TOWN OF ITHACA

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Conservation Board
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January 9, 2012

Peter S. Briggs, Director
Bureau of Oil & Gas Permitting and Management
Attn: dSGEIS Comments
New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-6510

Subject: COMMENTS ON THE REVISED DRAFT SGEIS FOR GAS DRILLING

Dear Mr. Briggs:

Thank you for the opportunity to provide comments on the revised Draft Supplemental Generic Environmental Impact Statement (dSGEIS) on the Oil, Gas, and Solution Mining Regulatory Program. The Town of Ithaca Conservation Board works to protect the natural areas within the Town of Ithaca, and recent projects include the protection of visual resources, investigating impacts of invasive species, and applying Conservation Zoning to the Town's Critical Environmental Area, Coy Glen.

The Town of Ithaca Conservation Board provides the following comments.

Comment 1: The revised dSGEIS does not include a public health impact assessment.

Sewage treatment plants in the Marcellus region have already been accepting millions of gallons of natural gas industry wastewater with significant levels of radioactive elements and other pollutants that they are incapable of treating. An EPA study published by The New York Times verifies that the rivers and streams into which these plants discharge are unable to consistently dilute this kind of highly toxic effluent. The human health impacts of gas extraction on local communities may rival those associated with coal. A new study by Centers for Disease Control (CDC) finds that breast cancer rates have dropped in every county in Texas, but have increased in the six counties with the heaviest natural gas air emissions.[1]

Numerous public health studies validate the hazardous repercussions of fracking related to human health; yet the revised dSGEIS refers to none of them, nor does it attempt to make its own public health impact assessment. None of the potential costs of mitigating human health

[1] http://www.dentonrc.com/sharedcontent/dws/drc/localnews/stories/DRC_Breast_Cancer_0831.11947df68.html)

impacts are discussed in the revised dSGEIS. Without accounting for costs related to human health and public health, environmental management and mitigation, hazardous materials cleanup, damages to roads, and the like, the socioeconomic benefits are inconclusive. Without a public health impact analysis the socioeconomic impacts section of the revised dSGEIS is incomplete, inadequate and without context.

Comment 2: Section 2.4.9 - Floodplains

Considering that central New York has witnessed two floods above the 100-year floodplain within the past 5 years, hydrofracking should not be permitted within at least the now existing 300-year flood level. The typical 100-year floodplain no longer adequately protects sensitive areas; especially as the rate of once rare circumstances have been occurring much more frequently in recent years.

Comment 3: Section 2.4.11 – Socioeconomic Conditions

The socioeconomic section of the revised dSGEIS report divides gas drilling operations in the Marcellus Shale into three different regions. For each of the three regions socio-economic projections are based on two possible scenarios; a low development scenario and a medium development scenario (page 6-210). In the projected income section, the revised dSGEIS seems to indicate that regardless of the projected scenario the owners of surface mineral rights stand to experience a significant increase in income and wealth. The report proceeds to substantiate this statement with charts that are based on the annual value of production (page 6-217) for the entire region.

Considering that the production of one single well tends to decline by more than 50% in the period of just one year (stated in section 4-11 of the addendum to Socio-economic report), it would have been useful to know the financial consequences of such a decline. If one single well is only financially feasible for a short period of time, this may accelerate the rate at which new wells are being opened. In other words, if in order to remain profitable the industry will have to keep opening multiple wells as soon as the old ones dry up, new wells will be created at an accelerated rate that is more damaging for the surrounding infrastructure and therefore more damaging for nearby communities.

It is therefore necessary to include diagrams that show the profitability of a single well over the extended period of time in the report. Currently, the report is fortified with graphs that contain aggregated figures analyzing gas production regionally (measured in millions of cubic feet across the period of 30 years for all 8 counties). Having a clear picture of the financial feasibility of a single well over the 30-year period would not just help us understand the economic benefits for localities, but also the potential of gas drilling for the entire region. In other words, knowing more about the financial feasibility of one single well will help the reader discern whether the bulk of the profits in hydrofracturing gas production are generated by the economies of scale effect or whether one single gas well is by itself profitable over the period of 30 years.

Further, the revised dSGEIS should identify which stakeholder groups (i.e. developers, landowners, state or local governments, etc.) will benefit, in what proportion, from each dollar of profit. It would be useful to have a sense of the share of potential revenues that will be available to offset the costs of Marcellus development to local and state governments.

Comment 4: Section 2.4.11 – Socioeconomic Conditions

The revised dSGEIS fails to address the issues of remediation and post-production land cleanup. This was addressed neither in the economic section nor in the population, housing and revenues and expenditures sections. In general land restoration is another economic activity that can be of serious economic importance to private landowners, especially since the land once used for gas drilling will eventually have to be prepared for other economic activities.

Comment 5: Section 2.4.11 – Socioeconomic Conditions

The revenue and expenditure section discusses only partially what the increase in housing and building of new gas wells will do to the existing state's infrastructure. The impact of heavy traffic on roads is mentioned, but nothing is said about conservation efforts to protect old historic bridges and sites located nearby busy industrial roads. The introduction of permanent and temporary housing as well as building of new wells will make a further impact on the existing electric grid. New York State's electric grid is already under serious pressure and the revised dSGEIS does not provide any calculation regarding the impact on the grid.

Comment 6: Section 2.4.12 – Visual Resources

The Town of Ithaca has conducted studies of its most important views, including a Scenic Resource and Inventory Analysis. Town residents have overwhelmingly listed scenic views as important to them and their quality of life. The Town has developed a scenic views driving route on Town roads. At present, the scenic resources identified by the Town of Ithaca are not included in the listing in this section of revised dSGEIS, although such local resources are generally referred to on page 2-122. It is essential that visual impact evaluations require local government involvement in identifying and judging the importance of potentially affected scenic resources.

Comment 7: Section 6.1.3.3 - Flowback Water and Production Brine

The revised dSGEIS does not adequately treat biocides as one of "the flowback water components of greatest environmental concern." This section notes that flowback water and production brine "are expected to differ in significant respects" (p. 6-17) but if the biocide injected during hydrofracking is to be effective in controlling bacterial fouling in the well, it will still be coming back to the surface, poisoning the microbes returning in production brine. Eventually, further dilution of biocides will result in them killing only the bacteria most susceptible to the particular poison used in the well. The DEC does not provide any discussion of the potential for biocide resistant bacteria. If drilling wastewater enters watersheds through inadequate Waste Treatment Plants as effluent and supposedly fertilizing solids, bacteria will

evolve towards biocide resistance.

The associated Naturally Occurring Radioactive Materials in drilling wastewater might also be expected to promote bacterial mutation, from which a wider range of biocide-resistant survivors could evolve.

Comment 8: Section 6.1.3.4 - Potential Impacts to Primary and Principal Aquifers

Because of the risk to aquifers, and the DEC's knowledge that mitigation measures cannot be strong enough to reasonably prevent spills from contaminating drinking water, no gas wells should be placed within watersheds with a low depth to the water table. Because there is no way to reasonably protect such areas, the conclusion should indicate that drilling should not occur where these major risks are present, even if the chance of the risks occurring is low. The DEC does not provide reasonable assurances that existing water wells will be adequately protecting from gas drilling activities, and how this will be accomplished.

Comment 9: Section 6.1.5 - Unfiltered Surface Drinking Water

In the revised dSGEIS, the DEC has given the NYC and Syracuse Watersheds special protections, effectively admitting the fracking process is inherently unsafe and denying many New Yorkers equal protection of the law. Both the United States Constitution (14th Amendment) and the NY Constitution (Art. I, § 11) demand that all persons deserve equal protection under the Law. While the NYC and Syracuse watersheds do manage their water differently than many other sources without filtering, that does not imply that other sources of water can reasonably accept the affects of gas drilling contaminating drinking water in a safe manner. As most municipal water treatment facilities are unable to filter out or even detect many of the unregulated chemicals used in hydrofracturing, no public body of water or its watershed should be left at risk. Because of this risk, drilling should not be approved in any watershed that cannot filter out potential contaminants, drilling wastes or other site runoff, oil and gas leakage from heavy truck traffic associated with Marcellus development and any spills due to accidents involving such truck traffic, or any other threat to a public water source. If the negative effects of gas drilling are not deemed suitable for a particular source of water, then gas drilling should not be permitted within any potentially at-risk watershed - regardless of whether their drinking water is filtered or not.

Comment 10: Table 6.31 - Major Development Scenario Assumptions

The revised dSGEIS has a general lack of clarity about the volume of gas that can actually be extracted. The industry based projections on resource estimates that the federal government has now jettisoned. The most recent estimates are about 1/5th of what was originally projected. The U.S. Geological Survey recently reduced its estimate on the amount of gas in the Marcellus Shale by 80%.[2] This raises considerable doubt regarding any economic projections about jobs, royalties, and revenues.

[2] http://www.bloomberg.com/news/2011-08-23/u-s-to-slash-marcellus-shale-gas-estimate-80-.html

The DEC provides no evidence, whether qualitative, case study, industry standards or even anecdotal to verify claims that hydrofracturing gas wells actually have an average productive life of 30 years. Rather, shale gas wells often dry up faster than companies expected -- sometimes several decades faster than predicted. Furthermore, only a small percentage of the land in each shale gas field turns out to be highly productive, even at the start. The benefits of shale gas have been overstated by the DEC by 5 times or more.[3]

The revised dSGEIS fails to acknowledge any loss of future economic development potential after pipelines and wells are in place. The revised dSGEIS fails to address the costs of pipeline construction, and it also fails to provide any assumptions for costs to local communities to support social and environmental challenges as a result of drilling.

Comment 11: Section 6.8.1 - Economy, Employment, and Income

The revised dSGEIS provides no additional information, cost-benefit analyses, or other qualifying statement or source material to adequately validate claims of positive socioeconomic growth. The DEC also fails to quantify the loss in surface property values or "flight capital" from counties where drilling will occur, or the increased local costs due to accidents/hospitals/first responders. The DEC also fails to address potential loss of revenue from tourism, hunting, fishing, agriculture – all of which are likely to be adversely affected by drilling and trucking related to fracking. Communities elsewhere already impacted by fracking are finding the costs to be ruinous; including contaminated well water, poisoned air, nuisance noise and dust, diminished property values and collapsing quality of life. According to the Marcellus Center for Outreach and Research, fracking has cost the State of Pennsylvania more than $400 million in road repairs since 2008. In New York as elsewhere shale gas exploration is a sort of economic roulette - meaning many homeowners will get poisoned wells and reduced property values, while a minority of land owners will benefit to the detriment of their neighbors. The DEC also fails to disclose and address the fact that New York is one of only two states that does not tax gas at the wellhead. As such, the State will actually receive no direct revenue from the activity, and the DEC fails to discuss how it will fund its regulation.[4]

Comment 12: Section 6.8.2 – Population

The DEC does not provide any feasible forecast or timetable as to when permanent employment by permanent residents would occur. No additional analyses are provided with regard to additional costs to be borne by the Town and/or County in providing for the needs of the "temporary" or "transient" populations including, but not limited to, education, healthcare, and other government services.

Comment 13: Section 6.8.3 – Housing

The DEC fails to provide any analyses or projections for how housing would be impacted in Ithaca where rentals are already in demand and controlled by the two local college

[3] http://www.scribd.com/doc/65070417/SGEIS-Socioeconomic-Hype
[4] http://www.scribd.com/doc/63145742/NYSeveranceTax

populations. The DEC does not examine rental price increases for locals. Since rentals to transient workers will feasibly increase rents, this will adversely impact locals who must compete for rental properties. Regarding housing and property values, no discussion is made with respect to homeowner mortgages. The vast majority of homes in our area are secured via mortgage loans. All mortgages prohibit hazardous activity and hazardous substances on the property. Homeowners can be confronted with uninsurable property damage for activities that they cannot control as a result of fracking. A growing number of banks won't give new mortgage loans on homes with gas leases because they don't meet secondary mortgage market guidelines. Ninety percent of all residential mortgage loans are sold into the secondary mortgage market. It is assumed that most upstate New Yorkers who signed gas leases have a mortgage, will want one in the future or want that right for a future purchaser. As such, a substantial portion of the secondary residential mortgage market portfolio may be at risk from fracking. At present, gas leases contain no insurance and no indemnification. Homeowners and landowners will have to first experience property damage or personal injury as a result of fracking, and then have the burden of successful arbitration or litigation against the gas lessee for reimbursement and remediation.

Residential mortgages prohibit borrowers from committing waste, damage or destruction or causing substantial change to the mortgaged property or allowing a third party to do so. This includes operations for gas drilling. Mortgages prohibit the very activities that gas leases permit to preserve the property's marketability.[5] In addition to issues of mortgages, there is no mention or reference to issues with title insurance or homeowners insurance on properties leased for gas drilling. The DEC fails to make any mention of this issue or its implications for homeowners in terms of costs. Again, this portion of the revised dSGEIS misses the fact that fracking introduces potentially irreparable risks to homes and the families that live there.

Comment 14: Section 6.8.4 - Government Revenues and Expenditures

The DEC fails to reference any potential costs of litigation to the State of New York or to local governments. With regard to the issue of mortgages and threats to property owners and gas lessors, the DEC fails to make any mention about potential costs that may result when large numbers of upstate homeowners complain about standard gas leases signed without negotiation.

The New York Attorney General will presumably become involved in these cases, at public cost, to restore rights attributable to fee ownership and the property's value to landowners. Also, because gas leases give lessees latitude to extend lease terms indefinitely, there are considerable public costs to consider with regard to "force majeure" litigation in our court systems.

The DEC fails to provide any cost projection for how fracking regulations and monitoring would specifically impact an already insufficient DEC budget. Since 2007, that department has seen a 50% cut in non-personnel-related allocations, such as paper, computers, cell phones and mileage allocations that allow the staff to travel out in the field to do research or attend meetings. There are only 17 staff for Division of Mineral Resources to oversee 14,000 +

[5] Elisabeth Radow: Homeowners and Gas Drilling Leases: Boon or Bust? NYS Bar Association Journal, Nov-Dec. 2011

currently active wells and new permits. If the DEC is already burdened by operational budget reductions, it is unclear how the DEC would be able to safely and effectively carry out the full extent of the required duties to monitor, report on, and enforce fracking regulations. This reality raises the possibility that the DEC will be forced to cut corners with its reviews or fast-track permits despite the risks. The DEC also does not indicate whether the industry will pay localities the costs of roads damaged from the thousands of truck trips per wellhead. Will these costs be left to local taxpayers in communities that are already economically stressed?

The report does well to admit that "specific economic forecasts" are too uncertain to be forecast at all; but the "range of potential economic impacts" identified and analyzed in the report fails to consider the cost of anti-fracking civil protest in those communities ardently opposed to such development. If the "Occupy Wall Street" movement of social unrest due to citizen dissatisfaction continues, it may well develop a substantial hindrance to profitable drilling. None of the factors in the revised dSGEIS imagine the cost of maintaining public safety in the face of stubborn and concerted local resistance to drillers.

Comment 15: Section 6.8.5 - Environmental Justice

The DEC does not discuss that the thousands of miles of pipelines or compressor stations required for drilling to get the resulting gas to market will be reviewed by a different agency under a different process. Without an accounting of such impacts, New York's environmental assessment is incomplete and the full impacts of fracking are unknown. The Public Service Commission has jurisdiction over gas infrastructure. There is no discussion about whether state agencies will coordinate their efforts in order to protect our air, water and communities.

Comment 16: Section 6.9 – Visual Impacts

In discussing impacts on motorists on roads, on seasonal views, etc., the revised dSGEIS minimizes the visual impacts as temporary, only affecting the public at those locations for the periods sites are visible. So, if all drivers down a road see a view impacted by well-pad development, the bad experience will be over when they drive out of the view. Nonetheless, the view has been ruined for everyone driving that road, for instance. In addition, as thousands of vehicles may pass the offended view daily, the numbers of people affected will be high. Similarly, if views are marred from a site just six months of the year when the leaves are off, that is still a significant degradation, not to be dismissed.

Comment 17: Section 7.1 - Protecting Water Resources

The revised dSGEIS proposes to require that once high-volume hydraulic fracturing operations have ceased and the gas well(s) are in the production phase, "that the permittee properly collect and dispose of all production fluids generated at the site." Even with Best Management Practices, accidental spills of hydrofracking fluids may occasionally occur, and drillers should be required to disclose such "fluid constituents, so that the appropriate remediation measure can be taken if a spill occurs" (7.1.3, p. 7-32) into a creek, especially one flowing into a source of public drinking water.

Drilling permits cannot assume that BMP and a disclosed MSDS will keep creeks safe if the MSDS has not clearly determined the fluid additives to be safe at a precisely understood dilution. Putting wastewater tainted by BE-9™ in containers for transport to "safe" disposal sites and trucking such containers over public roads only complicates the problem. The Syracuse and New York City watersheds have been deemed important enough to be kept safe from the biocides that would be allowed in hydrofracking elsewhere, but no discussion is made about what minor municipalities like Ithaca, not protected by the regulations for "major municipalities" (ibid), can do when biocides—despite BMPs and MSDSs—are non-routinely spilled into their drinking water.

Comment 18: Section 7.9 - Visual Mitigation Measures

The revised dSGEIS says that visual impacts due to hydrofracturing will be primarily temporary and mostly limited to the on-site well pad construction, well-drilling, and well-fracturing phases; and that these visual impacts will not be significant beyond a mile distance from the well-pad sites, most of which are likely to include multiple wells.

We understand that some wells may be re-fractured in future years, involving a return of the high intensity presence of equipment on well pad sites. Therefore, visual and other aesthetic impacts could resume during the lives of wells, which would be extended by re-fracturing.

Comment 19: Section 7.9.1 - Visual Mitigation Measures

The revised dSGEIS mostly concentrates on the impacts associated with individual (though multi-well) sites and not much on the cumulative impacts resulting from dense well-pad developments on the landscape over time. The revised dSGEIS points out that multi-well sites are less closely spaced than single well pad sites would be, but that is a red herring as most likely will be multi-well sites anyway. That is what we are contemplating, and the hundreds and thousands of well installations planned for our landscape will alter it considerably from a principally agrarian landscape to an industrial landscape with all that that entails. As wells will be developed at different times, the cumulative impact on a view could continue for many years, perhaps the negative impact shifting in emphasis on the scene over time, but affecting the entire view nonetheless.

Comment 20: Section 8.1.1.1 - SEQRA Participation

This section identifies a listing of actions which when present will require all opportunities for public input normally provided under SEQRA. This listing should include the conflicts identified in 8.1.1.5, Local Planning Documents. Applications that present conflicts with local land use laws, regulations, plans or policies should require SEQRA participation.

Comment 21: Section 8.1.1.3 - Local Government Notification

The revised dSGEIS would require the DEC to provide notice to local government officials of application for high volume hydraulic fracturing in their locality; however, the timing of the

notification is not addressed nor is the breadth of the information that must be made available to the local governments. The revised dSGEIS does not provide any information about how notification will be made of any applications for high volume hydraulic fracturing to the local governments with full disclosure of the contents of the applications so that local municipalities can respond appropriately. Municipalities must be notified of each application for high-volume hydraulic fracturing in their localities within one business day of submission of an application.

Comment 22: Section 8.1.1.5 - Local Planning Documents

Applicants are required to identify whether the proposed location of the well pad conflicts with local land use laws, regulations, plans or policies. In addition, applicants should be required to specify alternatives that have been considered and other mitigation measures which would eliminate or minimize conflicts with the local land use laws, regulations, plans or policies. Any applications or notifications that identify such conflicts should result in additional time for local government to respond and propose mitigation measures. Conflicts with local land use laws, regulations, plans or policies should require increased scrutiny and additional time for local governments to provide comments and concerns to the DEC.

Comment 23: Section 8.2.1.1 - Well Permit Review Process

Section 8.2.1.1 purports to address "Hydraulic Fracturing Additives," but does not include biocides, which are always added. The revised dSGEIS does not address the fate of biocides in flowback and production waters, which must be treated as hazardous industrial waste. If the biocide used in hydrofracking is effective in preventing bacterial fouling of gas-well plumbing, it will continue to be a dangerous toxin during transport of the waste and subsequent waste disposal. Especially if POTW are allowed to accept hydrofracking waste, the effects of biocides on the beneficial bacteria used in municipal sewage treatment facilities need to be addressed. The problem of antibiotics used in medicine causing evolutionary pressure toward the development of drug-resistant pathogens is well understood, and a similar problem resulting from any sustained release of fracturing fluid biocides into our environment should be addressed in an adequate generic environmental statement.

If a biocide such as 2,2-dibromo-3-nitrilopropionamide (CAS # 10222-01-2), listed on page 5-68, is spilled in transport, the MSDS for this poison requires that it be vacuumed or swept up and placed back into a suitable disposal container. If any sort of disposal is attempted, it will create "Hazardous Decomposition Products" like "nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen bromide." Until the truly safe disposal of such biocides is well-regulated by a law adequate to assure they won't harm public health, these poisons should not be allowed in fracking fluid, nor should their transport to hydrofracking well sites be permitted.

Comment 24: Appendix 15 - Hydraulic Fracturing

Appendix 15 presents only pro-fracking opinions. The absence of any views that fracking might harm the environment is obviously biased. There is no reference in the revised dSGEIS to the body of evidence in the research literature that verifies fracking has contaminated ground and

surface waters, as well as caused air pollution. These documents include the EPA Report to Congress, December 1987 (EPA/530-SW-88-003), which states that fracking can cause groundwater contamination. The report cites a case in which fracking contaminated a water well in West Virginia, and explains how sealed court settlements between drillers and their victims can make investigation of such accidents difficult.[6]

Thank you for your consideration of our comments,

Kristine Shaw, Chair
On behalf of the Town of Ithaca Conservation Board
Diane Conneman, Aaron Donato, Andy Goodell, James Hamilton, Eva Hoffmann, Tony Ingraham, Jon Meigs, Vladimir Micic, Nirav Patel, Susan Perri, Ellie Stewart

Cc: Town of Ithaca Town Board

[6] http://www.nytimes.com/interactive/us/drilling-down-documents-7.html?emc=eta1