



**Testimony of  
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Commissioner  
New York State Department of Environmental Conservation**

**New York State Assembly  
Standing Committee on Environmental Conservation Hearing:**

**Draft Supplement Generic Environmental Impact Statement  
Governing Natural Gas Drilling**

**October 15, 2009**

Thank you for inviting me to testify before you today to discuss the Department of Environmental Conservation's (DEC) draft supplemental generic environmental impact statement (dSGEIS) for oil, gas and solution mining.

Drilling using horizontal, high water volume hydraulic fracturing in the Marcellus shale formation and other low-permeability gas reservoirs presents an extraordinary challenge for New York State. The proposed drilling involves environmental risks, economic development opportunities for many communities and private landowners, and a means of achieving an important energy policy goal. I can assure you that we recognize all facets of the potential impacts, both positive and negative, and our appreciation of the significance of these impacts is reflected in the amount of work which has been done to develop the very comprehensive document that is the subject of this hearing.

In accordance with law, the purpose of the dSGEIS is to inventory the potential environmental risks, determine which impacts are significant and provide mitigation measures. This process is routinely used to address the environmental impacts of many industrial processes. The host of complex environmental impacts analyzed in the dSGEIS range from the initial water withdrawals to the ultimate disposal of the waste products. In preparing the dSGEIS we have made every effort to recognize, characterize and provide appropriate mitigation measures based upon sound science, engineering and experience. We understand, of course, that some people will think that the dSGEIS goes too far, while others will believe that we did not go far enough. The pending public comment period will enable all of you, as well as members of the public, to weigh in on our analysis, and we look forward to receiving those comments.

Because DEC is in the midst of a formal public comment period, it is not appropriate for me to characterize or debate the contents of the dSGEIS today. I can, however, provide an overview of how DEC developed the dSGEIS, the assessment and analysis we performed and the mitigation measures proposed to ensure that natural gas drilling production continues in an environmentally protective and safe manner in New York State consistent with Article 23 of the Environmental Conservation Law.

We recognize that drilling in the Marcellus shale – and any other formation – can be disruptive while in process. But with the appropriate environmental protections, it is also temporary, with DEC requirements that land be reclaimed as quickly as possible.

A year ago, DEC began reviewing the 1992 generic environmental impact statement for oil, gas and solution mining (GEIS) to determine the extent to which it should be supplemented to address the potential environmental impacts of the high-volume hydrofracturing proposed for developing the natural gas reserves in the Marcellus shale formation. The first step in this process was to establish a scope, or table of contents, for the SGEIS. We initiated that process last fall by issuing a draft scope and soliciting public input. We received over 3,000 comments on the draft document. After reviewing those comments, in February of this year we issued a final scope, which was over 50 pages long, outlining the many and varied topics DEC would review and address in the SGEIS.

Since that time, staff from DEC's Division of Mineral Resources, with help from a number of other divisions at DEC, as well as the Department of Health, the Public Service Commission, the New York State Museum and the New York State Energy Research and Development Authority, worked diligently to develop the dSGEIS. The document represents a multi-division, multi-agency effort to comprehensively identify and address the potential impacts from the proposed drilling method. On September 30, DEC released the dSGEIS to the public, and the formal comment period expires on November 30.

The draft supplement is lengthy, but for the purposes of today's hearing I'd like to focus on three major components:

- First, the comprehensive description and analysis of the drilling process from site selection to reclamation;
- Second, the full assessment of environmental risks posed by the anticipated drilling activity; and
- Third, the proposed mitigation measures, including the proposed addendum to the Environmental Assessment Form and supplemental permit conditions.

### **Description of drilling process**

As the basis for evaluating the risks and proposing mitigation measures, we first provide a comprehensive, detailed description of all aspects of the drilling process. This is covered in Chapter 5 of the dSGEIS. In this chapter, DEC addresses the anticipated drilling operations from beginning to end, starting with the development of access roads and well pads, to the horizontal drilling phase, including a description of the use, composition, transport and on-site storage of chemicals for the fracturing process. We provide a thorough review of the hydraulic fracturing phase (which is different from the drilling phase), including the use of chemical additives to prepare the frac fluids.

On the topic of frac fluids, which has sparked concern, DEC has been and will continue to require the full disclosure of the fracturing fluids. A listing of 197 chemicals which have been disclosed to the Department is included in the dSGEIS. An overview of the types of chemicals and products added to water to facilitate gas extraction is included as well as a discussion on the transportation and storage of these products prior to drilling, the storage of the fluids that come back when the fracturing is completed, and finally the disposal of the flowback fluids. The document carefully describes the water recovery process from wells after drilling and fracturing has taken place as well as treatment, recycling and possible reuse of the water used in the process. Finally, natural gas production techniques and results are reviewed, as is gas gathering and compression necessary to transport gas, along with a description of DEC's well-plugging requirements.

In developing this chapter, DEC analyzed the regulations and oversight requirements from other jurisdictions, including other states and interstate commissions, including the Susquehanna and Delaware River Basin Commissions. We also did a thorough literature review of studies undertaken on shale drilling. Understanding the process is the foundation necessary to undertake the appropriate risk assessment analysis, and accordingly we have provided the reader with a very detailed description.

## **Environmental Risk Assessment**

Pursuant to our statutory obligation under Article 8 of the Environmental Conservation Law—the State Environmental Quality Review Act (SEQRA)—DEC assessed the potential impacts of drilling using high-water volume hydraulic fracturing in the Marcellus and other applicable formations. In Chapter 6, we identify the many types of potential impacts that need to be addressed, including:

- impacts from water withdrawals, including reduced stream flow, impacts on aquatic habitats, downstream wetlands, aquifers and cumulative water withdrawals;
- risks posed by stormwater runoff;
- the consequences of surface spills of frac fluids, flowback water and other liquids at the drill site;
- potential groundwater impacts from turbidity, fluids pumped into wells and natural gas migration;
- the hydraulic fracturing procedure, including the possibility of well bore failure and creation of subsurface pathways;
- all aspects of waste storage and transportation;
- fluid discharges, and the use of treatment plants or disposal wells;
- impacts relating to solid waste disposal, including naturally occurring radioactive materials and the volume of cuttings;
- air quality impacts from all phases of well operations;
- potential impacts on ecosystems, wetlands and wildlife;
- greenhouse gas emissions;
- visual and noise impacts; and,
- issues involving road use and community character.

Given the large volumes of water required for the proposed drilling process, we took a particularly close look at all of the water impacts, including an evaluation of whether there are any special risks presented to the New York City watershed infrastructure or to the filtration avoidance determination that New York City relies upon to avoid the expense of a filtration system.

## **Mitigation Measures**

Following the evaluation of potential environmental impacts and risks, DEC identified the measures necessary to mitigate those risks and minimize impacts. Chapter 7 of the draft specifies a host of mitigation measures which go beyond the 1992 GEIS, ranging from actions to protect New York's water resources, to measures to minimize stormwater runoff, to steps to limit the possibility of spills. Among other things, the dSGEIS requires an additional assessment of the impact of water withdrawals, supplementing that required by the SRBC and DRBC. It also specifies measures to minimize the impact of stormwater runoff from construction and industrial activities on the site and to reduce the risk of a spill during all phases of the process. In addition, the dSGEIS requires mitigation measures to limit potential impacts from the use of on-site pits for the storage of liquids, including setback requirements from surface waters, limits on the types and volume of fluids which may be held at any given time, and specifications for the construction of pits and the liner thickness.

One item of particular note is the proposed requirement that flowback fluids be contained in steel tanks on site everywhere in the state, not just in floodplains or in sensitive areas. We have also proposed the testing of private drinking water wells in the areas surrounding drilling sites before and during drilling operations. We will also require additional well bore and casing requirements in certain areas, as well as heightened on-site oversight of drilling. And, the dSGEIS proposes an enhanced system for the tracking of waste fluids to ensure proper disposal of the flowback water.

The dSGEIS calls for extensive protections for public water supplies, with additional protections identified for primary and principle aquifers, and the New York City watershed. DEC of course is as committed to the filtration avoidance determination as the City administration. I have said it before and I will say it again: DEC will not permit drilling that would jeopardize the City's watershed, or, for that matter, any other watershed. To that end, in addition to all other mitigation requirements, the dSGEIS includes provisions to protect public water supplies by requiring secondary containment measures for any storage tanks located within 500 feet of a primary or principle aquifer or reservoir; requires that fluids be removed from any pits in such areas within seven days of drilling; requires that pits be inspected by the Department prior to reuse for another well on the same site; and prohibits the use of centralized flowback surface impoundments in those areas.

While DEC is fully committed to protecting the New York City watershed, it should be noted that approximately seventy percent (70%) of the land in the New York City watershed is privately owned. While there have been many calls for an outright ban on drilling within the New York City watershed, such a ban would limit the mineral rights of the private property owners. Our conclusion, following the comprehensive evaluation of the drilling process, assessment of impacts, and implementation of mitigation measures, is that if drilling takes place pursuant to the dSGEIS there is no substantive basis to believe that water quality will be degraded in the New York City watershed, or that the filtration avoidance determination will be impacted. As much of the discussion regarding the New York City watershed to date has been a general expression of conclusions, the public comment period is an opportunity for the proponents of special restrictions in the City's watershed to objectively and substantively explain with specificity the underlying basis for their risk assessment, and directly address how the mitigation measures proposed are in their view insufficient, bearing in mind the legal standards we must follow in taking administrative action, and the State's burden if it were to act in a way that impacts on private landowner rights.

At all times, DEC will continue to have the power and authority to intervene and bring drilling to a halt if proper environmental and safety precautions are not being taken or a human error or mechanical failure occur. This is a critical power to ensure that the protection of health and the environment take precedence over drilling operations.

### **Next Steps**

As noted earlier, DEC is now in the middle of a public comment period, which will remain open until November 30, 2009. We have made it easy for the public to weigh in by providing an on-line form, as well as creating a special email box and of course providing the address for those

wishing to use traditional mail. In addition, as announced earlier this week, DEC will be holding four public hearings to provide additional opportunities for input. Once the comment period is closed, we will analyze the comments received and prepare a responsiveness summary. In the event that amendments or additions are necessary, changes will be made before issuing a final SGEIS. DEC must also issue SEQRA findings to support the SGEIS.

As the purpose of this legislative hearing is to solicit public input on the dSGEIS, it is important to point out that from our standpoint the most effective and useful comments are specific observations based on fact, science, engineering, geology and an objective assessment of real risks and the efficacy of the proposed mitigation measures. We will, of course, consider all comments we receive, but frankly it is much better for people commenting to tell us why they are proposing changes to the dSGEIS, instead of blanket statements supporting or opposing drilling. As all of you know, the dSGEIS is not a referendum on whether the proposed drilling is good or bad – rather, it's a legally mandated environmental assessment, and we rely upon the considered and reasoned input from the public in order to do the best job possible.

DEC staff will stay for the duration of this hearing to listen to what the witnesses have to say. I also encourage any of you to submit comments to us as well. Thank you as always for inviting me to testify before you on this important topic.