

To: Edward Hanlon/DC/USEPA/US@EPA
Date: 04/06/2010 07:31 PM
Subject: EPA COMMENTS

Edward,

Our comments are attached. Thanks for receiving our comments and we look forward to being party to the process moving forward.

Ramsay Adams
Executive Director
Catskill Mountainkeeper

Dear Mr. Hanlon,

We are contacting you as stakeholders in the EPA's study of Hydraulic fracturing. Catskill Mountainkeeper is an advocacy organization representing the 6000 square mile region of the Catskill Mountains in New York. Involvement in the natural gas drilling issues over the last two years has highlighted the need for this important study. We were glad to see in your initial scope that you will be taking a more comprehensive look at the multiple phases of natural gas drilling and not just hydraulic fracturing. This is vital information for regulators and the public. To a farmer who relies on clean water for his cattle or irrigation it may matter less whether it was casing failure or a faulty valve that caused the contamination. To a mother or a school it is important that children have clean water and may seem less important that the contamination came from a leaking liner or a truck accident.

However to regulators and the public we need to answer these fundamental questions if we are going to allow this activity to proceed. As an informed public we can make choices of how and where, or if at all this activity will take place. There are all of the other impacts such as air pollution wastewater disposal community impacts associated with the whole process that has not been evaluated previously.

Since this has been an issue for Catskill Mountainkeeper we have worked with groups across New York and other parts of the country and we are aware of some of the comments you will be receiving. Because of this we are focusing on a few topics that need review but this does not reflect all our concerns about this study. We see this as the first conversation of many to make sure your investigation of gas drilling is complete enough to properly advise the public about these technologies.

One of the most important aspects of this issue is the lack of cumulative impact analysis. All across the United States there has been a lack of complete analysis associated with the impacts of industrial gas drilling. This is vitally important today because of the multitude of new formations that are now accessible because of perfected technologies. The Marcellus Shale in particular being the largest natural gas deposit in terms of geography in the United States and the potential of irreparable harm to some of the last wild places and agriculturally important regions in the East. In New York Along with the Marcellus and Utica shale's other formations will become attractive to industry over time and there will be an industrialization of this region not experienced before. This development is dependent on technology that has not been thoroughly investigated. No one from industry, the EPA, or state regulators has ever drilled a test well to check seismic models of hydro-fracking. There is a lack of proper monitoring wells in regions where drilling is occurring. Simply testing water wells will not give you enough information. That is an example of an individual test that the EPA should do rather than rely on industry information .It well established that monitoring wells are vital to proper evaluation to groundwater.

We are experiencing a combination of technologies being used across the United States with out complete scientific data and occurring with exemptions to some of our cornerstone environmental regulations.

This is why this study if done properly is so important.

When looking at ground or surface water contamination it is essential to evaluate and determine the most likely circumstances that will cause harm.

Central to this study will be investigating some of the geological and hydro-geological questions that have not been answered.

A thorough investigation of the similarities and differences in regional geology of the places where problems have occurred will be important information to gather. As with this information along with the other suggestions I will be making below it is vital for the EPA to perform some of their own research versus relying on previously done studies.

In attachment H of the comments on the draft supplemental generic environmental impact statement in New York, which was done jointly by NRDC, Catskill Mountainkeeper Earth Justice and Riverkeeper, you will find a statement by Tom Myers Ph.D.;

“Fracturing by injecting fluids into the Shale will cause conditions that make transport of contaminants from the shale to surface aquifers possible. The transport may take decades or

centuries, depending on conditions, but will occur much more quickly if the contaminants reaches own of preferential flow.”

These two sentences speak to fundamental questions that need to be answered. All across the United States where this activity has happened industry and regulators have repeatedly the made the claim that the fracturing has no impact on aquifers. It has been documented in multiple parts of the country that impacts have occurred associated with this activity. The likelihood for long-term contaminant transport to aquifers is real but determining where the contaminants originated years into the future will be very difficult. This basic concept of containment layers and separation of aquifers from producing formation must be thoroughly investigated. Geology is region specific but industry and some regulators have relied on generalized assumptions that need to be corrected.

We need to begin the process of answering the question” is this activity geologically safe at all?” If it could be done safe and the benefits justify the risk, are there areas geologically and regionally that it should be banned for safety reasons? This study needs to take on these geological questions at least in the places where problems have occurred this is fundamental to evaluating hydraulic fracturing. Below is a short list of questions and points that need to be considered in this study.

- A thorough investigation of the similarities of development in places where drilling has caused problems. Do problems start to appear after a certain amount or density of activity? Does groundwater contamination appear from the subsurface disturbance, which may be the principal cause in some areas? Is it more likely for problems to occur in areas that are highly fractured or faulted naturally? Would the existence of buffer zones around natural faults help mitigate problems?
- What are the hydro-geologic properties of a formation after development?
- What is the impact geologically of multiple layers in the strata being hydraulically fractured?
- Are there certain types of formations that fracturing should not be done near?
- What percentage of the cases of ground and surface water contamination are attributable to human error? The human error, which may include traffic accidents resulting in spills, technological error such as improperly, constructed casing or ponds and a multitude of other possible errors?
- A complete and thorough investigation into casing construction and its longevity will be vitally important to this study.
- A thorough investigation and testing in the field where drilling has occurred and there has not been reported problems will be important for two reasons; one being to evaluate whether or

not problems are occurring at higher rates than reported. Two being a useful tool in comparison of areas where problems have occurred.

- A thorough investigation of wastewater treatment facilities and their ability to handle the waste. Not just the ability of any one facility but the impacts of multiple facilities across the region. Also the impacts across the region of releasing low levels (post treatment) of toxins into the environment.
- A thorough investigation of soil contamination and possible transport of toxins in the food chain.
- Two years ago members of the environmental community did a freedom of information request of New York State DEC. The question was had in New York State ever gone back into a region where Trilling had occurred and done groundwater or surface water testing or soil sampling. The response was it had never been done. This would be an important sampling for the EPA to perform.
- You mention in your scoping document that you will be looking at air quality issues. It will be vitally important to look at all aspects of this industry and quantify the complete category of emissions.
- A complete investigation of historical wells both properly and improperly plugged and the impact of fracturing near these points of preferential flow. Some of these old wells were plugged by removing casing and dynamiting. It was reported in the 1994 State Review of Oil and Natural Gas Environmental Regulations (STRONGER) that in New York there were almost 18,000 unplugged wells. This study needs to evaluate the danger of hydro-fracking in places where these wells occur.
- As a nation will need to evaluate the broad regional impacts of fragmentation of wild areas and having a look at a full build-out taking place in regions that are important to climate change, habitat and wildlife corridors will be essential.
- With the economic issues facing farmers along with their landholdings they become a likely participant in the development of industrial gas drilling. This is why it is so important to look at impacts to agriculture. Are there impacts livestock birthing or growth rates? Can contaminants from drilling make it through the food chain to reach consumers and the general public even in areas outside of drilling activity through vegetable, milk or meat.
- Lastly with the propensity of this activity happening in rural areas where people rely on private water wells to accurately evaluate the impacts to individual drinking water wells.

Thank you for your consideration with these issues and we look forward to corresponding with you throughout this process.