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Attn: Draft SGEIS Comments  
Bureau of Oil & Gas Regulation  
NYSDEC Division of Mineral Resources  
625 Broadway, third floor  
Albany, NY 12233-6500

**RE: Comments on the Revised Draft Supplemental Generic Environmental Impact Statement (RDSGEIS) for the Oil, Gas and Solution Mining Regulatory Program, Well Permit Issuance for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs**

The Binghamton Regional Sustainability Coalition (BRSC) is a coalition of businesses, community groups, and individuals dedicated to sustainable economic development and the healthy, long-term viability of the area. We actively promote, first and foremost, our local business community which we see as the backbone of our economy.

Our area is known for its beautiful rolling hills and green valleys etched by four major rivers that all converge in the span of some 20 miles. We consider our water one of the most important, if not the most important natural resource of our area and vital to our long term viability. We feel this resource will only increase in value over time. The majority of our region's population relies on groundwater for drinking water.

Both private and municipal water wells in the Southern Tier are at risk for ground water contamination due to the porous nature of the aquifers, characterized as having sand or gravel soils and frequent discharge/recharge with the streams that lie above them. In addition, our geology is one of uneven uplift that tends to form vertical fracturing of the strata which, in turn, offers many opportunities of communication between the strata.

When we see other communities being given special treatment and protection when it comes to gas drilling, we resent being viewed as the "sacrificial lamb." We love our community. We love its beauty, its diversity, and the healthy living it offers. We consider our area the home of innovation and opportunity and our history bears this out. Although our history reveals a distinct preference for businesses of the "home grown" variety (Endicott-Johnson Shoes, IBM, Link Simulation to name a few), we never turn away a good idea. Gas drilling just does not seem to fit the definition. We've seen it play out in other communities and don't like what we see.

We have to believe that the DEC is doing the best it can, given the resources you have at your disposal. We also know that you are under tremendous pressure by the gas industry and a small minority of our population who stand to profit by this venture. BRSC understands that nothing can be done to eliminate the dangers posed by gas production. It is BRSC's judgment, however, that this revised draft Supplemental Generic Environmental Impact Statement in its current form and scope will not provide the protections required to make such risks acceptable.

We submitted comments on the last draft. Many still stand. What follows are comments on the most recent draft.

## I. Cumulative Impacts

We still do not see a cumulative impact analysis of the process. We stressed the importance of conducting such an analysis in your scoping session. We noted its absence in your first draft and flag it again for this draft.

1. A generic environmental impact analysis is done to avoid the prospect of doing an impact analysis on each individual drill site. If cumulative impacts are not looked at, analyzed, and addressed within the dSGEIS, then where will they be addressed? If not now, when? This work will need to be done before any thought is given to the granting of permits. The fact that this analysis was not done constitutes one of the Document's major flaws.
2. Keep in mind that cumulative impact has three dimensions. One is the multiple effects of many, many wells. Another dimension is the cumulative effect of multiple wells under construction simultaneously. The third dimension is the taking into account of the many facets of the "total system." We are not dealing with a gas well, in a generic EIS we are dealing with a gas field. The question remains: What are the environmental and health effects of a gas field?
3. Sprinkled throughout the Document are references to cumulative effects and their importance and relevance. At one point it states, "Though the potential for severe negative impacts from any one site is low, when all activities in the State are considered together, the potential for negative impacts on water quality, land use, endangered species and sensitive habitats increases significantly". Unfortunately there is little follow through. This weakens the Document significantly and fundamentally, and, in our judgment, fatally.
4. Much of the difficulties in accessing cumulative impact are of DEC's own making. Greatly impeding DEC's ability to assess the cumulative impact is its self imposed, artificial segmentation of the activity, setting the Document up for failure. Impacts from water withdrawal, water treatment, and collection infrastructure (to mention a few) have all been left out of the analysis making it impossible to assess the true environmental impact. This is an inherently integrated process and it is inappropriate to segment them. This weakens the Document significantly.
5. The Marcellus Shale is acknowledged to be a "sheet/blanket" formation with 98% success rate. The gas companies have very good knowledge of the location of the gas resource, know which lands they want to lease for drilling, and know what markets (and where those markets exist) it wishes to deliver its product, and therefore have ample information on which the DEC could redevelop a "build out" model and assess cumulative effects.
6. We suggested in our scoping comments (and continue to suggest) that the DEC work with the gas companies to develop a full build out model of the potential Marcellus gas field, including temporary roadways, pipelines, well pads and staging areas based upon setback requirements and geographical constraints, then use the model to evaluate cumulative effects.
7. A build out model would determine an appropriate rate of development from an impact perspective, a rate not to be exceeded. Economics, of course, could, at any point, prescribe a slower rate of development.
8. Review parameters should consider location of well site in context of the overall infrastructure required. This should include the collection system and booster compressors. The greater infrastructure increases the overall impact of the extraction activity on local ecosystems, including fragmentation.
9. Such a plan should encourage consolidation of spacing units with joint partnerships and more centralized drill sites with longer horizontal runs (we suggest 4 mile minimum) off of single vertical well bores thus reducing the number of times the aquifer is compromised and thus reducing the chance of problems occurring. Such a practice, at the same time, reduces the surface footprint. Both resources and earnings would be pooled, but proportioned according to mineral rites secured on a per acre basis. Longer horizontal runs would increase the likelihood that local land use planning could be respected and accommodated.
10. It is unacceptable that DEC would not provide any oversight of industrial sites (i.e., compressor stations) in rural or agricultural areas; and it is unacceptable that there is no assessment of the impacts of the fragmentation created by pipeline infrastructure.

## II. Water Issues

Water is our most valuable natural resource.

1. The dSGEIS states that private wells and springs "should be used as drinking water sources only as a last resort." Unfortunately, much of upstate New York relies on these very water sources and quite often, these

types of wells are the only practical option. While recognizing their susceptibility to contamination, the only suggested remediation is a 500 foot setback from the wellhead. There seems to be no coherent reason for why this distance as opposed to any other distance. There is no assessment as to the effectiveness of this effort. The dSGEIS needs to provide such an assessment. Why would a setback for a private well be 500 feet while a public well setback is 2000 feet? What characteristic of a private well makes it less susceptible than a public one? Private wells are monitored less often than public wells.

2. All drinking water wells within 1 mile of drilling sites should be monitored. The Department suggestion of 2000 foot radius from the well site is grossly inadequate considering past contamination problems in New York. In addition there is no discussion of impacts to groundwater during the initial drilling phase, before protective casing is in place. Drilling muds do not seal off the pathway of methane (both thermogenic and biogenic) and brine to groundwater resources.
3. The 4000 foot setback for the Syracuse and New York City watersheds is rationalized by stating that they are unfiltered water supplies. Many rural homes rely on private wells and the vast majority of the wells in our region are also not filtered. In addition, filtering will not remove dissolved contaminants such as salts and many chemicals associated with horizontal gas drilling. In other words, all municipal water treatment systems are equally susceptible to these threats and thus face similar additional expense in the event that their watersheds are threatened. Again, the scientific basis for these setbacks is not documented. Without a cogent rationale to differentiate between the importance of Syracuse and New York City water supplies and our water supplies (one could say the importance of their people over our people), this action smacks of discrimination and injustice.
4. Local health departments are responsible for addressing and investigating water contamination with no assessment of their ability, not to mention the resources at their disposal to address the significantly increased workload. This constitutes an unfunded mandate.
5. The dSGEIS states that other potential causes would have to be ruled out before water contamination cases are referred back to DEC. If no problem existed before the drilling activity and a problem is then reported, it would seem logical, more efficient, and, most importantly, more timely to assess whether the problem resulted from the drilling activity before moving on to other possible causes.
6. There is no discussion of the impact of 4000 identified wells awaiting plugging or 40,000 unidentified abandoned wells [STRONGER survey of NY 2006]. Furthermore, it is well documented that the Northeast has a highly fractured strata. Yet the dSGEIS notes "It is theoretically possible but extremely unlikely that a flow path such as a network of open fractures, an open fault, or an undetected and unplugged well-bore could exist that directly connects the hydraulically fractured zone to an aquifer." What competent documentation does the DEC have to support this conclusion, especially since a growing number of studies suggest otherwise?
7. The Document fails to capture the cumulative effect of all natural gas activities for multiple well sites on erosion, stream turbidity, sedimentation, and possible chemical contamination. There are impacts all through the process: road construction, pipeline construction, and well pad construction, etc. The DEC needs to conduct region wide modeling of likely storm water events for areas and analyze and prepare for cumulative effects of multiple discharges from multiple well pads.
8. The heavy rain events leading to local flooding increase the risk of substantial erosion and landslides, particularly if intensive logging or land clearing occurs on steeper slopes. For this reason establishing drill sites or the associated delivery infrastructure on heavily wooded slopes or steep terrain should be prohibited.
9. Flood Zone maps are out of date and therefore do not provide adequate protection against flooding of gas wells or open pits. Yet, severe flooding is acknowledged as a problem. How does the DEC propose to address this issue?
10. The dSGEIS must give an accurate picture of New York's wastewater treatment deficiencies. While we appreciate the increased standards and a concentration on the remediation TDS, it would be much clearer and effective for the DEC to declare that publicly owned wastewater treatment facilities can not take production waste fluids, period.
11. All trucks carrying flowback waste from a drilling site must be monitored to ensure that all of what leaves a well site reaches the disposal or recycling site. Drilling and Production Waste Tracking Forms should be mandatory and submitted monthly to the DEC so that the public can observe effectiveness through the

FOIL process. The current proposal would have the truckers self monitor and have the information available upon DEC's request – not the public's. An instance of wetland and stream die-off in southwestern PA has been associated with illegal dumping of flowback waste.

12. Produced brine can not be reasonably considered for a Beneficial Use Determination (BUD) as a road spreading agent because of the significant risk of contamination from heavy metals, non target salt intrusion, and potential VOC components. The Department's suggestion of pre-testing of brines before use on roadways will be difficult to enforce and will be subject to abuse. The dubious benefit of an ineffective de-icing agent can not outweigh the clear risk presented by the misapplication of contaminated drilling waste. No road spreading should be allowed, period.
13. There is no proposed permitting for the 10,000 to 12,000 gallons of diesel fuel that will be stored on site. That is the quantity of gas that an ordinary gas station keeps on hand.
14. The Document fails to address large scale water withdrawals. Comparisons with overall clean water withdrawals and what can be expected from gas drilling activity fail to differentiate between consumptive use and water use that is used and filtered (artificially or naturally) and fed back into the system. This differentiation is extremely important and a more sophisticated analysis needs to be conducted.
15. If flowback impoundments are used, the dSGEIS states that it will be necessary to exclude certain solvents and surfactants containing benzene and xylene from fracking fluids. Yet benzene appears to occur naturally in the Marcellus shale and will be present in the flowback whether it is added as a solvent or not.
16. Steel tanks must be required for vertical and horizontal wells, alike. Allowing retention pits to be employed under any circumstances is unacceptable. Steel tanks are superior to lined pits in spill reduction, air emissions, and wildlife protection. The SGEIS must end the use of lined retention pits for everything except pre-drilling fresh water impoundments.
17. Despite the fact that "these larger off-site impoundments have the potential to qualify as a major source of Hazardous Air Pollutants (HAPs) due to certain chemicals" the DEC still plans to allow them although maybe, it might require, in some instances "a physical barrier to public access at least 500 feet from the well pad" but only if the applicant is not able to show that specific control equipment will be used to further reduce particulate matter emissions during hydraulic fracturing operations. Again, steel tanks must be required in all applications.

### III. Air Pollution

Air pollution generated by gas fields (wells and infrastructure) is a growing concern. DEC is to be commended for a much improved section on air emissions. Emissions can turn a rural community with good air quality into one with air quality resembling a good sized city. This is the one area where at least some effort is made to ascertain cumulative negative impacts and give some direction towards mitigation. There are, however, still areas of weakness.

1. There is a growing concern over the off-gassing of methane and other volatiles from the operation. This has been more difficult to study given the pattern of denial exhibited by the industry. It could very well be the result of the industry dropping the ball. However, it could just as easily be not so much what the industry should have done and didn't, but what the industry couldn't and can't do to begin with. This is an area that needs to be looked at, accessed, and understood before moving forward.
2. Emissions emanate from a variety of sources. The more obvious ones include: the high volume of trucks hauling equipment, material and workers to and from the site, emissions from the equipment itself (the drill, pumps, compressors, separators, etc.), flaring, and evaporation off retention pits and retention tanks that collect the drill dregs and recovered frac fluids. What is not discussed or addressed is "back door" pathways not controlled by the gas field components, but the pathways created by previous activities (drilling or otherwise), and/or pathways that exist naturally in the strata. The Document must use a "system" approach when it comes to assessing air pollution.
3. Retention pits for waste fluid represents not only a potential threat to soil and ground water, but also to local air quality. Open pits provide a very convenient pathway for volatile chemicals to enter the local air mass. Depending on the configuration, retention tanks offer pathways as well. As mentioned in our water section, open retention pits should not be allowed. It should be noted that not all steel tanks are created equal. Tanks need to be designed to control volatiles.

4. All “best-practices” to control air emissions need to be employed from the beginning of the process, not simply triggered when “thresholds” are reached.
5. The SGEIS relies on Penn State/industry data that natural gas development will reduce Greenhouse Gas Emissions when this is clearly not the case. Life-cycle analysis needs to be incorporated. Methane’s increased “global warming potential” (GWP) needs to be factored in.

#### **IV. Noise Pollution**

1. Noise aspects need to be considered for their impact on wildlife, both during well pad and gas field construction and on-going operation.
2. The distance from a site where noise levels are at an acceptable level, with and without noise mitigating strategies in place, defines another set of setbacks with respect to residences, businesses, and wildlife habitats.
3. The DEC should define proper and effective noise regulations, rather than expect municipalities to address this on their own, unless you are willing to allow municipalities to apply such regulations to the industry. Has the DEC authored any noise regulations for any other activities? If yes, we suggest that they be applied to this industry as well?
4. While we appreciate the consideration given to noise mitigation during the creation of the well site, we find little attention given to the ongoing operation of these sites. This is the noise people are expected to live with, day in and day out, long-term. Compressors and separator noise represent the ongoing impact of a gas field operation and requires equal if not more vigilance, especially when it holds the possibility of operating during the evening hours and over the weekends. Increases in noise levels are particularly noticeable in rural settings and should be given increased attention. Above any other imposed noise restrictions, operation of compressors and separators should not be allowed during the evening hours and over the weekends.
5. Given that noise becomes an “aesthetic” judgment after health factors are addressed, should not a local community be allowed to apply stricter regulations if they see fit to do so?

#### **V. Radioactivity**

1. The Marcellus shale is considered to be “highly radioactive.” In Onondaga County, NY, where the Marcellus shale is close to the surface, all of the homes underlain by Marcellus shale had indoor air levels of radon above EPA’s “action level,” with the average concentration more than twice that level. The Pennsylvania Bureau of Oil and Gas Management (BOGM) and Bureau of Radiation Protection found that a concentration of radon in a gas sample was 1000 times above the EPA’s “action level.”
2. A major concern is the radioactivity of recovered gas, but there is no mention of radon in the Document beyond noting that it is a product of radium decay.
3. No mention has been made of the potential for contaminated gas entering our gas supply system and potential exposure this represents within the home and/or work place. This potential needs to be assessed.
4. The Document acknowledges that “No state has assessed the occurrence of NORM from longer duration drilling operations at multi-well sites or larger accumulations of shale cuttings from horizontal drilling.” Initial tests show the potential for NORM build up to the extent that NORM waste may require licensing and production waste fluid may be subject to limitations as radioactive waste.
5. Radioactive contamination of drilling equipment and waste is completely unexplored.
6. It is highly probable that the slurry in mud pits will be contaminated with radioactivity, yet no studies have been undertaken. The Document notes that someone (it does not say who, when or how) should take sampling, analysis, and surveys after production has begun and determine what radioactive material licenses may be needed.
7. The state will have to sort out how its laws for radioactive waste might apply to drilling and how the waste could impact water supplies and the environment. It will be important to understand the radioactivity of the various waste streams that are produced (e.g., returning waste fluids, off-gassing, pit/tank sludge and drill cuttings) and the gas product itself. During drilling there may be a large volume of radioactive shale rock

removed in the drill cuttings, especially from horizontally drilled wells. It is therefore imperative that drilling wastes not be disposed of, by either on-site burial or land spreading. Radioactive wastes must be taken to an appropriate facility that is designed to handle radioactive waste. Measures must also be taken to ensure that the radioactive gas does not leak from wellheads, or that releases do not occur through generated fractures in the overlying rock, or from well casings, into the water supply.

## **VI. Geologic Impacts**

1. There is a lack of understanding about results of underground fracturing. “ICF reports that, despite ongoing laboratory and field experimentation, the mechanisms that limit vertical fracture growth are not completely understood.” Analytical techniques . . . still imperfect. . .” Is this not a good reason to be cautious?
2. There is no discussion of mitigation strategies to deal with drilling and fracking intersecting with natural faults. These fissures result from the sheering and uplifting of the geologic layers. They exist throughout the continent, but especially within the older mountain ranges of the Appalachian chain. The very process (fracking) that facilitates the migration of gas towards the well bore, facilitates the migration of gas towards the natural fractures as well. To make matters worse, the fracking process is not as controlled as the industry would have people believe. The reality is that as pressure and chemicals are applied; the fracturing does not disperse evenly, but, in fact, follows along lines of least resistance, seeking out the natural fractures. We are focusing all our attention on securing the “front door” (casings, fixtures, etc.) while the “back door” is wide open. How will these pathways be avoided or closed?
3. There is no discussion of mitigation strategies to deal with drilling into faults or inducing seismic reactions because it is “in the operator’s best interest” to avoid drilling into a fault and they will “endeavor” to be “prudent”. This is hardly a good rationale for not studying and addressing what could be a very significant impact.
4. Given recent events in other states, it is clear that a deeper understanding of the effects of gas drilling on seismic activity will need to be developed. It should be noted that this is not a new concern, but a growing concern.

## **VII. Health Impacts**

1. While environmental impacts are important, we consider human impacts to be of equal importance. The Document needs to be supplemented to include a full assessment of the public health impacts of gas drilling activity. This should include analysis of the existing documentation of the baseline health status of the New York State population; systematic identification and analysis of direct and indirect health effects; a cumulative health impacts analysis that includes a reasonable “worst case” assessment; and any potential measures to eliminate these impacts.
2. Notably, a comprehensive assessment of health impacts is likely to include information—such as mounting costs for health care due to air and water pollution mitigation—that could inform how the DEC and other agencies, such as the Department of Health (DOH), evaluate and assess cumulative impacts and how the DEC reviews any proposed gas development permit applications. A comprehensive Health Impact Assessment (HIA) would be the most appropriate mechanism for this work, conducted by an independent entity such as a school of public health.
3. Doing human health risks assessments after a contamination event is insufficient. The medical community considers doing a health risk assessment a top priority; so should you.
4. The dSGEIS must mandate absolute prohibitions of hazardous components in fracking fluids, especially endocrine disrupters that pose an unacceptable risk to human health. The DEC must mandate chemical disclosure of all fracking chemicals and drilling muds, and have that information readily available to the public, first responders, and medical professionals. This must be made absolutely clear in the SGEIS.
5. While it is important to pay attention to those chemical introduced by the industry during the fracking process, equal attention must be given to those chemical compounds that were “locked up” within the gas bearing layer, but then released by the fracking process itself.

## **VIII. Socioeconomics & Community Character**

Cumulative impacts for environmental impacts and socioeconomic impacts both require a “build-out” model. It strikes us as odd that the DEC would resist addressing cumulative impacts when assessing environmental concerns,

but is more than willing to project positive cumulative impacts when it comes to socioeconomic impacts. The dSGEIS needs to be consistent and address cumulative impacts, period.

**What was the purpose of this section and what was DEC hoping to glean from it?**

It is actually very difficult to ascertain the purpose of this section. The socioeconomic impacts of hydrofracking need to be taken seriously and not treated like a fluff piece. The dSGEIS needs to identify negative socio-economic impacts with the intent to mitigate them, and it has failed miserably in the Document to do so. It needs to identify costs to the community brought about by gas drilling so that the community (state and/or municipality) can establish fees, surcharges, bonding, etc., and it fails here as well. In fact, identifying negative socio-economic impacts for mitigation and costs to the community should have been the main purpose of this section.

**Housing**

We could find no more than four (4) pages (out of the 251 pages of the entire Economic Assessment Report) that even come close to identifying such impacts. Two of the four pages identify impacts on housing. It identifies higher housing cost for the residents of the community. Rents would go up for everyone and “could make such housing unaffordable for existing low-income tenants.” This, of course, would create hardship and could very well translate into higher assistance costs. These costs are typically borne by the taxpayer.

The document also allowed that “the higher motel/hotel rates and/or the few available rooms may discourage some visitors from coming to these regions and thereby has the potential to reduce tourism in these areas.” You should add that higher motel/hotel rates and/or shortages affect other businesses that rely on these rooms for clients and business partners as well. The document identifies these problems, yet provides no insights or suggestions for how to mitigate these negative consequences. Numerous communities in Pennsylvania and elsewhere have identified precisely these problems as they struggle with gas drilling in their area.

**What is the estimated increase in costs to renters and the impact on our low-income population due to increases in housing costs? How might that translate into increased Social Services cost?**

**What is the estimated impact of decreased availability of motel/hotel rooms and/or increased rates to existing businesses?**

Related to rental housing is the potential impact on home owners. The banking industry has expressed serious concerns related to diminished values of properties that they hold mortgages on. It has been pointed out that gas drilling, or simply signing of a lease, may be grounds for a bank to pull an existing mortgage or deny a new one. Refinancing is out of the question.

Landowners have expressed concerns over reduced property values; especially in cases where the majority of the equity investment resides with the home verses the land acreage. These landowners realize little or no revenue from leasing yet stand to lose a significant amount of their investment. Many count on this built up equity for retirement. The dSGEIS reports a potential of a 22% loss in property value. We have heard reports of up to 80% loss, depending on the circumstances, such as proximity to wells and threats to drinking water. We hear from a small minority of landowners that they stand to lose what amounts to “found money.” What about the many landowners who stand to lose the money they actually invested?

**By what mechanism will these property owners and banks be made whole?**

At one point the dSGEIS states the assumption that “There would be no involuntary displacement of persons due to construction of the natural gas wells, as no buildings would be demolished to make way for wells and wells need to be drilled at least 500 feet away from private wells and 100 feet from inhabited dwellings.” To assume that no person would move involuntarily unless their house is threatened with demolition is to ignore many other reasons that potentially exist. Involuntary displacement can result from anything from wishing to avoid health risks to simply wishing to preserve a quality of life threatened by gas drilling. Living 100 feet away from a well can be intolerable for some and little comfort for many.

In addition, compulsory integration uses the power of the state to force homeowners into spacing units against their will. Compulsory integration was put into place when conventional gas drilling was more wide-spread. It was used to insure a landowner was compensated for gas (or oil) that might migrate from an adjoining landowner's property over to the landowner engaged in drilling. Such a condition does not exist when hydrofracking is employed. One has to actively hydrofrack beneath a person's property to extract the gas. The concept loses its validity under such circumstances. Compulsory integration is considered one of the most egregious and unjust practices related to hydrofracking by gas drilling supporters and non-supporters alike. Compulsory integration should not be used when hydrofracking is employed.

**What will be done to prevent compulsory integration from being used to force landowners into spacing units that they don't wish to be involved with? What will be done to prevent right-of-way involuntary displacement related to the gas filed infrastructure?**

Many people in upstate New York rely on private well water.

**In the event of the loss of this option, how will the impacted person be compensated? Where will the funding for this come from?**

The industry has a long and sullied track record of denying culpability and tying up such claims in court for many, many years. This track record itself tends to drive down property values where gas drilling is contemplated. People can not be expected and should not be expected to endure a long, arduous process to be made whole.

People fear being stuck with little hope of getting anywhere near the money they have invested in the equity of their homes much less other incurred expenses relating to such things as the health of themselves and their family. This problem is compounded if they can't sell their home when a bank refuses to grant a mortgage even if a potential buyer could be identified. The antithesis to the dSGEIS assumption that there would be no involuntary displacement is a family wishing to move, but not having any means to do so (involuntarily staying).

**The dSGEIS needs to outline what the DEC/State will do in such circumstances.**

Many people rely on planning and zoning to protect their investment. They bought property or existing dwellings assuming that their local government could and would protect them from this type of activity. The current and future value of their property relies on these same protections.

Local communities use planning and zoning tools to realize their vision for local community character and protect their residents. By denying municipalities control over where drilling occurs or at least where it shouldn't occur, the state, for all intents and purposes, will be limiting the effectiveness of these tools. According to section 8.1.1.5, the DEC will notify Towns of permit applications. Drillers are also encouraged to "consider" comprehensive plans and other local planning documents, but require no binding, legal obligation to do so.

**DEC should not issue any permits until it receives a formal response stating that the municipality considers a drilling application acceptable under existing planning and zoning and community residents are allowed the opportunity to respond.**

### **Other Socioeconomic Impacts**

Outside of housing impacts, there are only two other pages that mention negative impacts. The dSGEIS states that "some industries in the regional economies may contract as a result of the proposed natural gas development." In fact, this sentence is the sum total of the text devoted to a subject of immense importance. Recognizing the problem and addressing the problem are two different things. No effort was made to gauge the extent of the "contraction" which could very well be considerable and could easily negate and dwarf any purported economic gains from gas drilling. This becomes even more crucial as extraction industries are known to have limited life spans whereas other sectors that are negatively impacted typically have growth potential and "keep on giving." Longer time frames need to be considered to assess the true economic impact.

**What is the extent of the expected contraction of other sectors of our economy? What are the losses in terms of jobs, income and government revenue from those sectors? What business opportunities are lost?**

The SGEIS needs to more clearly outline how State certified agricultural districts will be protected from the impacts of natural gas development. If 23 % of the surface area in the State is farm land – how much of that land overlays potential drilling areas? What percentage of that land is engaged in organic agriculture? What are the loss of revenue projections from these farms loss of organic certification in the wake of natural gas development.

Pennsylvania has experienced a sharp decline in agriculture production in the wake of gas drilling. Our region has a large agricultural sector and BRSC is working closely with the farm community to strengthen local food production and consumption. The SGEIS should include an assessment of potential loss of agricultural activity due to gas drilling.

Tourism and agriculture were sectors mentioned (but not assessed) within the document as those threatened, yet one could easily cite many more; including high end/high tech production activities that rely on quality of life (healthy environment, natural beauty, low crime rate, vibrant arts community, etc.) to attract and/or retain young professionals. Other sectors that are not mentioned in the dSGEIS, but seem obvious are wildlife watching (relating to tourism, but also relates to quality of life), hunting and fishing, wine growing, beer distilleries, and food processing.

Other sectors come readily to mind. Our area has many fine colleges and universities. Will college students continue to choose the area for their college studies? Will college and university professionals wish to remain? While one could make the case that increased need would attract healthcare professionals, the fact that there is a healthcare professional shortage and these professionals can find employment anywhere would suggest that this population could and would choose to locate elsewhere creating a healthcare desert.

Other sectors may be affected as well, but we would not know this from what has thus far been looked at and presented by the dSGEIS. There are numerous studies that could have helped identify such impacts, yet no where in this section, much less any other part of the 1500 plus pages of the dSGEIS makes any attempt to avail itself of such studies. Instead, it relies on gas industry favored modeling studies that do little more than attempt to “project” positive impacts. To read it one would suppose that there are few negative consequences to be found. This type of “study” reads well as a gas industry “hype” piece, but does little to identify potential problems, much less mitigate these problems.

We suggest that the DEC survey businesses and enterprises that recruit workers who typically place a high value on quality of life factors (air quality, water quality, scenic surroundings, low crime rate, vibrant arts community, etc.). Many of our existing business have relied on just such factors to recruit and retain high caliber talent and skills. These businesses need to be asked how gas drilling might affect their recruitment/ retainment efforts. Three aspects need to be explored and understood: 1) potential for competing employment, 2) factors impeding maintenance or growth of other sectors, including the ability to attract investment and the ability to attract and/or retain good employees, and 3) comparison of long-term viability of competing sectors.

We have several institutions for higher education located in our area. These institutions represent a significant contribution to our local economy. Both students and faculty (these institutions rely on high caliber faculty) should be surveyed to gauge the effects of gas drilling on their application decision or decision to teach in the area. Our region has a significant healthcare sector which also contributes heavily to our local economy. Healthcare providers should also be surveyed, asking the same questions.

**What will be the effect of competing needs for resources, both materials and services, on other sectors of our economy?**

This is certainly a concern of business, but it is even conceivable that the cost of government and government services would go up as a result of this same competition. For example: creating drill pads and access roads requires vast amounts of crushed stone and gravel raising the costs of gravel and roadbed material used by the municipalities. Unlike businesses, governments do not have the luxury of leaving an area when faced with rising costs.

### **Need for a “reality check”**

While much positive economic activity is insinuated throughout the document, the pieces that are quantified (if you can call modeling quantifying) are employment and the estimated income derived from employment. The reader is left to assume (some suggest deliberately lead to assume) that these employment and dollar figures are realized within the community. Many factors affect these estimates. In reality, employment figures are very hard to ascertain and the state has little control over where the employees might come from, where they might reside, or where they will spend and/or invest the majority of their money.

From these shaky employment estimates, multipliers are applied to estimated salaries that carry with them their own set of assumptions. The multipliers simply make the original estimates that much more out of sync with reality. After attributing “multiplier affects,” the dSGEIS makes one final assumption: “These multiplier effects would continue until all of the original funds have left New York State’s economy through either taxes or savings, or through purchases made of goods or services from outside the state.” Incredibly, all this is done before the “original funds” are even nailed down.

There is no attempt to identify how many of these dollars actually flow into the community to begin with; let alone how many of the dollars that make it to the community actually stay in the community. Many factors can direct the dollars elsewhere (ex: back to support a family residing out of state). These are important questions as they determine how much local revenue is truly realized, how much tax revenue is actually generated, as well as what dollars are realistically multiplied within the local economy to begin with. The economic model used in the analysis is simply too crude to make such distinctions, yielding numbers of little value.

It is easy to see how such figures can lose touch with reality very quickly. Modeling is highly speculative at best and made worse by the fact that very little effort was made to identify negative impacts and costs which, as mentioned earlier, should have been the main purpose of this section to begin with. The section would have been enhanced immensely by a good, old fashioned reality check. Again, numerous studies exist that would help in this regard.

First, there are studies that compare communities that engage in extraction activities (including gas extraction) to comparable communities that do not. Such studies suggest that communities are left worse off and with diminished competitive advantage when they engage in gas drilling. As it happens, gas extraction seems to offer less “value add” opportunities than many other extraction commodities as the “product” is immediately piped out of the community. Communities typically don’t even realize reduced energy costs.

Another “reality check” could be a comparison of older “modeling” studies with current statistics. Such opportunities exist in Pennsylvania and elsewhere where enough time has transpired since the original predictions were made. Places like South Dakota have mature gas fields and offer opportunities to collect “real” data. The situation in Pennsylvania is particularly appealing in that extraction took place at higher levels than originally anticipated by the earlier modeling studies, due to the New York moratorium. If modeling was accurate, one would have expected far greater positive impacts (employment, greater per capita income, governmental income, etc.) when, in fact, the “predictions” were many orders of magnitude less.

There is a growing body of studies that helps explain why the “predictive” modeling never seems to match reality. These same studies would also go along way toward identifying costs and possible mitigating measures.

It is easy to understand why the gas industry favors “modeling” studies. Modeling studies rely heavily on “assumptions” that can be tweaked to give desired results. The comparative studies based on “facts on the ground” point to weakened economies which, of course, don’t fit the gas industry’s narrative. While the use of such studies by the gas industry is completely understandable, there is absolutely no reason for the DEC to take this same approach and actually forms a very good reason not to. We do not need any more industry hype, which is pretty much how this section reads.

## **Cost Externalities**

To our knowledge, no one has done a complete cost externality (extraction costs that are socialized) analysis for gas drilling. To get a true, helpful economic evaluation of this proposed action, not to mention the true cost of natural gas, we need such an analysis. This type of an analysis should be conducted, if for no other reason than to identify the appropriate type and amount of surcharges to apply. This would have the effect of bringing the true cost back into the product. The dSGEIS should include such a study.

## **IX. Government Revenues and Expenditures**

In this section we do find some recognition that there exist both opportunities for revenue, but many possible expenses and liabilities as well. There is, however, minimal effort to quantify either. It is in this very area, however, that there needs to be a good understanding of the expenses to a community. It is here also that a good understanding of cumulative impact is most crucial.

In addition, there are a number of mandated functions described in the SGEIS that implies municipal responsibility:

1. Responsible for monitoring baseline and ongoing water tests.
2. Responsible for monitoring and investigating water contamination.
3. Responsible for storm water permit inspections.
4. Responsible for dealing with impacts of flooding. Drilling companies are urged to “consider” impacts of flooding, but are not mandated to do so.
5. Responsible for testing road system integrity.
6. Responsible for bridge and road repair. Drilling companies are urged to commit to repairing impacted roads, but are not mandated to do so.
7. Responsible to monitor the DEC website to learn about wells

If these actions by municipalities are indeed mandated, then a funding source needs to be provided for the municipalities for staffing, training, equipment and supplies. Revenues should come from fees or taxes collected from the gas industry.

There are just too many instances where extraction industries have left a community holding the bag. There have been too many instances where community residents and government are left with the cleanup and all the expenses that go with it. The dSGEIS needs to present accurate data not only to establish a well thought out fee structure, but also to establish adequate bonding and insurance requirements. It will need such information to have any hope for making a community whole. There is every indication that, at the end of the day, gas drilling represents a financial drain rather than a financial gain for a community.

## **X. Local Discord**

There have been well documented reports of increased crime rates, including physical altercations, DUI arrests, traffic violations (from speeding to overweight vehicles), and deaths. All of these strain local resources in terms of law enforcement and judicial budgets. These represent socio-economic costs borne by local taxpayers. They also represent a deterioration in the quality of life for an area.

No one, to our knowledge, has explored and analyzed the polarization gas drilling engenders. Gas drilling has not yet arrived to our region, yet evidence of discord has already presented itself; pitting neighbor against neighbor. Looking at Pennsylvania, the evidence suggests that this discord only intensifies after drilling arrives. Since discord is a quality of life issue, we should, at the very least, have a better understanding of this phenomenon. Some attention needs to be paid to the communities threatened with this activity, with ways developed to mitigate discord.

Perhaps the most egregious failing of the process is its lack of focus on supporting and funding local people to have a say in the management of their community with respect to the upheavals they will face from this external intervention in their affairs. We have been living in the midst of this, yet our leaders, at the state and local levels, have failed to bridge the issues in a balanced way that helps prepare and build the community for what it will face if and when hydrofracking occurs.

There are models for managing natural resources that have stood the test of time and have resulted in positive outcomes (see *Governing the Commons* by Elinor Ostrom). For example, locals have managed the fragile ecosystems in high alpine meadows in Switzerland and Japan, locals have managed water systems in Northern Spain, and the same for fisheries off the coast of Turkey. We hear nothing of these examples that would engage in a positive way the local community in the caretaking of this process. What we have witnessed is a lot of top-down management where decisions are being made for us instead of being supportive.

We do not have to keep perpetuating the “Tragedy of Commons”. Should we ignore the best practices for common pool resource appropriation available? That seems to us not only unthinkable, but a complete dereliction of duty. We feel you should be helping us develop and support the infrastructure to create a set of local rules for resource appropriation that take into account the impacts of scale, pace, compensation; systems of effective monitoring that we (the locals) can get behind; there is no right of inclusion in this process of un-entitled external entities.

There should be graduated sanctions that are easy, cheap and resolve conflicts expeditiously. Where is our right to self-determination? This right needs to be immediately recognized by the higher level authorities (State, Federal) and they should be supporting this right. The rift that has already been caused, will continue to fester; it will reach a crescendo during the first decade of disruption, and continue to be a thorn in the sides of all parties for decades to come costing untold billions of dollars of taxpayer costs. Where is this accounting both social and economic?

#### **XI. Alternative Actions/ No Action Alternative**

1. Through an analysis of alternatives the SGEIS must thoroughly address energy conservation and efficiency, the use of alternative sources of energy, especially the use of renewable sources of energy, and combinations of alternatives in the no-action alternative. It has yet to do so.
2. The SGEIS needs to fully and accurately assess New York State's ability to generate its energy from renewable sources of energy such as wind, solar, and biomass, the impact on the environment of generating electricity from renewable sources, the impact of energy efficiency and conservation, or the impact of a combination of alternatives as compared with natural gas and oil. The dSGEIS cannot rely on this lack of analysis as fulfilling its obligation to assess alternatives under SEQRA. The DEC must conduct a thorough analysis of the current state of renewable energy use as an alternative to natural gas and the comparative environmental impacts associated with each.

#### **CLOSING**

We hope that you find the comments regarding the dSGEIS and the recommendations provided herein to be constructive and useful input for refining the dSGEIS's content.

While we feel that the above suggestions would significantly improve the Document, it is still unclear whether it will be enough. Some suggest that given current conditions, both in terms of regulations and the current state of the technology, no amount of improvement of this Document will be sufficient. Regulations can only go so far. You can't ask of industry more than they are capable of delivering.

We all must be willing to accept that possibility and find the where-with-all to follow the “no action” alternative, calling a halt to the process. In any event, given that there are still significant and serious deficiencies, we urge the DEC to give it its best effort and then issue another draft of the document. We feel that any honest effort to address the concerns raised would represent a significant enough change in the Document to warrant such a request. We can only benefit from the process.

Respectively submitted,



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