

2606 W. Danby Rd. Spencer, NY 14883

Attn: dSGEIS Comments
Bureau of Oil & Gas Regulation
NYSDEC Division of Mineral Resources
625 Broadway, Third Floor
Albany, NY 12233-6500

December 21, 2009

To Whom It May Concern:

We are writing in response to the Draft Supplemental Generic Environmental Impact Statement (DGEIS) released by the New York State Department of Environmental Conservation (NYSDEC). We are residents of New York State and we live in Tompkins County, which is part of the proposed area for natural gas exploration using horizontal drilling through the Marcellus Shale. Our comments will address the following areas:

- 1) Flowback Water Toxicity
- 2) Local Municipality Impacts
- 3) Cumulative Impacts
- 4) Summary

1) **Flowback Water Toxicity**

Tables 5-9 and 5-10 show the chemical constituents and Normally Occurring Radioactive Material (NORM) constituents of flowback water tested, respectively. In table 5-9, numerous toxic chemicals were found including: benzene, chromium, 4-nitroquinoline 1-oxide (4NQO), for example. Many of the chemicals listed here are also listed in Appendix 23 of NYSDEC Part 371: List of Hazardous Constituents. In addition some of these hazardous chemicals were found in disturbingly high concentrations. According to the DSGEIS, benzene, which is a known human carcinogen was found in concentrations of 100 times the maximum contaminant level (MCL) allowed by the Environmental Protection Agency(EPA). The maximum concentration found was nearly 400 times higher than the MCL set by the EPA¹. In addition, 4NQO, a compound that is routinely used as a cancer inducing compound in laboratory cancer studies, was found in concentrations averaging 13,906 mg/L. Testimony given by Dr. Anthony Hay at the SGEIS hearing in Albany on October 15, 2009 notes that this compound does not occur naturally and was probably added as a biocide². The concentration of 4NQO alone combined with the he high volume of flowback water expected from gas drilling, poses a serious risk to public health. Table 5-10 shows extremely high concentrations for NORMs as well.

Recommendation: Flowback water should be classified as “**hazardous**” and be subject to the regulations set out in NYSDEC Part 371 rather than Part 360. Although NYSDEC Part 371 includes an exemption for wastes produced from gas well drilling, this regulation was written before horizontal drilling technology was proposed and therefore, does not address flowback water concerns.

1 Testimony of Dr. Anthony G. Hay. S-GEIS Hearing. October 15, 2009. Albany, NY.

2 Ibid.

In addition, NYSDEC Part 371 stipulates that a waste “is a hazardous waste only **if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture.**” Quoting the DSGEIS (pg 5-105): “Some parameters found in analytical results are due to additives used in fracturing, some are due to reactions between different additives, while others may have been mobilized from within the formation; still other parameters may have been contributed from more than one source. Further study would be required to identify the specific origin of each parameter.” Unknown parameters could be found in the Marcellus shale and fracturing additives may react with these parameters thereby making a new mixture of parameters. Therefore, flowback water should be treated as “hazardous waste” under Part 371.

Recommendation: Exposure to flowback water is dangerous for human health and for the environment and should be minimized. Full containment storage tanks should be required versus lined pits.

Recommendation: All drilling fluids containing 4-nitroquinoline 1-oxide should be banned from use.

Recommendation: Constituents of Fracturing breaker fluid as well as Hydrofracturing fluid should be known and documented for each proprietary product by the NYSDEC. These documents should be made available to local municipalities, particularly emergency service personnel, and citizens who have leased their land to gas companies.

Recommendation: Flowback water should be banned from re-use as fracturing fluid. NORMS are clearly present in flowback water and further reports have documented NORMs present in high concentrations in other examples of flowback water³. Therefore, flowback water could contaminate drilling equipment and other surfaces with NORMs. Frequent recycling of flowback water could concentrate NORMs on drilling equipment or other surfaces before it gets re-diluted.

2) Local Municipality Impacts

Chapter 7 of the DSGEIS lists the proposed mitigation measures for risks related to drilling. An independent study by the Cornell University Law School Water Law Clinic found that Chapter 7 introduced 187 new tasks for the NYSDEC⁴. Yet with only 17 inspectors to oversee thousands of gas wells across the state, and the burden of new tasks, it is clear that the NYSDEC will be ill-equipped to deal with the impacts generated from gas well drilling in the Marcellus shale⁵. Rather, the burden will be shouldered by local municipalities. Therefore, local municipalities must be included in the permitting and regulatory process and this needs to be written as a requirement in the DSGEIS.

Recommendation: Town supervisors and planners must receive notice from the NYSDEC each

3 Wilbur, Tom. “Tests Show High Concentration of Radioactive Waste in the Marcellus. Ithaca Journal. December 6, 2009.

4 Cornell University Water Law Clinic accessed from <http://tcgasmag.org/media/Cornell%20Law%20School%20Water%20Law%20Clinic%20SGEIS%20Evaluation:%20187%20New%20Tasks%20for%20DEC.pdf> on 12/21/09

5 Wright, Tina. “Why the EPA should regulate gas drilling” Tompkins Weekly. October 19, 2009.

time an application for a Marcellus shale gas development permit involving lands within the town is received; not only when the first application is received.

Recommendation: The permitting process must involve agreement from the local municipalities that proposed drilling activity is in accordance with local planning and environmental concerns. This agreement should be in writing.

Recommendation: Permit seekers should be required to construct a site-specific mitigation plan (as proposed in Chapter 10) that would require approval by both the DEC and the local municipality where drilling activity would occur.

On page 7-42, the DSGEIS proposes that the local county health departments will be responsible for investigating initial complaints of water supply and quality in their area. Page 7-38 describes how they will be responsible for overseeing the baseline water testing for private wells located within 1000 feet of a gas well and the recommended testing schedule. This will result in increased workload for these agencies and could possibly exceed the capacity of their staff. In addition, it fails to state who will be responsible for determining whether contamination of a water supply has occurred based on testing and what the criteria are for making that determination. The DSGEIS also mentions coordination between the local county health departments and the DEC. However, the language is vague and does not offer concrete specifics about how this would occur.

Recommendation: Additional fees should be added to permit applications that would be set aside to compensate county health departments for entirely new regulatory responsibilities that are being imposed on them.

Recommendation: Specific criteria for determining whether contamination of a water supply due to gas well drilling activities should be added to the DSGEIS.

Recommendation: A contingency plan in the event that a private or public water drinking supply is contaminated should be developed and added to the DSGEIS.

Recommendation: A provision should be added that allows local municipalities to quickly shut down drilling activity when it has clearly endangered the health and welfare of the community.

Recommendation: The NYSDEC should have copies of all documentation related to gas well drilling in a particular municipality, including documentation related to water testing. This will help to minimize lag-time in responding to contamination.

3) Cumulative Impacts

While the DSGEIS serves as resource document for drilling at a single site, it fails to adequately address the environmental impact and possible mitigation procedures that result from the cumulative effect of drilling at a number of sites. Because current law restricts local municipalities from many regulatory activities related to shale gas extraction, localities must depend on the DEC and other state agencies to carry out monitoring and enforcement activities. The history of shale gas extraction in other states demonstrate that self-regulation by gas extraction companies is not an effective strategy to protect environmental resources and public health. Manhattan Borough President, Scott Stringer, released a report in February 2009 that listed seven states with “serious incidents of water contamination near hydraulic fracturing drilling sites,” including: Alabama, Colorado, Montana, New

Mexico, Ohio, Texas, and Wyoming⁶. Chapter 7 (pg.111) briefly discusses practices that could mitigate cumulative impacts, however, it is unclear how these practices will be implemented and more importantly, how they will be adhered to.

Recommendation: Revise DSGEIS to address habitat fragmentation due to building of gas drill infrastructure (e.g. central impoundments spanning 5 acres (pg. 5-113), noise pollution, air pollution, possible introduction of invasive species (from water withdrawals from multiple bodies of water). Define mitigation measures that will be required, not just encouraged.

Recommendation: Provide an outlet for local municipalities to give input on cumulative impacts and construct a plan for mitigating these impacts with the collaboration of local municipalities.

Recommendation: Research, devise and implement a fee schedule for the gas companies that represents the true cost of gas drilling activities. This would include the cost of specialized wastewater treatment facilities capable of handling toxic flowback water, cost of road degradation, cost of repeated water quality testing, etc.

4) Summary

There are many more areas of the DSGEIS than we have outlined here in this response letter that are unsatisfactory, unclear, or that impose unacceptable burdens on local communities.

The environmental impact of any industrial activity should be regulated by the relevant agencies working in tandem with the affected local community. Local municipalities must be included in the review and permitting process.

The gas companies will extract this natural resource and the enormous profits that come with it, and the local community will be left with all the externalized costs: degradation of the environment, possibly contaminated water, degraded roads and air quality, serious noise problems, and loss in property values. Some few people in the community will gain income from royalties, but the increase in tax revenues to local municipalities won't be enough to offset the increased costs to the community as a whole. This is unacceptable. Mitigation plans need to be developed for the likely adverse impact to local municipalities related to both municipal services and compensation for damage, and taxation of the gas companies needs to be thoroughly researched.

DEC's regulations can and should be used to ensure that both the drilling companies and the individual operators are very highly motivated to do an impeccable job. But before permitting begins, regulations must be in place that are strict and enforceable. The DSGEIS needs to be amended to demonstrate that there are adequate State, County, and local resources to administer and enforce gas-drilling activities on a cumulative basis, and to protect local resources.

Respectfully,

⁶ Crean, Sarah (quoting the Stringer report). "City Wants Answers, Input on Upstate Drill Plan." City Limits WEEKLY #702 September 21, 2009. http://www.citylimits.org/content/articles/viewarticle.cfm?article_id=3805

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