Geologist discusses benefits, concerns of hydrofracking in Marcellus Shale

6 hours ago by *Eric Reinhardt*

SYRACUSE — David Palmerton believes upstate New York is faced with one of the "greatest energy opportunities in over a hundred years that has solvable problems."

Palmerton is a proponent is drilling for natural gas using the process known as hydraulic fracturing, or in shortened form, hydrofracking.

The use of such a drilling method has been a hotly debated issue in 2010 as the state tries to figure out the best way to regulate natural-gas drilling.

Palmerton is president and CEO of the Palmerton Group, LLC, a DeWitt–based environmental-consulting firm that he founded in 2002. It has six full-time and five part-time employees. He is a registered professional geologist, certified professional geologist, and a certified hazardous-materials handler.

He spoke March 24 during the 14th annual Technical Conference of the Central New York chapter of the Air & Waste Management Association held at the Sheraton Syracuse University Hotel and Conference Center.

Palmerton's presentation was titled "Marcellus Shale — A Promising New Discovery for the U.S."

Background

Marcellus Shale is a black-shale formation extending deep underground from Ohio and West Virginia northeast into Pennsylvania, the Southern Tier, and Central New York, according to the Web site of the New York State Department of Environmental Conservation (DEC).

Geologists estimate the entire Marcellus Shale formation contains between 168 trillion and 516 trillion cubic feet of natural gas, according to the DEC Web site.

The DEC has received applications for permits to drill horizontal wells to evaluate and develop the Marcellus Shale for natural-gas production.

The wells would undergo a stimulation process known as hydraulic fracturing, which functions to release gas embedded in shale deep below the surface.

As Palmerton describes it, hydrofracking is the process of sending a mixture of water and sand into a rock formation at a pressure of roughly 8,000 to 10,000 pounds in order to break the rock.

The water then seeps into the rock, leading to several small fractures that connect pores within the formation, to capture the deposits of natural gas.

The sand part of the mixture is used to hold the fractures open once the water flows away. While the horizontal well applications received to date are for proposed locations in Chemung, Chenango, Delaware, and Tioga Counties, the DEC expects to receive applications to drill in other areas, including counties where natural-gas production has not previously occurred, according to the DEC Web site.

The DEC issued on Oct. 5, 2009, a draft Supplemental Generic Environmental Impact Statement (SGEIS) for horizontal drilling and high-volume hydraulic fracturing to develop the Marcellus Shale.

The draft SGEIS outlines safety measures, protection standards, and mitigation strategies that operators would have to follow to obtain permits, the Web site says.

Since then, the public comment period on the SGEIS has closed and the department is currently "evaluating the many comments received," according to the DEC site.

Benefits of hydrofracking

Society made the decision long ago that fossil fuels are going to be used for our energy needs, says Palmerton, noting that we will continue using those types of fuels for quite some time. "If we're going to be using fossil fuels, natural gas is one of the best ones to use," he says, noting it has a low carbon footprint compared to coal or oil. Also, natural gas appears to be in an abundant supply.

Palmerton would like to see U.S. drillers pursue available natural-gas deposits from resources within the country, instead of depending on foreign oil or liquefied natural gas from other countries.

In addition, the drilling industry provides jobs, Palmerton says. Natural-gas production also means income for landowners and those who own and operate wells.

Plus, natural-gas wells are taxed through the state's real-property tax law, he says.

"There's a realty tax based on the production," he says, noting it provides a source for tax revenue.

Addressing concerns

Homeowners, landowners, and federal and state lawmakers have raised questions about possible environmental and community impacts. Most concerns are related to drinking water and management and the composition of the fluids used for fracturing the shale.

But Palmerton believes the opposition is based on a lack of knowledge on the topic.

"First and foremost, people don't understand what the process really is and what's involved," Palmerton says.

Palmerton has heard opponents argue their concern over protecting the groundwater supply. They worry that hydrofracking would push a lot of chemical-filled water into the ground and interfere with groundwater supplies.

Besides that, opponents are also concerned about what will happen to the chemicals in the water that's coming out of the well once it starts producing.

"Right now, the state doesn't have a sufficient number of treatment facilities to handle that water," Palmerton says.

Palmerton has spoken at a about dozen public forums on hydrofracking, including an event at the State University of New York College of Environmental Science and Forestry.

The issue has also attracted the attention of a prominent environmental group.

A document posted at the Web site of the Natural Resources Defense Council (NRDC) states, "While there may be benefits to drilling this large natural gas reserve, doing so without the proper monitoring and regulation by state and local officials will present a number of serious threats to human health and the environment in New York State. NRDC is therefore working with leaders across the state to ensure that if drilling in the Marcellus Shale occurs in New York, it will be done responsibly and only in appropriate areas."

The NRDC is a New York City–based environmental-action group with about 1.3 million members.

Palmerton not only knows and understands the concerns, but also believes New York would be taking a risk by not pursuing natural-gas drilling.

"We lose an industry, we lose jobs, we lose tax revenue, we lose opportunity to supply a lot of the United States energy needs from right here in our own state,"