

FRACKING FRONT AND CENTER

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Even though hydraulic fracturing, also known as hydrofracking or simply fracking, is not taking place in New York on an official basis, the possibility of the state sanctioning the practice has kept the various parties that would be impacted greatly interested and on alert. If you're not familiar with how hydrofracking works, the following is a quick definition (I'll get into a more detailed explanation later). Fracking is the process used to extract the large amounts of natural gas that are trapped in underground shale formations. High pressure fractures the rock that is trapping the natural gas deposit. Fracking can be done with either vertical or horizontal wells. Vertical drilling is already occurring in the state. The horizontal component is what has brought the practice and debate around drilling to a whole new level.

Contrary to what many people may think, fracking is not a new process, as it has been done commercially in the United States since 1949. Recent advances in technology, including the ability to drill horizontally, coupled with rising gas prices, have made it economically feasible to frack. As of 2011, fracking was estimated to account for more than 30 percent of all oil and natural gas reserves in the United States. From an insurance standpoint, it is important to understand the exposures and risks involved to make an educated underwriting decision. Land that was previously not used for drilling or a commercial purpose at all is of particular concern. Landowners are sometimes entering into land use agreements without understanding the associated risks.

Like many environmental issues, there are two distinct and vocal viewpoints being offered. Proponents of fracking cite the economic boon as well as the reduction of dependence on foreign oil. Those in favor also say that hydrofracking would be a powerful economic driver in some of the most destitute areas of Upstate New York. Environmentalists counter that the pollution damage could last indefinitely. These opponents' concerns include pollution of the groundwater, possible earthquake generation and increased greenhouse gas emissions, in the form of methane and ozone, as well as



methane leaching out from the well underground into the water supply. Recent research in Texas indicates that ozone creation in areas where fracking occurs is significantly greater than production in nonfracking areas. Some believe that the process of injecting the wastewater into deep wells is causing increased earthquake activity. Researchers point to increased seismic movements in Oklahoma as a possible negative side effect of fracking.

The process of fracking is fairly straightforward. Water is collected from ground water or wells, or trucked onto the site. A combination of water, sand or other proppant materials and chemicals, also known as fracking fluid, are injected under high pressure into a pipeline drilled into the ground. Proppant materials, such as treated sand or man made ceramic, are used to help keep the fissures open, allowing gas to pass more freely. When the fracking fluid reaches the end of the pipeline, the pressure create cracks or fissures in the nearby shale, allowing the natural gas to escape back up the pipeline. As I mentioned earlier, unlike conventional drilling, fracking operations are often horizontal in nature.

Once the fracking process is complete, the wastewater or flowback (also known as pit water) comes back out of the well. The flowback must be dealt with, either by storing in open air ponds, or put back into the ground in deep injection wells. Recent research shows that these fracking waste fluids can travel as far as 20 miles from the actual injection site. In some cases, the wastewater is trucked off site, sometimes to other states. There are currently more than 500,000 natural gas wells in the United States, with each well requiring about 400 tanker trucks to carry the water to and from the site. The chemicals used perform various functions, such as dissolving minerals and eliminating bacteria to reduce corrosion. There can be



up to 600 different chemicals. Each time a well is fracked, the typical recipe includes two to eight million gallons of water and 40,000 gallons of chemicals. Each well can be fracked up to 18 times.

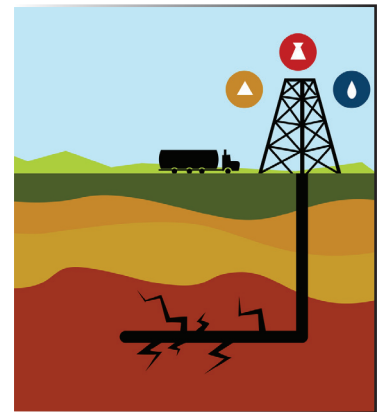
The Marcellus Shale is one of the current hot beds of activity—running from West Virginia to western New York. It is estimated that the gas reserves contained in these deposits could provide clean natural gas energy to supply the entire United States' demand for six years. This has created economic opportunities for local economies. For example, in Pennsylvania, Marcellus Shale-related industry employed more than 237,700 people at the end of 2013.

Regulations vary from state to state regarding fracking. Currently, more than 30 states allow the practice. Others have moratoriums, while some, such as Vermont, ban the practice outright. New York's first fracking moratorium was instituted in 2008. The moratorium has been extended twice, but has no definitive deadline. The state reports that it is in the process of studying the health impacts of fracking. In New York, individual cities and communities are able to implement their own fracking regulations. On a federal level, "green completions" is an Environmental Protection Agency regulation that requires companies to cap their emissions rather than allow them to escape into the atmosphere. This must be initiated by January 1, 2015.

There have been a number of recent developments that may significantly impact the future of fracking. In August 2014, Pennsylvania's Department of Environmental Protection released details of 243 water contamination incidents that occurred in 22 counties in the state, going back to 2008. Issues ranged from methane gas contamination and wastewater spills to wells that went dry or became undrinkable, and include both conventional drilling as well as fracking operations. It was revealed that there were cases of multiple well contaminations from a single drilling operation. One major drilling company subsequently abandoned its efforts to "force pool." Force pooling is a Pennsylvania law that gives a drilling company the right to force drilling in an area once they have a certain number of landowners who agree to the practice.

An Ohio case filed in 2012 that has insurance implications is Warren Drilling v. ACE American. Warren was found guilty of contaminating a homeowners well. Warren's insurer,

ACE, provided an energy pollution liability coverage endorsement, but refused to defend Warren or indemnify them for the claims payment. Warren Drilling sued ACE. In August 2014, a judge upheld a prior finding that the natural gas well owner EQT must pay Warren's attorney fees.



Fracking presents a number of risks for insurers, with the risks varying depending on the type of well (vertical or horizontal) and the company doing the fracking. If the fracking company is cutting costs by ignoring regulations, there is an increased chance of a loss. In addition, personal lines carriers may have homeowners customers who are leasing their land for fracking. This represents a business exposure to the homeowner, which is excluded under standard personal lines policies. While insurers have looked to the standard pollution and earth movement exclusions to protect them in such instances, specific fracking exclusions are starting to appear.

Not all of the exposure comes from the fracking operation itself. In April 2014, a truck carrying diesel fuel slammed into two tankers carrying fracking wastewater, resulting in a spill of diesel fuel and wastewater into Chartiers Creek in Pennsylvania. In another case, a New Mexico state court awarded damages of \$58.5 million to a family whose loved one was hit and killed by a truck hauling fracking fluids. Court records indicate the driver was improperly trained and the company repeatedly violated state and federal regulations.

Fracking is increasingly being looked to as a source of natural gas and oil with its core and ancillary industries becoming a more significant component of our economy. For insurance companies and reinsurers, proper underwriting can be key to balancing and controlling risks while still maintaining a profitable book of business.

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