

FINGER LAKES REGIONAL WATERSHED ALLIANCE

November 21, 2011

dSGEIS Comments
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-6510

RE: Comments on the 2011 dSGEIS Regarding High Volume Horizontal Hydraulic Fracturing (“HVHF”) for Natural Gas.

Dear Commissioner Martens:

In 2010, lake and watershed organizations representing the nine inhabited Finger Lakes in New York State formed the Finger Lakes Regional Watershed Alliance (“FLRWA”). FLRWA’s Member Associations include Canandaigua Lake Watershed Association, Cayuga Lake Watershed Network, Conesus Lake Association, Honeoye Valley Association, Keuka Lake Association, Otisco Lake Association, Owasco Watershed Lake Association, Seneca Lake Pure Waters Association, and Skaneateles Lake Association. This regional alliance represents over 10,000 individual property owners, residents and voters across the entire Finger Lakes region.

The founding purposes of FLRWA bring together the members, expertise and desires of the Finger Lakes Region’s watershed associations to preserve and protect their watersheds with a collective regional voice; to join forces to advocate for mutually beneficial regional changes, backed by sound research; and to promote collective actions that represent the desires of the entire Finger Lakes region.

The Finger Lakes Regional Watershed Alliance wishes to provide four major comments about the current draft version of the SGEIS as it pertains to the HVHF drilling for natural gas in the Marcellus and Utica Shale formations.

1. The science and technology do not yet support that the use of HVHF to stimulate gas flow in Finger Lakes watersheds can be done safely and not provide a risk to the Finger Lakes’ drinking and non-drinking water resources.

The United States Environmental Protection Agency (“EPA”) has begun an extensive undertaking “To Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources”. The EPA has just recently issued a 190-page review of this extensive study in order to:

...provide decision-makers and the public with answers to the five fundamental questions associated with the hydraulic fracturing water lifecycle:

- *Water Acquisition: What are the potential impacts of large volume water withdrawals from ground and surface waters on drinking water resources?*

- *Chemical Mixing: What are the possible impacts of surface spills on or near well pads of hydraulic fracturing fluids on drinking water resources?*
- *Well Injection: What are the possible impacts of the injection and fracturing process on drinking water resources?*
- *Flowback and Produced Water: What are the possible impacts of surface spills on or near well pads of flowback and produced water on drinking water resources?*
- *Wastewater Treatment and Waste Disposal: What are the possible impacts of inadequate treatment of hydraulic fracturing wastewaters on drinking water resources?*

Answering these questions will involve the efforts of scientists and engineers with a broad range of expertise, including petroleum engineering, fate and transport modeling, ground water hydrology, and toxicology. The study will be conducted by multidisciplinary teams of EPA researchers, in collaboration with outside experts from the public and private sector. The Agency will use existing data from hydraulic fracturing service companies and oil and gas operators, federal and state agencies, and other sources. To supplement this information, EPA will conduct case studies in the field and generalized scenario evaluations using computer modeling. Where applicable, laboratory studies will be conducted to provide a better understanding of hydraulic fracturing fluid and shale rock interactions, the treatability of hydraulic fracturing wastewaters, and the toxicological characteristics of high-priority constituents of concern in hydraulic fracturing fluids and wastewater.

Source:

http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/hf_study_plan_110211_final_508.pdf

In addition, the November, 2011 issue of *Scientific American* reported the following:

If fracking is defined as a single fracture of deep shale, that action might be benign. When multiple “fracks” are done in multiple, adjacent wells, however, the risk for contaminating drinking water may rise. If fracking is defined as the entire industrial operation, including drilling and the storage of wastewater, contamination has already been found. Advanced tests, such as putting tracer chemicals down a well to see if they reappear in drinking water, could ultimately prove whether fracking is safe or not. Some regulators are not waiting for better science; they are moving toward allowing fracking on an even wider scale.

Source: Mooney & Chris, “The Truth about Fracking”, *Scientific American*, November 2011, pp. 80-85

If EPA and *Scientific American*’s editorial board cannot determine whether HVHF for natural gas will pose a risk to the Finger Lakes’ water resources, NYSDEC should not presume this process is safe. Without the further research and study which EPA has found to be necessary, NYSDEC should not issue permits for the drilling of HVHF natural gas wells in the Finger Lakes watersheds and put residents, who rely on the Finger Lakes for clean drinking water, at risk.

2. Increases in sediment loading due to the drilling and HVHF for natural gas in the Marcellus and Utica Shale layers in the Finger Lakes watersheds will degrade the water quality of the Finger Lakes and their tributaries. Increases in sediment runoff will also increase nutrient loading and weed growth in the Finger Lakes and further damage water quality.

On October 8, 2011, NYSDEC Commissioner Joseph Martens, during his “Citizen Connects Online Chat”, stated the following in response to this question:

Q. How can you allow hydraulic fracturing in some parts of the state and not others? If it poses an environmental risk, it should not be allowed anywhere in NYS. All aquifers, properties, and persons should be granted the same privilege of being protected from the risks hydraulic fracturing poses to our water, land, and air.

A: I am glad you asked this question because there is great confusion on why the draft SGEIS prohibits high-volume hydraulic fracturing in the Syracuse and New York City watersheds. What it really comes down to is sediment control. Syracuse and New York City are the only public water supplies in the state that do not filter their water. With drilling, comes development. Roads and well pads will need to be constructed and truck traffic will increase. All these activities increase sediment – or dirt -- runoff carried by storm water that flows into the water bodies in these watersheds. New York City and Syracuse do not have the means to deal with this sediment. If these cities were to be forced to filter their water, it would cost billions of dollars. The only way to mitigate this risk is to prohibit drilling in these areas.

If NYSDEC’s Commissioner knows that drilling in the Marcellus or Utica Shale layers will increase sediment load and degrade water quality in the streams and lakes of the Finger Lakes watersheds, NYSDEC should not allow drilling in these watersheds.

Protecting the Syracuse and New York City drinking water sources because they do not have the means of dealing with increased sediment loading ignores the limited capability of the other municipal water facilities, domestic well users, and lakeside residents in the Finger Lakes region. These users all draw water from the tributaries, lakes and aquifers in the remaining Finger Lakes watersheds. NYSDEC must acknowledge these users’ inability to handle the increased sediment loads that accompany HVHF drilling for natural gas, and question whether they have excess capacity to handle these increased sediment loads.

In fact, when high turbidity of lake water is encountered during periods of high runoff, many public water facilities that draw water from the Finger Lakes cannot produce water that meets New York State Department of Health (“NYSDOH”) turbidity standards. Presently, water treatment plants must either cease operations, or face significantly increased operating costs until lake turbidity naturally decreases.

The Director of the Village of Waterloo, NY water treatment plant has stated,

“The prevalent deterrent to producing the filtration plant’s typically high quality drinking water is turbidity (muddy water) occasionally found in the incoming raw lake water. This turbidity if at an elevated level (greater than 5 ntu’s) can impair proper turbidity removal to comply with NYSDOH regulatory standards. These events usually pass after an 8–10 hr. period but can force us to completely shut down production during this time.

Corrective measures would include a significant capital expense for pretreatment. Examples of such are Up-flow Clarifiers or Dissolved Air Flootation units that would remove the pre-filtration gross turbidity constituents allowing the current water filtration plant to operate unencumbered”.

Source: Jim Bromka, Director of the Waterloo, NY water treatment plant

The Director of the Canandaigua, NY water treatment plant has stated that they haven't had to close the intakes in two years. On his plant's side of the lake, periodic turbidity events last too long for them to shut down, so they must continue filtering. The Canandaigua water treatment plant's greatly increased costs are in filters, chemicals and time, not in plant closures.

Source: Peter Verkler, Director of the Canandaigua, NY water treatment plant

Evidence exists that increasing sediment load from HVHF for natural gas will increase the frequency that NYSDOH turbidity standards will not be met and filtration costs will increase for the watersheds in the Finger Lakes as it would for the watersheds providing drinking water to Syracuse and New York City. Without understanding the limited capacities of Finger Lakes municipal water treatment facilities to accept increases in sediment loading, NYSDEC should not commit these public water facilities to adopting increased filtering capacity, or require their local water consumers to accept increased costs. If increases to sediment load are not good for the Syracuse and New York City sources of water and their drinking water consumers, they are not good for the drinking water consumers in the remaining Finger Lakes' watersheds. Users of individual well, tributary and lake water sources have no defense against increased turbidity and other related degradation of their current dependable water supplies. Until the filtration issues and costs are known, and until the rationale for excluding some drinking water sources and not others are proven to be defensible, HVHF should not be permitted in any of the Finger Lakes watersheds.

3. There are major unknowns regarding the treatment and disposal of flowback water from HVHF for natural gas wells. Little to no information exists regarding the effective treatment for flowback waters that contain brine, hydraulic fracturing chemicals, and materials extracted from the shale, including naturally occurring radioactive materials (NORMs). Until NYSDEC, in conjunction with NYSDOH, concludes that there are safe, reliable and properly permitted waste disposal sites in operation in New York State or other states where NYS-generated HVHF flowback water will be treated, permits for drilling HVHF should not be issued. If NYSDEC insists on permitting HVHF for natural gas before a treatment process is available for flowback water, the storage and any type of disposal of these wastes should be prohibited in the Finger Lakes' watersheds.
4. The draft SGEIS should confirm the authority of local towns and municipalities to prohibit the heavy industrialization and undesirable changes to a community resulting from natural gas drilling and mineral extraction activities and related activities by the use of local zoning laws and ordinances. There is no legal precedent allowing NYSDEC to supersede the rights of a local community to enact zoning laws and ordinances to protect its citizens from heavy industrialization and its consequences in their community.

To date, a number of communities in the Finger Lakes region have enacted moratoriums on HVHF drilling for natural gas or have created zoning ordinances prohibiting heavy industrialization within their communities. To avoid significant litigation for towns in the Finger Lakes region that are attempting to preserve the agricultural and tourism characteristics of their communities, NYSDEC in the SGEIS should affirm the right of towns under NYS Home Rule to use zoning ordinances to prohibit undesirable activities in their local communities. Since NYSDEC has not quantified the short and long term social and economic impacts of HVHF drilling for natural gas on the established and growing agricultural and tourism economy of the Finger Lakes region, HVHF drilling for natural gas should not be permitted if such activities run counter to a town's comprehensive plan and zoning ordinances.

In summary, the Finger Lakes Regional Watershed Alliance believes that HVHF drilling for natural gas in the entire Finger Lakes region, including the watersheds of all eleven Finger Lakes, should be prohibited at this time, because:

1. The science and technology have not developed to ensure the safety of the water resources that supply drinking water to millions of Finger Lakes Region and New York State residents.
2. Natural gas drilling increases sediment load on area lakes, and will both degrade water quality and increase the costs placed on municipal drinking water facilities to provide safe drinking water. The increased sediment load will also permanently increase nutrient load in our lakes resulting in irreversible water quality degradation.
3. There are no effective means to properly neutralize and dispose of flowback water that is environmentally safe and protects our drinking water resources. Further, no complete treatment for flowback water and waste from HVHF for natural gas currently exists.
4. NYSDEC, as a regulatory agency, should affirm in the SGEIS the rights of local towns and municipalities to prohibit industrial activities like natural gas drilling within their communities under New York State's Home Rule Law, which statute guarantees their authority to enforce zoning ordinances that protect and preserve the health and welfare of their residents.

Yours truly,

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