NEW YORK STATE BAR ASSOCIATION
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December 31, 2009

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

Re: Comments on *Draft Supplemental Generic Environmental Impact Statement on 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*

Ladies and Gentlemen:

The Environmental Law Section of the New York State Bar Association submits the enclosed comments on the above-referenced Draft Supplemental Generic Environmental Impact Statement.

These Comments have been approved by our Executive Committee. Please note that some members abstained from the vote.

Thank you.

Very truly yours,

ALAN J. KNAUF
Section Chair

pc: Alison Crocker, Esq.
Mr. Ronald Kennedy, NYSBA Department of Governmental Relations

NEW YORK STATE BAR ASSOCIATION
ENVIRONMENTAL LAW SECTION

COMMENTS ON THE DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT ON 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 Environmental Law Section of the New York State Bar Association (the "Section") respectfully submits the following comments on the Draft Supplemental Generic Environmental Impact Statement on 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 ("DSGEIS"). The Section commends the New York State Department of Environmental Conservation ("DEC" or the "Department") on the herculean effort it has undertaken to review the potential adverse environmental impacts of the expected development of the Marcellus Shale and similar natural gas reservoirs under the State Environmental Quality Review Act ("SEQRA").

The Section is comprised of a broad array of lawyers practicing environmental law from across the state, representing clients with a wide variety of interests, including gas developers, municipalities, state agencies, landowners, and environmentalists.[1] The Section recognizes the great potential for economic growth in our State by development of the Marcellus Shale, and the overall environmental benefits of utilizing natural gas produced in our region when compared to other fossil fuels. However, the Section has a longstanding tradition of advocating protection of our environment in New York, and the need to adequately review projects under SEQRA, and is submitting these Comments in that vein.

Background

The 1992 Final Generic Environmental Impact Statement ("FGEIS") on the Oil, Gas and Solution Mining Regulatory Program regulations indicated that upon completion of the generic SEQRA review, the following would result:

1. A program-specific "shortened" Environmental Assessment Form ("EAF") will be required with every drilling permit application to determine whether "an action triggers any of the thresholds requiring further environmental assessment and SEQR review."

[1] These Comments required approval by a two-thirds vote of the Section's Executive Committee. Some members have disclosed they have clients who may be interested in the subject matter of the DGEIS who either may be benefitted or adversely affected by the ultimate outcome of the SEQRA process. Others have recused themselves from voting on these comments due to their position or the identity of their client(s).

2. No further SEQRA compliance will be required so long as site-specific projects subject to the Oil, Gas and Solution Mining Regulatory Program are carried out in accordance with the general conditions and thresholds for such site-specific actions in the findings statement.

3. Permit conditions will be imposed on individual projects to ensure that they will not have a significant adverse affect.

4. A supplemental site specific environmental impact statement may need to be prepared if the proposed action is not addressed in the FGEIS and if the subsequent action involves one or more significant adverse environment impacts.

5. A supplemental findings statement must be prepared if the proposed subsequent action is not adequately addressed in the FGEIS.

In general, the 1992 Findings Statement stated that the rules and regulations at Part 590 *et seq*., including the conditions for standard individual well drilling permits, were "adequate to protect the environment." The Findings concluded that the potential adverse environmental impacts may be significant for oil and gas drilling permits: in state parklands, agricultural districts, within 1,000-2,000 feet of a municipal water supply, where other NYSDEC permits are required, for new waterflood or tertiary recovery projects, for new underground gas storage projects, involving major modifications, for new solution mining projects or major modifications, for brine disposal well drilling or conversion permits, and for "any other project not conforming to the standards, criteria or thresholds required by the [DGEIS and FGIES]."

The Findings also concluded that, due to permitting requirements already in place, potential adverse environmental impacts "were not significant" for: oil and gas drilling permits in the Bass Island fields, or for oil and gas drilling permits for locations above aquifers. The Findings further concluded that the potential adverse environmental impacts were "always significant" for oil and gas drilling permits in close proximity (less than 1,000 feet) to municipal water supply wells.

In 1993, a Supplemental Findings Statement was issued in which the Department determined that leasing state lands for activities regulated under Environmental Conservation Law Article 23 does not have significant environmental impacts. Instead, SEQRA reviews would be undertaken as needed for site specific developments.

Current Proposed Action

DEC has prepared the DSGEIS as a supplement to the prior generic review, with respect to permitting of Horizontal Drilling and High Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs.

The DSGEIS contemplates further environmental assessment in certain defined instances. Specifically, DSGEIS §3.2.3 identifies "Projects Requiring Site-Specific SEQRA Determinations" as follows:

> 1. Any proposed high-volume hydraulic fracturing where the top of the target fracture zone is shallower than 2,000 feet along the entire proposed length of the wellbore;
>
> 2. Any proposed high-volume hydraulic fracturing where the top of the target fracture zone at any point along the entire proposed length of the wellbore is less than 1,000 feet below the base of a known fresh water supply;
>
> 3. Any proposed centralized flowback water surface impoundment. Emphasis of the initial review will be on proposed additive chemistry relative to potential emissions of Hazardous Air Pollutants. Additional review of site topography, geology and hydrogeology will be required for any proposed centralized flowback water surface impoundment at the following locations:
>
> > a) within 1,000 feet of a reservoir;
> >
> > b) within 500 feet of a perennial or intermittent stream, wetland, storm drain, lake or pond, or within 300 feet of a public or private water well or domestic supply spring;
>
> 4. Any proposed well pad within 300 feet of a reservoir, reservoir stem or controlled lake;
>
> 5. Any proposed well pad within 150 feet of a private water well, domestic-use spring, watercourse, perennial or intermittent stream, storm drain, lake or pond;
>
> 6. A proposed surface water withdrawal that is found not to be consistent with the preferred passby flow methodology as described in Chapter 7; and
>
> 7. Any proposed well location determined by the New York City Department of Environmental Protection to be within 1,000 feet of the subsurface water supply infrastructure for New York City.

The 1992 Findings of other situations where, in general, drilling requires additional SEQRA consideration would remain effective as well.

1. Generic Review

The Section endorses the overall approach of the Department to utilize the generic SEQRA review process under 6 N.Y.C.R.R. §617.10 by supplementing the previous GEIS. Site-specific

SEQRA reviews for each well would be cumbersome, and would unnecessarily impede development of this valuable resource, and the resulting economic benefits. Further, it would be inordinately time-consuming for DEC staff, and could lead to inconsistent results.

However, the Section is concerned that the thresholds referenced above for when a supplemental review would be required may be somewhat arbitrary. No detailed explanation is provided of how the various distances (*e.g.* 150 feet from a private well) were set, or what the scientific bases for these distances are. At the very least, the Department should provide a "safety valve" so that if potentially significant environmental impacts are demonstrated that make the standard distance inapplicable, DEC would have the discretion to undertake a site-specific SEQRA review.

2. Cumulative Impacts, Local Conditions, and Regulatory Resources

The DSGEIS emphasizes that the actual rate of well development "cannot be predicted with any certainty" because "the productivity of any particular formation at any given location and depth is not known until drilling occurs" and because "[c]hanges in the market and other economic conditions also have an impact on whether and how quickly individual wells are drilled." *Id.* Nonetheless, the development potential of the Marcellus Shale play is enormous. The DSGEIS cites one operator as estimating peak activity at 2,000 wells per year. DSGEIS, 6-144. This order of magnitude is comparable to that in Pennsylvania where, for the first eight months of 2009, 1127 wells were drilled in its portion of the Marcellus Shale play. *Id.* In view of this potential we suggest that additional consideration be given to certain environmental impacts: noise, air and viewshed impacts on local resources. In particular, we are concerned that the framework for permit-specific environmental impact assessments relies too heavily on the application of generic standards and policies and does not provide for sufficient consideration of local circumstances. Moreover, in view of the constraints on the role of local governments in the review process coupled with the continuing problem of inadequate staff resources within the DEC, we are concerned that the potential volume of applications could severely overburden the program with negative economic and environmental consequences.

As acknowledged in the DSGEIS, visual, noise and community character impacts are difficult to quantify and objectify on a programmatic basis. DSGEIS at 6-145-146. The DSGEIS further states, "[a]ccordingly, any limitation on development, aside from the mitigation measures discussed in [DSGEIS Chapter 7], is more appropriately considered in the context of policy making, *primarily at the local level*, outside of the SGEIS." DSGEIS at 6-146 [emphasis added]. However, as also noted in the document, "ECL Sec.23-0303(2) provides that DEC's Oil, Gas and Solution Mining Law supersedes all local laws relating to the regulation of oil and gas development except for local government jurisdiction over local roads and the right to collect real property taxes." DSGEIS at 1-2. Thus, while relying on policymaking at the local level, the DSGEIS also emphasizes that the local role in regulating gas mining is severely constrained.

At the same time, the State of New York has been experiencing an unprecedented budget crisis. The DSGEIS does not acknowledge the effect of potential staff shortages on its ability to conduct reviews of the potential volume noted above. It is of concern that the volume of individual applications may be so great that the DEC staff, as well as the staff of the

Delaware River Basin Commission ("DRBC") and the Susquehanna River Basin Commission ("SRBC"), will not be adequate to process the new applications as quickly as the regulators and the regulated community may desire, or as thoroughly as environmentalists, neighbors and municipalities may desire. Such a backlog of new applications could result in either regulatory gridlock or incompletely reviewed applications and inadequately conditioned permits. The former situation could impair the economic viability of the Marcellus Shale play, as well as its potential contribution to the New York State economy. The latter scenario could result in unmitigated environmental and social impacts.

As discussed in more detail below, we believe the dual problems of constrained local government involvement and of limited DEC staff resources can be best addressed through alternative mitigation measures providing for: (1) a greater role for local governments in reference to specific aspects of the DEC permitting process, and (2) funding for local governments and the staff of DEC, DRBC and SRBC to be provided by the gas mining industry through an appropriate fee structure for permits. These measures would provide for more reliable mitigation of the potential impacts discussed below consistent with other essential social and economic considerations.

3. Visual Impacts

The mitigation measures for visual impacts include reference to standards of broad application,[2] including DEC Policy Guidance Document DEP-00-2 *Assessing and Mitigating Visual Impacts* and the United States Bureau of Land Management's *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development.* DSGEIS at 7-103. However, this generic mitigation approach presents inherent problems. First, while supplemental permit conditions will require the operator to construct and operate gas extraction sites in accordance with the practices described in the cited policies, the DEC permit review will not necessarily include consideration of the operator's compliance with these policies: "The operator's visual impacts mitigation plan shall be available to the Department *upon request*." DSGEIS at 7-106 [emphasis added]. Second, operators' visual mitigation plans will not be specific to individual permits for particular sites. DSGEIS at 7-106. Further, it is not clear on what basis DEC will require the Visual EAF Addendum, or will require that the operator "add additional, *site-specific* visual mitigation requirements to individual permits if necessary …." [emphasis added]. DSGEIS at 7-106.

Thus, although operators will be required to comply with certain generic visual mitigation policies, the operators' mitigation plans will likewise be generic, may not be reviewed by the DEC, and then, if reviewed, may or may not trigger further analysis of visual impacts and potential mitigation measures relating to any particular well pad.

The only opportunity for local governments to play a role in the assessment and mitigation of visual resources is to preemptively designate certain areas to be visually sensitive and to share this information with operators "so they can potentially incorporate additional aesthetic mitigations into their visual impacts mitigation plans." DSGEIS at 7-105. However,

[2] To be sure, the DSGEIS also notes the availability of "local land us policy documents." However, in doing so, it merely "encourages" operators to consult these and cautions operators that in doing so they should not forget that "that DEC retains authority to regulate gas development."

the DSGEIS gives no indication of the capacity of local governments to perform this function, does not estimate the cumulative cost of such efforts, and does not provide any information on funding sources to assist municipalities in such efforts. And, as mentioned above, operators are merely "encouraged" to consult with local governments with regard to potential impact on areas of heightened visual sensitivity. However, given the caveat that the regulation of gas mining activities is reserved to the DEC, the local role is clearly precatory and therefore not likely to be given much weight by operators, even when a local government has the resources to take the DEC up on its invitation to map areas of heightened sensitivity.

In short, with respect to visual impacts, the mitigation program: (1) refers operators to generic policies as guidance for the operators' preparation of visual impact mitigation plans; (2) encourages (but provides no resources to help) localities to map visually sensitive areas and share this information with operators; (3) does not require operators to respect the locally identified sensitive areas ("operators can *potentially* incorporate additional aesthetic mitigations"); and most importantly (4) does not require the DEC to review the operators' visual impact mitigation plans ("visual impacts mitigation plan shall be available to the Department *upon request*"). Thus, the adequacy of operators' visual impacts mitigation plans will depend on a chain of uncertainties.

We suggest that at the very least, DEC should review the operator's visual impact mitigation plan to determine whether it is adequate, and if it finds the plan inadequate make revisions, and if appropriate for a given site require the operator to complete the Visual EAF Addendum and possibly site-specific visual mitigation measures. Further, we suggest that the FSGEIS discuss a mitigation alternative that would formalize the role of local governments in evaluating site-specific permits in terms of local visual impacts, and would provide a mechanism, such as an appropriate application fee structure, to provide funding for both the DEC and local governments to perform their respective roles in the permitting process (including, for local governments, both the mapping of locally important viewsheds and the review of applications in relation to same).

4. Noise Impacts

In comparison to conventional hydraulic fracturing, the most significant noise-related changes presented by high volume hydraulic fracturing are the longer duration of drilling activities and increased truck trips. DSGEIS at 6-137. "A horizontal well takes four to five weeks of 24-hours-per-day drilling." *Id.* The 1992 GEIS anticipated that rotary drilling would typically take less than a week. *Id.* Similarly, high volume fracturing is orders of magnitude more intensive than the "water-gel fracs" assessed in the 1992 GEIS. *Id.* (3,000,000 or more gallons pumped with a casing pressure of 10,000 - 11,000 psi compared to 20,000 - 80,000 gallons at 2,000 – 3,500 psi). According to the DSGEIS, "[t]his volume and pressure will result in more pump and fluid handling noise than anticipated in 1992. In addition, associated truck trips will be correspondingly greater, with possible trips exceeding 1,200 per pad. DSGEIS at 6-137-138. All this will add up to a considerable amount of noise.

The DSGEIS suggests that noise from these operations will be sufficiently mitigated primarily by distance from occupied structures and places of assembly (1,000 feet from a well site), by restrictions on the timing of certain operations, and by use of DEC Policy Guidance

Document DEP-00-1 Assessing and Mitigating Noise Impacts. The 1992 GEIS found that noise impacts primarily affect "those living in close proximity to a drill site" and that such impacts are "short term and [can] be mitigated with siting restrictions and setback requirements." DSGEIS at 7-108. The document notes that, despite its longer drilling period and increased trucking requirements, horizontal drilling allows for greater siting flexibility to avoid noise impacts. *Id.* The document further notes that the best time to provide for noise mitigation is during the planning and siting phase. *Id.*

However, the identified mitigation measures devolve into a series of suggestions and uncertainties. The DSGEIS states that in the siting of drilling operations, applicants *should* utilize DEP-00-1 and are *encouraged* to review any applicable local land use policy documents (again "with the understanding that DEC retains authority to regulate gas development)." DSGIES at 7-108. The document goes on to specify that operations must conform with a noise impacts mitigation plan that incorporates specific practices and, *to the extent practicable*, local land use policy documents. *Id.* As in the case of visual mitigation plans, noise mitigation plans shall be "available to the Department upon request." DSGEIS at 7-109.

As in the case of visual impacts mitigation, the above fails to take into consideration several critical factors. First, just as there may be local areas of heightened visual sensitivity, there may be local areas of heightened noise sensitivity. While local areas of heightened noise sensitivity typically include places of worship and hospitals (which are frequently addressed in pre-existing land use plans), rural areas may also include undeveloped areas of heightened noise sensitivity, e.g., local pristine areas not included in a state or federal resource, such as a state or national park. Noise-sensitive areas may not entirely overlap with areas of visual sensitivity. As discussed above, the DSGEIS suggests that local governments map areas of local visual sensitivity for reference in well siting. It is suggested that areas of heightened noise sensitivity could likewise be identified.

However, even if local governments somehow find the resources to identify noise-sensitive areas, reference to local planning documents is again left to the discretion of the operator. Further, as with regard to visual impacts, there is no guaranty that the DEC will even review noise mitigation plans accompanying applications. DSGEIS at 7-109. ("The operator's noise impacts mitigation plan shall be available to the Department upon request.") Given the significant increase in potential noise impacts associated with high volume hydraulic fracturing techniques anticipated for the Marcellus Shale play, the precatory mitigation measures suggested in the DSGEIS appear to be less than the maximum practicable measures consistent with other essential social and economic considerations.

As with visual impacts, we suggest that the FSGEIS consider an alternative whereby a mechanism would be created to identify local areas of heightened noise sensitivity, local involvement in the permitting process would be formalized with respect to noise issues, and where an appropriate fee structure would be set to provide funding for meaningful noise review at both the state and local levels. Further, the noise mitigation plans should be submitted to DEC for review.

5. Road Use

Traffic is the quintessential local impact. As noted in the DSGEIS, road use impacts will be associated with the potentially large volume of truck trips (discussed above) associated with high volume hydraulic fracturing gas extraction. The document notes that "[t]his trucking will take place in weeks-long periods before and after the hydraulic fracture." DSGEIS at 6-139. With respect to mitigation, the DSGEIS notes that local municipalities will "retain control over their roads," which "makes it important for municipalities to monitor the NYSDEC web site for information regarding gas development in their areas." DSGEIS at 7-109. It adds that local governments "should be proactive in exercising their authority under the New York State Highway Vehicle Traffic Laws," including "completion of a road system integrity study to potentially assess fees for maintenance and improvements." *Id.* It concludes that an applicant should attempt to "obtain a road use agreement with the municipality or document the reasons for not obtaining one" and, in lieu of such an agreement, an applicant "should develop a trucking plan that includes estimated amount of trucking, hours of operations, appropriate off road parking/staging areas, and routes *for informational purposes."* DSGEIS at 7-110.

The potential number of high volume hydraulic fracturing operations together with the potential number of truck trips required for individual locations could have significant local impacts both with respect to wear and tear on local roadways and, as noted above, with respect to noise, particularly in rural areas. The DSGEIS correctly notes that local governments will retain jurisdiction over their roads. DSGIES at 7-109. The document suggests that the regulatory capacity of local governments is limited to studying the integrity of their roads and to assessing corresponding fees. *Id.* Such matters as route selection, peak hour avoidance, off-road parking and delivery areas are relegated to possible road use agreements between applicants and municipalities. *Id.* However, the document does not identify the trigger for, or the authority under which, municipalities could demand such agreements of gas mining applicants or their carriers as opposed to other commercial carriers using the same roads. An applicant for a high volume hydraulic fracturing gas mining permit will be required either to obtain such an agreement (assuming such agreements are not *ultra vires* for municipalities, for example, on Commerce Clause grounds) or explain why such an agreement could not be obtained. In the latter case, an applicant will merely be required to "file its trucking plan with the Department, *for informational purposes only*, along with documentation of its efforts to reach a road use agreement." DSGEIS at 7-110 [emphasis added].

It is very important to emphasize that the DSGEIS contains no discussion of the problem of limited local resources, even with respect to impact areas, such as road use, which *are* reserved for local review. Local governments, particularly in the Southern Tier, have limited staff to provide them with the analytic capacity needed to evaluate and address potential adverse impacts of road use associated with high volume hydraulic fracturing operations, let alone with the other areas of legitimate local concern identified in these comments.

Again, with road use impacts, as with visual and noise concerns, a matter of significant local importance is relegated to an uncertain and highly constrained local review, no resources for such local review are identified, and the DEC role in the review is precatory. We suggest that, as above, the FSGEIS consider alternative mitigation measures including a formal role for local governments with respect to road use issues in site-specific permits, and a funding

mechanism, such as an appropriate fee structure for high volume hydraulic fracturing permit applications, to support local government participation.

6. Environmental Justice

The 1992 GEIS did not discuss environmental justice impacts. In observing that drilling will occur where the gas is and that resulting revenues will benefit lessors and "the surrounding community," the current DSGEIS disposes of the issue the issue merely by noting that "the SGEIS/SEQRA process provides opportunity for public input and the resulting permitting procedures will apply state wide and provide equal protection to all communities and persons in New York." DSGEIS at 6-140-142. The mitigation chapter echoes these observations and concludes, "[t]herefore, no additional procedures or mitigation measures are necessary to address environmental justice with respect to the proposed activity." DSGEIS at 7-111.

This approach does not meet the hard look standard required under SEQRA. In many cases, a given set of regulatory strictures apply equally to all communities regardless of ethnicity or income level. Nonetheless, environmental justice concerns may be implicated due to the relative lack of resources in disadvantaged communities to enable a meaningful participation in the regulatory process Further, the self-referential quality of the DSGEIS's treatment of this issue, suggesting that disadvantaged communities are equally well situated to participate in this SEQRA review, is at odds with its repeated assertion that it is difficult if not impossible to predict precisely what communities may be affected by the contemplated drilling operations.

Environmental justice impacts are local by definition. We suggest a more thorough analysis of the implications of the proposed permitting regime for as-yet-unidentified disadvantaged communities. This would entail the development of a mitigation alternative which would provide appropriate measures, including the provision of a formal role for local governments and possibly not-for profit organizations in the review of applications with reference to environmental justice impacts, together with an appropriate funding mechanism to assist such entities in this role.

7. Ground and Surface Water

While the Section believes that protection of surface and groundwater in our State is of the utmost importance, it is satisfied with the Department's analysis and conclusions that on a generic basis, particularly with the regulatory protections in place through DRBC and SRBC, the development of Marcellus Shale in accordance with the parameters and standards reference in the DSGEIS is unlikely to have negative impact on ground and surface waters provided the wells are properly installed. However, the Section is concerned that accidental releases (including releases through well casings) are possible, and that sufficient information be available so that impacts on water can be adequately evaluated in the future, particularly in the case of accidental releases.

While the Section understands the desire of companies to keep their products confidential, all chemicals used in hydraulic fracturing must be revealed to DEC, so that information is readily available in case of a spill or release, and DEC can evaluate any impacts of

use of the chemical. We understand that companies can designate this information as confidential under the Freedom of Information Law. However, the filing of this confidential information should not be limited to when wastewater is treated by a POTW. *See* DSGEIS at 7-58. Further, this data should be used by DEC, where appropriate, to adjust the parameters that need to be included in baseline testing of nearby private wells, as set forth in DSGEIS §7.1.4.1.

The Section also suggests that additional baseline information should be developed. A comprehensive study of groundwater in the area of the Marcellus Shale should be undertaken, which could be funded through permit fees. Further, the DSGEIS is only requiring baseline groundwater testing if there is a private well within 2,000 feet. DSGEIS at 7-38. If no such well is available, DEC should have the authority to require that a monitoring well be installed and monitored where the groundwater resources are deemed sufficiently valuable.