

## Gas Exploration Raises Environmental Concerns

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On Wednesday, July 30 about two dozen people joined a community discussion held at the Spencer Grange on the topic of oil and gas exploration. Citizens Energy Alliance sponsored the open forum that focused on environmental issues.

Rusty Keeler and Carrie Kerr led the discussion. Kerr described some of the environmental concerns with hydraulic fracturing. Hydraulic fracturing, also called “fracking” or “fracing” is a technique used to create fractures in the rock formation where the gas is trapped. The fractures extend from the well bore into the shale and allow the gas to travel more easily from the rock pores to the production well.

To create the fractures, the drillers pump a mix of water, sand, and chemicals – including detergents, gels, salts containing metals such as barium, lead, and arsenic, and toxic chemicals such as toluene and ethylene glycol – into the rock formations. Most of the fracking fluid is pumped back out of the well, but anywhere from 20 to 40 percent of the fluids may remain underground.

“Whatever water is brought back to the surface may contain additional contaminants including radon,” Kerr said. Scientists and environmental study groups have voiced concern about possible contamination by radioactive isotopes. According to Brian Swistock, a water quality specialist with Penn State Cooperative Extension, naturally occurring radon is not uncommon in Pennsylvania groundwater.

A report by the Oil and Gas Accountability Project notes that Marcellus shale is considered to be “relatively more radioactive than other geological formations”. The report cites a 1992 study in Onondaga County, NY, showing that the average amount of radon found in homes built over Marcellus shale was more than twice the U.S. Environmental Protection Agency’s “action level” – that level when the EPA recommends that homeowners try to reduce the radon.

Kerr emphasized that the water and fracking fluid recovered by the drillers must be taken to an industrial wastewater treatment facility. At this point in time the drilling companies are transporting their wastewater to a treatment plant in Pennsylvania. But given the explosion in natural gas exploration it’s clear that there will be a need for more localized treatment facilities capable of handling industrial waste.

Before waste water can be treated, its constituents must be known. One of the issues brought up during the discussion was the lack of information about what specific chemicals go into the fracking fluid mixture.

“The companies don’t want to tell us what’s in the fracking fluid because it’s a proprietary blend,” Keeler said. But this is changing. In a telephone interview Yancey

Roy, Director of Public Information for DEC, told *Broader View Weekly*, “We won’t allow anyone to drill unless we know what they are using in their fluid.” He added that, although companies have applied for permits, the DEC has not approved any permits for horizontal drilling in the Marcellus Shale.

“How possible is it to change to non-toxic alternatives?” someone asked. Kerr explained that companies engaged in ocean drilling already use non-toxic blends. Many of these blends use citrus-based solvents.

“The other piece that is important deals with the water that is used, Kerr said. She referred to the Susquehanna River Basin Commission (SRBC) draft of their comprehensive plan. The commission is responsible for maintaining adequate water flow in the Chesapeake Bay system. They are concerned about maintaining adequate water in the system to maintain ecosystem health in the streams and tributaries that feed into the bay.

“With all the drilling they have to make sure that so much water isn’t removed as to impact the flow,” Kerr explained. Anyone who wants water for drilling has to apply for permits to withdraw water. Kerr reported that out of 60 applications for permits, the SRBC has only approved 11.

An underlying interest of many of those attending the meeting was dealing with leases and lease language. “A lot of us feel a better lease isn’t just about the money,” Kerr said. “It’s about environmental protection.” She mentioned a number of items landowners may want to consider in their leases including storage clauses. Although DEC requires lined pits for storing drilling mud, there have been cases in Pennsylvania where the lining has torn and released toxins into the ground and nearby ponds.

One person asked how communities might be able to protect the environment but still make it possible for energy exploration companies to earn a profit. He was concerned about groundwater quality. Kerr reiterated the need to build local wastewater facilities that can handle industrial waste.

“There are several advantages to localized treatment,” Kerr pointed out. “Right now they are spending a lot of money on fuel to transport their waste water. A local facility would reduce their cost.” In addition, the drilling companies could re-use the treated water, reducing the amount of water withdrawn from the local rivers.

One landowner wanted to know what water rights people have when a creek runs across their land. She was concerned about the amount of water the SRBC recently permitted drilling companies to remove from Catatunk Creek.

Unlike the west, where water rights are part of a contract, landowners in New York have “riparian rights”. If your land abuts a river or stream you have the right to “make reasonable use” of the water but you cannot deprive users downstream of their fair share.

A number of people raised concerns about roads and infrastructure. “These [drilling] trucks are heavy and they tear up the roads,” said one community member. He was concerned that the taxpayers would be left footing the bill for repairing roads and bridges once the drilling was done.

The next community forum is scheduled for Wednesday, August 20 at 7pm in the Spencer Grange. Discussion will focus on ways to optimize community gain with mineral resource wealth. Everyone is invited and municipal leaders are particularly welcome to take part.

See DEC