



December 31, 2009

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Bureau of Oil & Gas Regulation
NYSDEC Division of Mineral Resources
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Adirondack Mountain Club
Comments on dSGEIS to the Bureau of Oil & Gas Regulation,
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The Adirondack Mountain Club (ADK) thanks the Department of Environmental Conservation (DEC) for the opportunity to submit written comments on the draft Supplemental Generic Environmental Impact Statement (dSGEIS). The Adirondack Mountain Club is dedicated to conservation, education, outdoor recreation and protection of New York's Forest Preserve, parks, wild lands and waters. ADK represents some 30,000 hikers, paddlers, skiers and backpackers.

While ADK has special concern for the Adirondack and Catskill Forest Preserves, there are many valuable State Parks, Wildlife Management Areas and State Forests in Central and Western New York that are extremely important to our members. ADK will present our concerns for the potential environmental and recreational impacts that high-volume hydraulic fracturing horizontal (HVHFH) natural gas drilling in the Marcellus Shale will have on New York's public and private lands.

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Before detailing our own concerns, ADK adopts, endorses and realleges the contents of the 63 pages of comments submitted by the City of New York on December 22, 2009 on the dSGEIS and the 90 pages of comments, analysis and conclusions of the Final Impact Assessment Report on Natural Gas Production in the New York City Watershed prepared by Hazen and Sawyer, P.C., with the same force and legal effect as if the contents of these documents were fully set forth herein.

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While ADK understands that Article XIV, section 1 of the state Constitution fully protects the lands of the Catskill Forest Preserve, we are deeply concerned about the impacts of HVHFH gas drilling on the lands of the New York City watershed and the surrounding lands of the Catskill region. The Marcellus formation is thickest in this region and is a very likely target for the energy industry exploiting the HVHFH technology.

HVHFH gas drilling is even more inappropriate for the incomparable lands of Allegany State Park. HVHFH is an intensive industrial activity which if

allowed, would destroy the magnificent forests, pristine lakes and streams and ecological resources of this third largest state park in the nation. Under no circumstances should HVHFH gas exploitation activity ever be permitted in Allegany State Park.

DEC has stewardship responsibility for some 700,000 acres of designated State Forests and Wildlife Management Areas primarily located over the Marcellus formation. These valuable public lands are currently managed for watershed protection, public recreation, wildlife habitat and open space conservation. The renowned Finger Lakes Trail traverses many of these State Forests and Wildlife Management Areas as does the North Country National Scenic Trail authorized by Congress.

ADK is deeply concerned about the potential for HVHFH gas drilling on DEC managed State Forests and Wildlife Management Areas (WMAs). We were dismayed by assertions by Governor Paterson in the Draft State Energy Plan that public lands like our State Forests and WMAs be leased for HVHFH gas drilling. ADK will oppose by any legal means available any effort by the state to grant new or expanded leases to private entities for HVHFH exploration and exploitation in our State Parks, State Forests and WMAs. The intensive industrial footprint and activity required for HVHFH gas drilling is wholly inconsistent with the conservation of these state lands for public recreation, watershed protection, habitat preservation and open space protection.

While ADK will strenuously oppose any state leasing of HVHFH Marcellus gas exploitation rights in State Forests and WMAs, we observe that any proposal for HVHFH gas drilling on these legally designated conservation lands must be evaluated under the State Environmental Review Act (SEQRA) by means of the same site specific SEQRA review as now required for any proposed gas drilling project in a state park.

Our DEC managed public forests and WMAs deserve the same level of legal protection as our state parks managed by the Office of Parks, Recreation and Historic Preservation (OPRHP). Due to the extensive negative environmental impacts of HVHFH gas drilling on the natural resources and character of our State Forests and WMAs, ADK is quite certain no HVHFH leasing would be legally permitted after a fair site specific SEQRA process. A site specific SEQRA process would allow the users of these State Forests and WMAs to express their views on the industrial alteration of these publicly owned conservation lands.

The dSGEIS fails to adequately and specifically discuss the probable negative environmental impacts of HVHFH gas drilling on the natural resources and aesthetic setting of state parks, state forests and wildlife management areas, especially cumulative impacts.

Site development for HVHFH gas drilling requires extensive tree cutting, vegetative clearing and grading of about 5 acres for a single well pad for the well pad, water and wastewater storage, truck parking and drilling infrastructure. With installation of the necessary utility and road corridors, the total single well pad disturbance is estimated at 7 acres. The dSGEIS fails to evaluate the cumulative impacts of forest fragmentation, habitat destruction/loss and wildlife disruption from HVHFH site construction. The dSGEIS fails to adequately analyze the impact of the conversion of permeable forest cover or fields to gravel or other low

permeability compacted surface, the resulting accelerated storm runoff and erosion potential due to reduced percolation and infiltration and the increased water flow velocities due to the clearing of trees and vegetative covering. See, Hazen and Sawyer, pages 32 – 34. Moreover the clearing of the HVHFH drill site is very likely to increase the spread of invasive species.

HVHFH gas drilling creates numerous opportunities for spillage of waste and pollutants and the contamination of surface and groundwater. It is noisy and dirty. Even with no environmental mishaps, each gas-well site will leave a sizable scar on the landscape that will take years, if ever to heal.

ADK completely disagrees with the Department’s SEQRA finding that the action of leasing state land for oil and gas development, road construction, backflow storage, lagoons, and impoundments will have no significant environmental impacts.¹ Average production pad size, likely to be 5 acres, is a considerable footprint on the landscape during high volume hydrofracking and during the likely re-fracking activity in subsequent years. It is highly unlikely that energy companies will restore public lands to their original condition because of the very high cost of complete site restoration. Mere well plugging alone is totally inadequate as a remediation outcome.

Based on actual and potential environmental impacts, ADK believes that HVHFH gas exploration and extraction is inconsistent with the preservation of state parkland, public forests and wildlife management areas in their natural state. We are encouraged that the Executive’s 2009 State Energy Plan does not recommend natural gas extraction on state-owned parklands² because that activity would be inconsistent with the public trust state parkland doctrine.³ Under this doctrine, the state holds state parkland in trust for the people of New York and cannot use it for any commercial or industrial purpose inconsistent with its use as a public park without the express approval of the Legislature.

Accordingly, we are concerned that the Energy Plan recommends the study of potential private gas exploration on state-owned conservation lands that the Governor alleges is not protected under the public trust state parkland doctrine.⁴ ADK asserts that the public park trust doctrine legally applies to and protects all state owned lands legally designated for conservation and outdoor public recreation.

This includes hundreds of thousands of acres of state forests scattered across central New York, western New York and the Southern Tier. In particular, state forest lands traversed by the Finger Lakes Trail and the North Country National Scenic Trail should be off limits to high volume hydrofracking.

The designated State Forests are in DEC’s own words: “highly valued for the recreational opportunities and for their contributions to ecosystem health.” These areas are used by the

¹ *Draft Supplemental Generic Environmental Impact Statement (dSGEIS)*, Section 3.1.1

² *Draft 2009 New York State Energy Plan*, p. 51.

³ *Williams v. Gallatin*, 229 N.Y. 248; *Friends of Van Cortlandt Park v. City of New York*, 95 N.Y.2d 623.

⁴ *Draft 2009 New York State Energy Plan*, p. 51.

public for hiking, mountain biking, snowmobiling, horseback riding, snow shoeing and cross country skiing. There are also portions that are used to protect and enhance populations of rare, threatened or endangered species. DEC's sustainable management of these lands for multiple benefits includes clean water, recreation, wildlife and scenic beauty. The DEC encourages New Yorkers to visit its wildlife management areas boasting the scenic vistas and reminds us that these lands are our lands. High-volume hydro-fracking in these areas would go against the purpose for which they were created and would rob New Yorkers of the opportunity to utilize the special areas that they have invested in.

The 1992 GEIS stated that the impacts of gas drilling activities on visual resources of statewide significance are addressed on a case-by-case basis during the permit review process.⁵ Included on that list are State Parks. ADK believes that all publicly owned conservation and recreation lands, including State Forests and Wildlife Management Areas should be included on the list as areas of statewide visual significance, and should be evaluated on a case-by-case, site-specific basis.

ADK wants appropriate measures to be taken by the lead agency to ensure the protection of these forest lands' scenic and recreational character. One measure that ADK suggests to ensure this protection is to require a site specific SEQRA review for each proposed well. A general environmental assessment form (EAF) based on a general SGEIS is insufficient environmental oversight for companies with multiple proposed HVHFH gas wells.⁶ Site specific oversight and cumulative impact analysis is necessary to guarantee the protection of New York's valuable natural resources.

The original intent of preserving State Forest and Wildlife Management Areas was to provide a natural experience to the public for outdoor recreation, wildlife watching and scenic values, particularly for those portions of the state distant from the Adirondacks and Catskills. Extensive HVHFH gas drilling on these 700,000 acres would seriously alter and degrade the aesthetic, ecological and open space values of these public lands. ADK believes the potential cumulative impacts of all processes and stages of high-volume hydrofracking must be specifically evaluated for these lands. This was not done in the current dSGEIS and must be done.

"Taking into account the significant environmental considerations," The New York State Commission on Asset Maximization recommends that the State "study the potential for new private investment in extracting natural gas in the Marcellus Shale on State-owned conservation lands, in addition to development on private lands," and discourages a prohibition of drilling on state owned lands.⁷ This recommendation is clearly in opposition of New York's long tradition and legal commitment to protect these special areas for their ecological, recreational and scenic character.

⁵ *dSGEIS*, Section 3.1.1

⁶ *dSGEIS*, Section 3.2.2, "EAF Addendum"

⁷ *dSGEIS*, Chapter 9, "Alternative Actions"

According to Section 3.2.2.5 of the dSGEIS, permit applications require a fluid disposal plan to be approved by the Department prior to well permit issuance for “any operation in which the probability exists that brine, salt water or other polluting fluids will be produced or obtained during drilling operations in sufficient quantities to be deleterious to the surrounding environment.”⁸ To fulfill this obligation, the EAF Addendum will require information about flowback water disposition, including:

- Planned transport off of well pad (truck or piping), and information about any proposed piping;
- Planned disposition (e.g., treatment facility, disposal well, reuse, centralized surface impoundment or centralized tank facility);
- Identification and permit numbers for any proposed treatment facility or disposal well located in New York; and
- Location and detailed construction and operational information for any proposed centralized flowback water surface impoundment located in New York.⁹

ADK opposes the creation of any flowback water surface impoundments on state parks and DEC managed State Forests and WMAs. Flowback fluids should be pumped into trucks for transport to a treatment facility, or temporarily stored in tanks. Section 6.9 of the dSGEIS concluded “that visual impacts from oil and gas drilling and completion activities are primarily minor and short-term, vary with topography, vegetation, and distance to viewer, and rarely trigger a need for site-specific comprehensive review or mitigating conditions such as limited drilling hours and camouflage or landscaping of the drill site.”

ADK believes the visual impacts of intensive HVHFH drilling operations are neither minor nor short term. The intensive industrial activities necessary for HVHFH operations are completely inappropriate for public lands revered for their natural character and outdoor recreation opportunities, especially large contiguous tracks of old growth forest like Allegany State Park that would take more than several centuries to be restored to their original character.

Depending on site topography, part of a slope may be excavated and the excavated material may be used as fill (“cut and fill” construction) to extend the well pad, providing for a level working area and more room for equipment and onsite storage. The mineral right owner and/or lessee underneath state owned land should never have the option to alter the surface to the degree mentioned in the “cut and fill” technique. We assert that the visual impact of excavating a mountain or hill would be enough to decline a permit for HVHFH operations on state owned lands used by the public for outdoor recreation.¹⁰

The cumulative impact of large scale site alteration, potential for spillage of fracking fluids, sound and visual impacts are strong arguments for opposing HVHFH gas drilling on state

⁸ 6 NYCRR 554.1(c)(1)

⁹ dSGEIS, Section 3.2.2.5

¹⁰ dSGEIS, Section 3.2.2.8 “Required Affirmations”

owned lands now dedicated by law to watershed protection, wildlife habitat and outdoor recreational purposes.

HVHFH gas drilling projects that require 20-foot wide access roads with additional cleared 10-foot rights-of-way should never be constructed on any state owned lands that are currently open to public recreation. The clearing of State Forest and WMA lands and creation of temporary roads for trucks will attract many “thrillcraft” riders such as all terrain vehicle (ATV) and dirt bike enthusiasts who are seeking challenging and muddy terrain. ADK fears that an expanded road network on State Forests and WMA lands can lead to increased ATV trespass on state lands and scenic hiking trail systems.

Limit water withdrawals to protect New York’s valuable water resources.

ADK agrees that DEC should create special regulations for HVHFH gas drilling water withdrawals. ADK is greatly concerned about the withdrawal of billions of gallons of water that will be required for HVHFH gas drilling from New York’s lakes, rivers and streams. ADK disagrees with the conclusion in the dSGEIS that there does not need to be any limitation on water withdrawal amounts for HVHFH operations. ADK believes that any HVHFH developer extracting 50,000 gallons per day or more should have to obtain a permit. The water withdrawal permitting process must carefully evaluate the actual and cumulative impact of water withdrawals on stream flow, water quality and aquatic life. The dSGEIS does not do a cumulative impact analysis of the impact of HVHFH water withdrawals at the anticipated level of HVHFH gas well development in Marcellus Shale area of New York. Water withdrawals of the quantity anticipated for Marcellus Shale HVHFH gas drilling operations are likely to have a severe impact on the water quality, quantity of flow and aquatic ecology of many lakes and streams that are popular for fishing, canoeing, and kayaking. The dSGEIS fails to propose any regulatory measures to protect New York’s waters and surface water supplies.

The dSGEIS inadequately addresses the possibility of waterfowl using water impoundments during migration and provides no mitigation measures.¹¹

Surface water impoundments for HVHFH gas drilling operation create a serious risk that waterfowl might use the impoundments during migration or during the winter if the water remains unfrozen and if the impoundment is located near feeding areas like corn fields. Backflow water will be tainted with fracking fluids that create a potential for poisoning birds and other wildlife. The dSGEIS fails to provide a regulatory solution to this problem despite acknowledging the threat.

The dSGEIS fails to adequately discuss and address the likelihood of accidental spills, leaks and releases at HVHFH gas drilling sites.

¹¹ dSGEIS, Section 6.7 “Centralized flowback water surface impoundments”

Accidental spills, leaks and releases associated with HVHFH drilling operations have resulted in hundreds of documented groundwater and surface water contamination incidents across the nation. Surface spills are a relatively common occurrence at HVHFH gas drilling sites because the drilling and fracturing process involves the transfer of very high volumes of fluids between tanks, trucks and impoundments, often at high flow rates and tremendous hydraulic pressures, substantially increasing the likelihood of a spill due to human error, equipment failure or accident. See, Hazen and Sawyer, page 39.

It is reasonable to assume that a major increase in HVHFH gas drilling in New York will be accompanied by an increased frequency of chemical and wastewater spills. See, Hazen and Sawyer Report, pages 36-39. The dSGEIS does not seriously address the mitigation measures necessary to respond to this problem or provide a regulatory response to this spillage problem.

The dSGEIS fails to adequately address the severe problem of disposal of wastewater that results from HVHFH gas drilling operations.

The HVHFH gas drilling process involves injecting 3 to 8 million gallons of water mixed with 80 to 300 tons of hydrofracking chemicals at extremely high pressure. Roughly half of the injected solution returns to the surface containing the hydrofracking chemicals, high levels of total dissolved solids (TDS), hydrocarbons, chlorides, heavy metals and naturally occurring radionuclides. This flowback wastewater can not be treated by conventional wastewater treatment plants. Only a handful of plants in the whole Northeast exist that can handle this seriously briny and contaminated water. These plants are obviously too few and too limited in capacity to cleanse the anticipated billions of gallons of HVHFH wastewater. See Hazen and Sawyer Report, pages 44-46.

The heavily saline water requires sophisticated desalinization facilities that do not exist in the region in a capacity sufficient to handle the HVHFH wastewater anticipated to be created by Marcellus shale formation gas exploitation in New York. Even if desalinization plants were built to handle the briny HVHFH wastewater, there would be a serious problem of how to dispose of the many thousands of tons of crystalline salt cake resulting from the desalinization process.

Moreover, desalinization plants require a great deal of energy to operate while generating air pollution and greenhouse gas emissions. The dSGEIS fails to adequately address the serious gap between the amounts of seriously contaminated wastewater produced by the anticipated level of HVHFH gas drilling operations in New York compared to the capacity of existing specialized wastewater treatment facilities that are able to properly cleanse HVHFH waste fluids.

Industry has suggested that the solution to this inadequate HVHFH wastewater treatment capacity is to allow the injection disposal of HVHFH wastewater deep into natural rock formations. This is unproven technology and presents a serious risk for groundwater

contamination particularly in view of the fractures, fissures and seismic activity of New York's geological formations. See, Hazen and Sawyer Report, pages 40 – 45.

The cumulative impacts of the potential HVHFH developed wells are inadequately addressed in the dSGEIS.

The dSGEIS 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 increase significantly.”¹² This is a very limited assessment of “cumulative impacts.” The statewide spacing regulations for vertical shale wells of one single well pad per 40-acre spacing unit will require no additional spacing for high volume hydraulic fracturing well pads than is now required for conventional drilling techniques. If New York's State Forests and Wildlife Management Areas are drilled to the density allowed in the DEC's spacing requirements, the aesthetic and recreational value of these public lands will be seriously degraded. No potential high-volume hydrofracking drilling activities should be approved without an amended SGEIS to address the serious deficiencies noted herein and a new round of public hearings and comment period.

DEC asserts in the dSGEIS that “Any limitation on development, aside from the mitigation measures..., is more appropriately considered in the context of policy making, primarily at the local level, outside of the SGEIS.”¹³ ADK believes that it should be within the scope of a generic environmental impact statement to designate lands, especially public lands that are too ecologically sensitive to permit drilling.

ADK also believes the state should consider a new lead agency for oil and gas drilling.

The dSGEIS recognizes that, unlike New York, in many states the oil and gas regulatory authority is a separate agency from other state-level environmental programs.¹⁴ Having the DEC as lead agency puts the departments' natural gas regulatory mission out of harmony with the “protection of the environment” mission of the rest of the agency. By having a DEC division whose purpose is to “promote drilling in the state” we have tied the hands of the agency that is supposed to act as a steward for the air, groundwater, surface waters and forests. We believe that New York's Department of State (DOS) may be better suited to be the lead agency for issuance of drilling permits so that the DEC can focus on being a strong and unconstrained advocate for New York's environment in the HVHFH permitting process.

ADK understands the economic hardships facing New York State but stresses that we must not allow our unique and rich public lands to be sacrificed for intense HVHFH industrialization for short term financial gain. The very large numbers of gas and oil wells drilled in Pennsylvania's Allegheny National Forest have ruined this national treasure.

¹² dSGEIS, Section 6.13, “Cumulative Impacts”

¹³ dSGEIS, Section 6.13.2.1, “Rate of Development and Thresholds”

¹⁴ Section 5.18.1.2, “”

These wells are mere miles from New York's Allegany State Park. The damage that has been done by the energy industry to the Allegheny National Forest must never be replicated in New York's State Parks, State Forests and Wildlife Management Areas.

ADK asserts that the dSGEIS needs to be substantially revised to respond to the concerns raised in this comment letter and the many concerns raised by the City of New York and many other stakeholders. We also believe that the dSGEIS should not be finalized and re-issued until the United States Environmental Protection Agency issues its own assessment of HVVHFH gas drilling operations. We believe that the moratorium on HVVHFH gas drilling should continue until the SGEIS is issued and proper regulatory mitigation measures are promulgated.

ADK strongly believes that economic growth and environmental sustainability can be achieved with cooperation between state and local governments, residents, and the environmental community. Thank you for the opportunity to express our concerns and opinions. Please feel free to contact me with any questions.

Respectfully submitted,

Neil F. Woodworth
Executive Director and Counsel
Adirondack Mountain Club