and Public Sector Section at Curtin & Heefner LLP. Jordan was lead counsel for the Delaware Riverkeeper Network in the case: Robinson Township, Delaware Riverkeeper Network, et al. v. Commonwealth, 83 A.3d 901 (2013). Jordan was lead counsel on the issues involving the Delaware Riverkeeper and the Delaware Riverkeeper Network’s standing and the Environmental Rights Amendment (Article I, Section 27) of the Pennsylvania Constitution.

Disclaimer: This information is intended to assist you in learning more about these important issues. Each situation is unique and the law is frequently changing, so you should consult with an attorney concerning your particular situation before taking any action or making any decisions.

Date: June 19, 2014