

A Legal and Practical Guide to Protecting Your Citizens
and the Environment in the Face of
Marcellus Shale Natural Gas Drilling

Presented By

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Introduction

**Natural Gas Drilling's Potentially Profound Effects on Towns
And Cities both Within and Outside of the Marcellus Shale Region**

Natural gas production has been a part of New York's municipal and industrial history since manufactured gas plants first illuminated our cities and towns around the time of the Civil War. Those plants produced gas with coal, brought in by rail to industrial complexes across the state. They are presently being cleaned up under the supervision of the New York State Department of Environmental Conservation ("NYSDEC"), by utility companies across New York State.

Today, New Yorkers are bracing themselves for a new era in natural gas production – by drilling – in the Western, Central and Southern Tier counties that overlie the Marcellus Shale formation. The Marcellus Shale formation is the "gold mine" of natural gas reserves, and the State of New York is unquestionably in favor of its

¹ This paper was presented in its original form at the February 2009 Association of Towns Annual Training Meeting in New York City, as part of the Mandatory Continuing Legal Education program for Municipal Attorneys. It has since been updated to reflect regulatory developments. The writer wishes to sincerely thank Mark Millspaugh, P.E., President of Sterling Environmental Engineering, P.C. in Latham, New York, for his many contributions and editorial content to this paper and to that program.

development. Therefore, New York municipalities must be prepared to prudently address future production activities in and near their Towns to ensure the safety of their residents, their resources, and the environment.

Also at stake is protection of the New York City watershed, which lies within three counties of the Marcellus Shale formation. The watershed supplies drinking water to 9 million New Yorkers in the City, and in the “non Marcellus Shale” counties that rely upon New York City for their drinking water. The New York City Department of Environmental Protection (“NYCDEP”), which regulates the watershed, is actively involved in the regulatory debate with NYSDEC, but it is the upstream Towns who will bear the day-to-day brunt of natural gas production, and who must be ready to act. This presentation sets forth the aspects of natural gas production that Towns in New York can – and cannot – regulate. We can draw heavily upon unfortunate experiences of other municipalities to anticipate the aspects that will need regulation in New York.

I. What is the Marcellus Shale formation?

The Marcellus Shale is the largest black shale formation in the United States, extending throughout much of the Appalachian chain, covering large parts of Ohio, West Virginia, Pennsylvania and New York. The Marcellus Shale formation overlays all or part of 29 counties in New York,² four of which (Sullivan, Orange, Ulster and Delaware) are home to reservoirs of the New York City Watershed. All of the Catskill Park System lies within the Marcellus Shale formation, in Ulster, Greene, Sullivan and Delaware Counties.

² Counties in the Marcellus Shale formation include Sullivan, Ulster, Orange, Greene, Albany, Schoharie, Delaware, Otsego, Madison, Chenango, Broome, Cortland, Onondaga, Cayuga, Tompkins, Tioga, Chemung, Schuyler, Seneca, Yates, Ontario, Steuben, Livingston, Genesee, Wyoming, Allegany, Cattaraugus, Erie and Chautauqua. See map, Appendix A.

Although there are shale rock outcroppings of the formation in various places in the state (for example, in the Northern Finger Lakes and along the Delaware River escarpment, among others), the formation extends very deep below ground, to approximately 7,000 feet in some areas. Drilling activities are expected to occur in areas where the Marcellus Shale is deeper than 2,000 feet below grade surface.

The formation is rich in natural gas; geologists estimate that it contains between 168 trillion to 516 trillion cubic feet of natural gas. As a point of context, natural gas consumption in the State of New York is currently 1.1 trillion cubic per year, although we do not presently know how much is recoverable from present and future wells in New York.³ Advances in drilling technology, discussed below; the completion of the Millennium Pipeline (which begins in the Southern Finger Lake region, in the City of Corning in Chemung County, and ends in the Town of Ramapo in Rockland County); and the proximity of densely populated, high-energy demand Northeastern markets, make the Marcellus Shale a rich and logical target for energy companies. Although gas exploration and production has proceeded much more slowly in New York than it has to date in Pennsylvania, several New York wells are already in production, and “land men” from energy companies and their agents are seeking leases from residents who own the mineral rights in real property. Throughout 2008, NYSDEC published in the Environmental Notice Bulletin (“ENB”)⁴ lists of notices of intent to issue permits under existing well spacing regulations.

³ See www.dec.ny.gov/energy/46288

⁴ The ENB is the official weekly publication of record for agency decisions and notices of the NYSDEC.

II. What are Horizontal Drilling and Hydraulic Fracturing?

Although gas drilling has been performed in New York for decades, recent advances in technology has hugely advanced the natural gas industry's recovery ability to extract natural gas, by "horizontal drilling" and "hydraulic fracturing." This so-called "slick water" fracturing method has been used in several underground gas shale formations across the United States, and has advanced significantly in the past decade in gas production in North Texas, in the Barnett Shale region. "Horizontal drilling" is the drilling of a very deep vertical well, which is turned, at the appropriate depth, and drilled horizontally into the gas-bearing shale formation.⁵ "Hydraulic fracturing," also known as "fracking," is the next step: because the natural gas is trapped in fissures in the shale, its extraction must be stimulated by the injection of massive amounts of water mixed with "proppant" materials (often sand and salts) to keep the fissures open; chemical gels and lubricants; and "biocides" to prevent algae and bacteria buildup. NYSDEC estimates that each well will require *at least* one million gallons of water, much of which energy companies propose withdrawing from groundwater and surface water in the Delaware River and Susquehanna River basins, and other "waters of the State" of New York.⁶

The spent fracking fluids, which can be heavily contaminated with hazardous substances, are then withdrawn, and sometimes stored on site before being treated and/or disposed. Gas producers have been reluctant to disclose the chemical content of the additives they use in the fracking process, claiming that they are confidential "proprietary

⁵ See diagram, Appendix B.

⁶ See maps of the Marcellus Shale occurrence in the Susquehanna and Delaware River Basins in the Appendix, noted as Exhibits B1 and B2

formulas.” This “proprietary formula” claim is an overstatement; these chemicals can and must be identified without giving quantities or proportions that would disclose any proprietary formula that would impair the competitive positions of their industry users.

III. THE ENERGY ACT OF 2005, A BUSH ADMINISTRATION FEDERAL ENVIRONMENTAL STATUTE THAT ELIMINATED PROTECTIONS OF OTHER ENVIRONMENTAL STATUTES

Industry has naturally taken advantage of recent amendments to the federal environmental statutes that appear to preempt regulation and judicial recourse, except by New York State. Because of these amendments, codified in the federal Energy Act of 2005, confusion has arisen over whether natural gas explorers and producers are legally required to provide this information to governmental emergency management authorities (including local government first responders). In the past, in accordance with provisions of the federal Emergency Planning and Community Right-to-Know Act (“EPCRA”), such disclosures were required to allow emergency management teams to prepare and respond in case of chemical spills or leaks.

However, the federal Energy Act of 2005 arguably exempts the natural gas production industry from these disclosure requirements under EPCRA, because the Act does not deem the industry to be part of the manufacturing sector. NYSDEC has taken the position that it has the authority to demand the chemical composition of fracking fluids, and has asserted that it will do so.⁷ The Pennsylvania Department Environmental

⁷ The Federal Energy Act of 2005 also exempts the natural gas industry from certain provisions of the Federal Safe Drinking Water Act, excluding natural gas production wells from the protections to ground water that are in place under the SDWA’s “Underground Injection Control” unit regulations. NYSDEC has asserted that its responsibility is to protect groundwater, and the Commissioner has averred that the Department will continue to protect groundwater under state law. Finally, the federal Energy Act of 2005 exempted natural gas producers from certain requirements of the federal Clean Water Act, relating to sediment and erosion control. The NYSDEC has also asserted its right to regulate the natural gas industry under its state regulatory powers to control erosion and storm water runoff.

Protection (“PADEP”) also requires a list of chemicals used in Marcellus Shale wells it regulates.⁸

Regardless of whether the Energy Act of 2005 preempts disclosure of these chemicals in spent fracking fluids, the Towns in which these chemicals and hazardous materials are stored and transported through must enact local laws or ordinances, as part of road safety initiatives, that require industry to provide a list of chemical substances to municipal authorities. Such lists can be kept confidential, but a lack of this vital information could significantly hamper first responders from adequately providing effective emergency response to fires, truck rollovers, spills, explosions, burns and injuries in which fracking fluids are involved.

IV. Benefits, But Many Burdens of Faster Production of Natural Gas

A. Bitter Experiences from the West and Southwest

Enhancements to the technology of horizontal drilling and hydraulic fracturing are a crucial step forward in domestic energy production and in eliminating our dependence on foreign oil. The State of New York anticipates significant revenues from production in the Marcellus Shale formation. However, the industry’s technical advances have come at significant cost to people and natural resources near production sites. The state regulatory agencies of Colorado and New Mexico alone have documented thousands of industrial accidents, including spills, leaks and seepage of chemical contaminants into drinking water supplies. NYCDEP commissioned an evaluation of New York State’s proposed regulation by the Oil & Gas Accountability Project. Bruce Baizel, a Senior Staff Attorney from the group’s Durango, Colorado office, gave a report to the New York

⁸ See “What’s in the fracking fluid?” article by Sandy Long, which appeared in the December 4-10 issue of the River Reporter, a weekly newspaper published in Sullivan Count. It is attached as Appendix C.

City Council Committee on Environmental Protection on September 10, 2008, providing numerous examples of serious, permanent personal and environmental damage caused by hydraulic fracking and its chemical byproducts.⁹ Mr. Baizel's testimony documents incidents such as drinking water from a residential faucet catching fire; another drinking water well contaminated with benzene, a known human carcinogen; poisonings of homeowners drinking their tap water; sludge contamination from improperly disposed cuttings; explosions, and other such incidents. It is compelling reading for all municipal officials.

Fort Worth, Texas, and neighboring towns in North Texas have experienced numerous industrial accidents, including explosions and countless episodes of noise, light and dust pollution in the Barnett Shale formation. These myriad problems have caused many Texas municipalities to enact stringent municipal ordinances regulating the industry. These municipal ordinances, and their stringency, are a remarkable development in a State that has traditionally and ferociously resisted governmental regulation. An abstract table of these ordinances, prepared by the Barnett Shale Energy Education Council, show large set-back requirements of between 500 and 1,000 feet from gas production well to the nearest residential dwelling; strict noise controls; mandatory road maintenance agreements; landscape and buffering requirements; tough compressor regulations; and prohibition against disposal of fracking fluids in the municipal limits. Note well that certain of these regulations adopted by Texas towns are not available to New York towns; we face preemption issues that are discussed in greater detail in Section VI A. below. However, the table is attached as Appendix E to reflect the specific needs

⁹ The text of the full report is produced as Appendix D.

experienced by these Texas communities, and to give a preview of the types of issues that New York Towns will face.

Most recently in Susquehanna County, Pennsylvania, a residential concrete well cover exploded on the site of a Marcellus Shale gas well operated by Cabot Oil & Gas, Inc. of Houston, Texas. The resident of the Dimock Township home, who has leased her mineral rights to Cabot, later discovered that her drinking water is contaminated with production gas, as are eight other nearby residential wells. Cabot has placed four of these homes on alternate water supplies. The Pennsylvania Department of Environmental Protection (“PADEP”) has asked other residents in the neighborhood to vent their wells to reduce the chance of explosions, while testing is being done to determine the cause of the gas contamination.¹⁰

B. What Towns in New York Can Anticipate

Aside from the foregoing industrial accidents briefly noted above, Towns that are in the location of (or are nearby) Marcellus Shale wells can expect the potential for:

- 1.) Substantially increased truck traffic and associated road and bridge stress;
- 2.) Road and bridge damage, washouts, increase in traffic accidents due to increased truck traffic;
- 3.) Spills, injuries and an increased need for emergency responses;
- 4.) Potential aquifer depletion and/or contamination;
- 5.) Potential impairment to tourism and recreation;
- 6.) Adverse impacts on wildlife and habitat, including siltation of trout streams and wetlands;

¹⁰ See January 30, 2009 article in the Binghamton Press & Sun Bulletin, by Tom Wilber, attached as Appendix F. The Press & Sun Bulletin, located in Broome County in the heart of the shale region, regularly covers developments on gas production.

7.) Potential waste disposal problems, for all Towns (and Towns with POTW plants MUST insist on disclosure of frack water constituents and must have protective agreements in place in order to comply with their SPDES permits)

8.) Noise, light and dust pollution;

9.) The need to responds to residents caught up in “compulsory integration” of their lands in their neighbors’ leaseholds;

10.) The need for increased municipal services and adequate training to effectively manage all of the above.

V. The Regulatory Scheme under State Law

A. The State Statute

New York’s natural gas production is governed by Article 23 of the Environmental Conservation Law (“ECL”), entitled “Mineral Resources.” The statute also governs spent mines under the New York State Mined Land Reclamation Law, Section 23-2701 et seq.

B. The Regulations

The existing regulations for gas production are found at 6 NYCRR 550 et seq. These existing regulations are limited in scope, addressing only certain aspects such as the spacing of well units, transportations, and surface restrictions. They do not regulate subsurface or slurry injections, waste storage and removal, and the host of new considerations that are now under consideration by NYSDEC. Due to the recent State mandate to allow horizontal drilling and hydrofracking in the Marcellus Shale formation, NYSDEC has resumed its SEQRA review of what will eventually become the new regulations that will govern permit issuance and horizontal drilling in New York. Until

those new regulations are finalized, probably sometime in mid- to late 2009, we will not know the exact parameters of what the State will, and will not, regulate as part of its permitting process.

C. SEQRA Review of the State's New Regulations

In June 2008, NYSDEC determined that the permitting of new wells to be horizontally drilled and hydrofracked, employing the injection of massive quantities of water (as distinguished from previously permitted, vertically drilled wells) was a State action that required further review under the State Environmental Quality Review Act ("SEQRA"). NYSDEC prepared a draft scoping document¹¹ and convened six public meetings across New York at which it received thousands of written and verbal public comment from members of the public, municipal officials, environmental groups, and business organizations.¹²

These comments were a powerful expression of the many concerns of citizens and municipal officials who have experienced serious environmental and infrastructure impacts from past natural gas exploration. Many comments expressed a general fear that NYSDEC is understaffed and unable to adequately regulate exploration and development through such an invasive technology that could have profound and permanent environmental impacts on fragile resources, especially on surface water resources and aquifers in areas that do not have municipal water supplies but that rely solely upon drinking water wells. Many other concerns were raised about the withdrawal of water

¹¹ The text of the scoping document may be found at www.dec.ny.gov/docs/materials_minerals_pdf/draftscope.com

¹² The written comment from the Sullivan County Legislature, dated December 1, 2008, covers many of the topics addressed variously by several municipal officials. It is attached as Appendix G.

from the watersheds and other water supplies, about the storage, transport and disposal of contaminated frack water, the potential damage to municipal roads and infrastructures, and ecological habitats by a new industrial presence, etc.

NYSDEC considered those comments and on February 6, 2009, issued the “Final Scope For Draft Supplemental Generic Environmental Impact Statement (dGEIS) on the Oil, Gas and Solution Mining Regulatory Program,” issued on February 6, 2009.¹³ The remainder of the regulatory process is set forth in greater detail in section VI.B.4. below (pages 16-17), and is encompassed as part of the “What Towns Can Do” discussion of the Towns’ ability to participate in the SEQRA process.

NYSDEC has stated that it will not issue new well permits until the entire SEQRA review is complete.¹⁴

VI. The Towns’ Powers

A. What Towns Cannot do -- Preemption under State Law

Although Article 23, Section 23-2703 of the Mined Land Reclamation Law expressly confers upon the Towns the power to enact zoning that prohibits mining as a

¹³ The Final Scope can be found at www.dec.ny.gov/energy/47554

¹⁴ The SEQRA process attending the permitted process has been protract and somewhat convoluted. It actually began when NYSDEC evaluated its oil and gas regulatory program in a Generic Environmental Impact Statement (“GEIS”) which was finalized in 1992. That document set parameters that are applicable statewide for SEQRA review of horizontal gas well permitting. The new draft scope issued in 2008 outlines the environmental topics attendant to horizontal well drilling and fracking with the use of high volumes of water. These are some of the topics that will be reviewed in a draft Supplemental Generic Environmental Impact Statement (“dSGEIS”). Thereafter, the dSGEIS will be released for additional public review and comment. The final SGEIS, to be prepared after consideration of comments received on the draft, will set additional parameters for SEQRA review. The Department will then issue well permits for gas well development using high-volume hydraulic fracturing in accordance with both the GEIS and the SGEIS.

permissible use,¹⁵ the same legislative deference does not appear to extend to Towns with respect to regulating natural gas production.¹⁶ Article 23, Section 23-0303, entitled “Administration of Article,” appears to preempt the Towns from regulating most of what the NYSDEC can regulate, with the two exceptions noted below:

The provisions of this article shall supersede all local laws or ordinances relating to the regulation of the oil, gas and solution mining industries, but shall not supersede local government jurisdiction over local roads or the rights of local governments under the real property tax law.

The statute goes on to add that the Towns can apply to the State Oil Fund for reimbursement of funds expended on repairs to municipal land or property, upon adequate proof of loss and damage. Section 23-0303 (3.) a.-b. This preemption appears to leave the Towns mostly at the mercy of the State and the degree to which it intends to regulate industry. In light of State preemption and the Federal statutory preemptions identified above, the Towns seem to have little to work with. That is why Towns need to fully develop programs allowable under their powers set forth in Section 23-0303, the Highway Law, and under their own municipal ordinances of general application.

B. What and How the Towns Can Regulate

1. Roads

The Towns should completely reevaluate their code provisions that govern roads. Once a Town has reason to believe that it is in or near a Marcellus Shale well field, it is reasonable to presume that it will have hundreds of truck trips more than usual, traversing town on a daily basis, often carrying 100,000 lb. loads of fracking fluid across town, over

¹⁵ See also the Court of Appeals case upholding Towns’ rights to “zone out” mining, except for preexisting non-conforming “grandfathered” uses: Gernatt Asphalt v. Town of Sardinia, 87 N.Y.2d 668, 664 N.E. 2d 1226, 642 N.Y.S. 164 (1996).

¹⁶ The only known reported case is Envirogas, Inc. v. Town of Kiantone, 112 Misc. 2d 432, 447 N.Y.S.2d 221 (Sup 1982), judgment aff’d, 89 A.D.2d 1056, 454 N.Y.S.2d 694 (4th Dep’t 1982), in which a natural gas producer successfully challenged the Town of Kiantone’s attempts to “zone out” gas production.

bridges with inadequate bearing capacity, creating innumerable hazards. There will almost inevitably be accidents of various sorts that will require added emergency personnel response and administrative oversight by Town officials

Towns in the Marcellus Shale formation should not wait for notice of a well permit application to evaluate their codes with respect to road protection. They should embark upon a prompt review of their the condition of their roads and road infrastructures, and a companion review of their local codes. This review should include consideration of providing in its code:

- A. establishment of weight limit laws for local roads;
- B. traffic rules and regulations tailored to the anticipated truck traffic and routes;
- C. temporary (or permanent) exclusion of certain heavy vehicles from Town roads during periods of wet weather and ground subsidence;¹⁷
- D. seismic drilling ordinances¹⁸
- E. requiring permits from natural gas operators whose operations will result in increased road use, including:
 - 1. Mandatory road maintenance agreements, with adequate insurance and performance bonds, etc.;
 - 2. Traffic studies for safe ingress and egress;

¹⁷ See Section 41 of the Vehicle and Traffic Law for powers of Towns to exclude, temporarily from town highways certain vehicles "...with a gross weight of over four tons or more tons or any vehicle with a gross weight in excess of any designated weight on any wheel, axle...when in its opinion such highway would be materially injured by the operation of any such vehicle thereon...." Other specifications apply to this procedure under the statute.

¹⁸ See the newly enacted Seismic Surveys Law of the Town of Bethel, attached as Appendix H. This law, adopted by the Bethel Town Board on December 11, 2008, was drafted by Robert S. McEwan, Jr., Town Attorney.

3. Mandatory funding of emergency personnel training, personnel if necessary, and purchase of vehicles and equipment provided or paid for by industry;
4. required disclosure of chemical constituents used in fracking fluid for use of emergency personnel;
4. required compliance with an effective seismic drilling ordinance;
5. Payment of fees for professional consultations and inspections by Town personnel and consultants overseeing road maintenance and safety.

2. Real Property Tax Assessment

What the Environmental Conservation Law preempts and takes away with one hand, it gives back with another, in the form of the municipality's rights under the New York State Real Property Law. Producing gas wells will almost certainly produce additional tax revenues, depending upon a variety of factors that are well defined in discreet formulae used by the New York State Office of Real Property Services ("ORPS") in its certification process. This certification process follows tax assessments that are based upon uniform factors mandated by the New York State Legislature, using economic profile data provided by NYSDEC and consulting geologists on producing wells. The State Board of Real Property Services will issue to the local assessor a set of guidelines for the proper computation of the assessed value of the "economic unit," which is defined as real property subject to taxation and assessment. This real property, or "economic unit," includes the gas, and any and all equipment and fixtures necessary to extract the gas available for commercial sale. Section 39 of the General Construction Law contains a description related to the economic unit:

“Oil wells and all fixtures connected therewith, situated on lands leased for oil purposes and oil interests, and rights held under and by virtue of any lease or contract or other right of license to operate for or produce petroleum oil, shall be deemed personal property for all purposes except taxation.”

The ORPS construes this language to mean that the oil and gas *rights*, not the lease, are assessed. When the rights to the gas are transferred in a lease, the rights and not the lease are taxed to the owner/operator of the well. If the owner of the well is also the operator and holder of the rights with no lease involved, then the owner is taxed upon both the land and separately on the mineral rights.

The assessment process is complex but prescriptive, requiring the participation of the ORPSA, the Assessor and NYSDEC.¹⁹ The ORPSA staff will assist the assessor as necessary on future assessments.

3. Municipal Ordinances of General Application

Although Section 23-0303 does not expressly state that municipal ordinances of general application are allowable means to regulate natural gas production activities that may adversely affect your Town, its residents and its resources, there is no prohibition against wisely reevaluating codes to ensure that its provisions regarding all industrial and commercial uses can be less intrusive and potentially destructive. If the existing local laws and codes are not protective enough, amendments should be considered that do not specifically target gas exploration and production, but rather encompass all industrial and commercial uses, in a manner that would be more protective of health, safety and public welfare as they relate to:

A. noise

B. light pollution

¹⁹ Information on the process is available at www.orps.state.ny.us/sas/oil_gas/overview

- C. dust pollution and odors;
- D. stormwater management and aquifer protection;
- E. wetlands protection; erosion control, siltation control
- F. enforcement of the zoning code on accessory structures, set backs and other controls on industrial/commercial uses;
- G. potential for recording sensitive areas as Critical Environmental Areas;
- H. tree cutting ordinances

4. Participation in the SEQRA Process

All municipalities should participate fully in the ongoing review of NYSDEC's "Final Scope" document. As noted above, this "Final Scope" was issued following the Department's review of the thousands of comments it received in 2008. According to NYSDEC's executive summary of the Final Scope, the Department will use it in considering the following elements for permit issuance: (1) water withdrawals, (2) transportation of water to the site, (3) the use of additives in the water to enhance the hydraulic fracturing process, (4) space and facilities required at the well site to ensure proper handling of water and additives, (5) removal of spent fracturing fluid from the well site and its ultimate disposition and (6) potential impacts at well sites where multiple wells will be drilled during a three-year period. Noise, visual and air quality considerations are noted, along with the potential for cumulative and community impacts. The well permitting process is described, and regulatory coordination with other jurisdictional agencies and local governments is also discussed.²⁰

²⁰ www.dec.ny.gov/energy/45954

Sometime in early 2009, it is anticipated that NYSDEC will issue the Draft Supplemental Generic Impact Statement (“DGEIS”), then convene public hearings to take additional comments from the public on the DGEIS. Subsequently, the Generic Environmental Impact Statement (“GEIS”) will be issued, and once it is final, it will be used to implement regulations for well permit issuance. The GEIS is intended to address the many common issues that arise with most well permits.

However, the Department has recognized that all well permit applications are not created equal, and the GEIS (and future regulations) will specify which types of wells may also need a site-specific environmental assessment. This is a major opportunity for municipal officials to get involved. If possible, the municipality should seek “involved agency” status from NYSDEC (the Department will almost certainly seek to maintain lead agency status) to be included in a coordinated review. If a municipality can attain involved agency status under 6 NYCRR Part 617.2(s), it can weigh in heavily on issues of local importance that the GEIS just cannot address. Even if the municipality only achieves “interested agency” status, it will still enjoy deference from the Department for its comments.²¹ It is the strong belief of this writer that neighboring municipalities should band together where their interests conjoin, and offer comment during the SEQRA process

²¹ SEQRA provides the following definitions and conditions:

“Involved agency” means an agency that has jurisdiction by law to fund, approve or directly undertake an action. If an agency will ultimately make a discretionary decision to fund, approve or undertake an action, then it is an “involved agency”, notwithstanding that it has not received an application for funding or approval at the time the SEQRA process is commenced. The lead agency is also an “involved agency”. 6 NYCRR Part 617.2 (s).

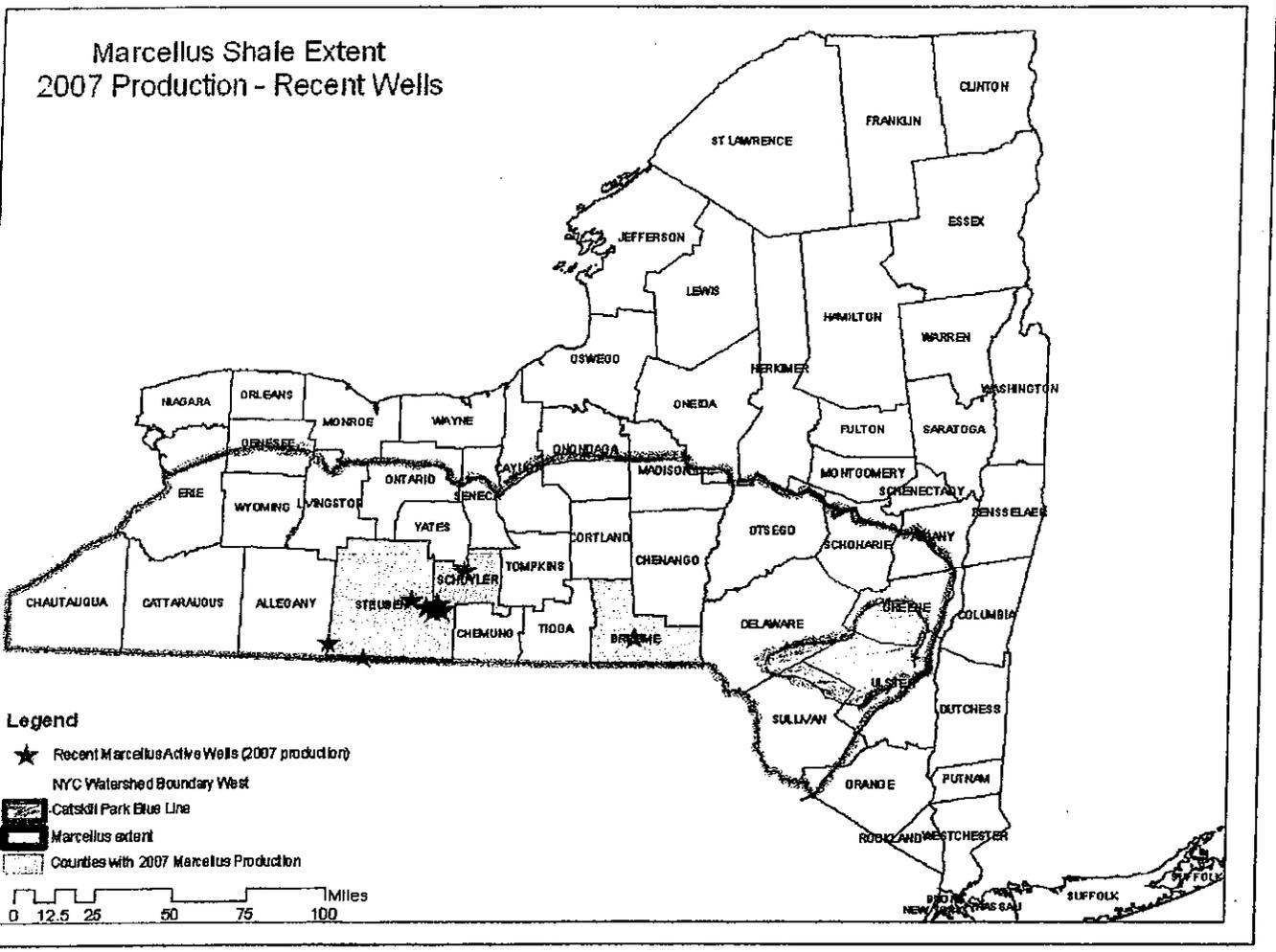
“Interested agency” means an agency that lacks the jurisdiction to fund, approve or directly undertake an action but wishes to participate in the review process because of its specific expertise or concern about the proposed action. An “interested agency” has the same ability to participate in the review process as a member of the public.” 6 NYCRR 617.2 (t).

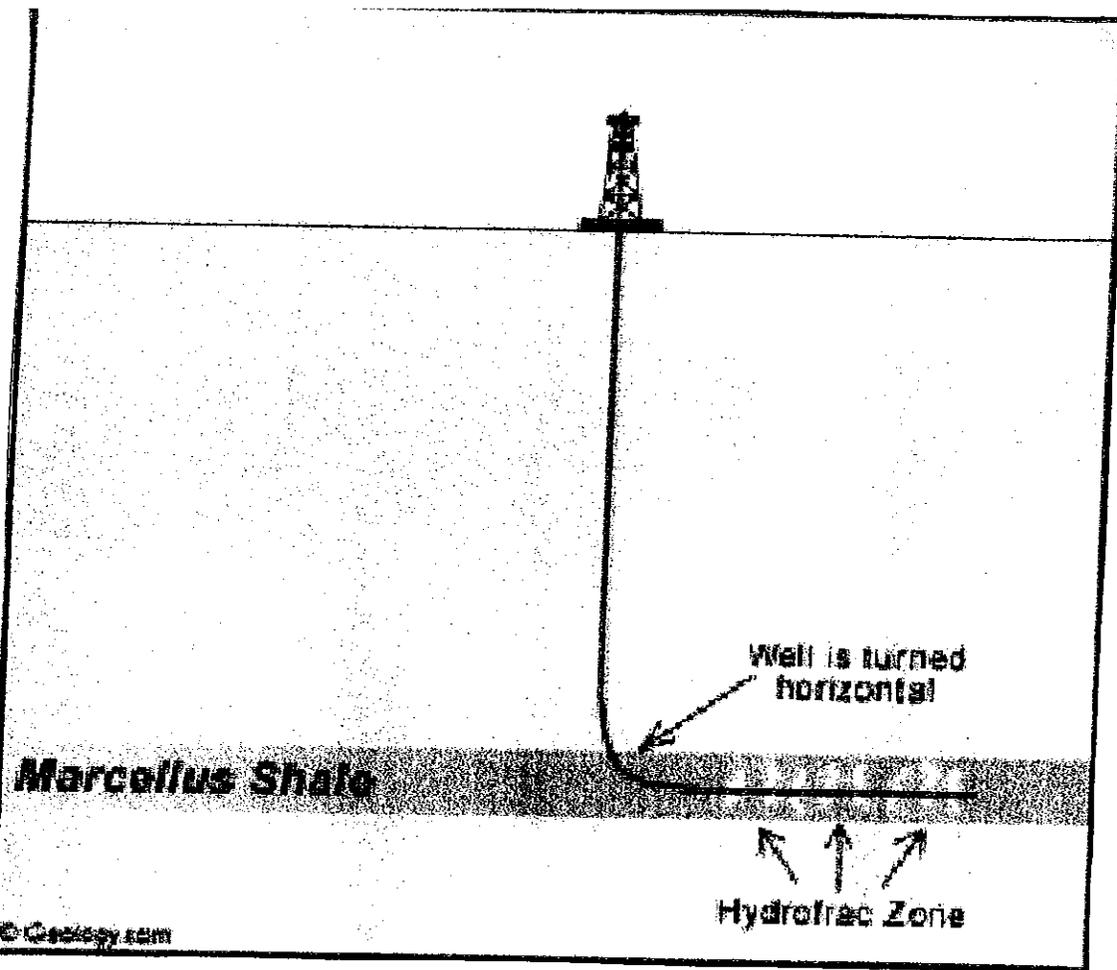
that will help guide the Department in a) making permit conditions more protective of local interests, and is appropriate, even b) denying permits that would have significant environmental impacts that cannot be adequately mitigated.

VII. CONCLUSION AND RECOMMENDATION

Immediately upon learning that a natural gas company intends to drill on property located in or near your town, urge the Supervisor to invite company representatives to Town Hall for a “scoping session” to discuss all of the above matters, and gather as much information as possible. Have all your own professionals there, including the code enforcement officer, engineers and a geologist. A deputy supervisor or other Town Board member should also be there. Gas drilling – which is only the beginning phase of a multi-year process -- lasts weeks or months, and is a noisy, dirty, potentially dangerous industrial operation that needs to be managed properly and carefully from the outset. The technical and logistical information that should be generated in such a meeting can be used to ensure a site-specific SEQR review. It is also a crucial point at which municipal officials can make a good faith attempt to form cooperative relationships that will last and help weather big problems that may occur in the future. It is vital that municipal officials attempt to establish rapport with producers, and make it clear that they will require transparency, and adherence to the Town’s ordinances early in the process. Good producers will want to be good corporate citizens and cooperate with Town administration as much as possible.

**Marcellus Shale Extent
 2007 Production - Recent Wells**





APPENDIX B

Susquehanna River Basin MARCELLUS SHALE OCCURRENCE



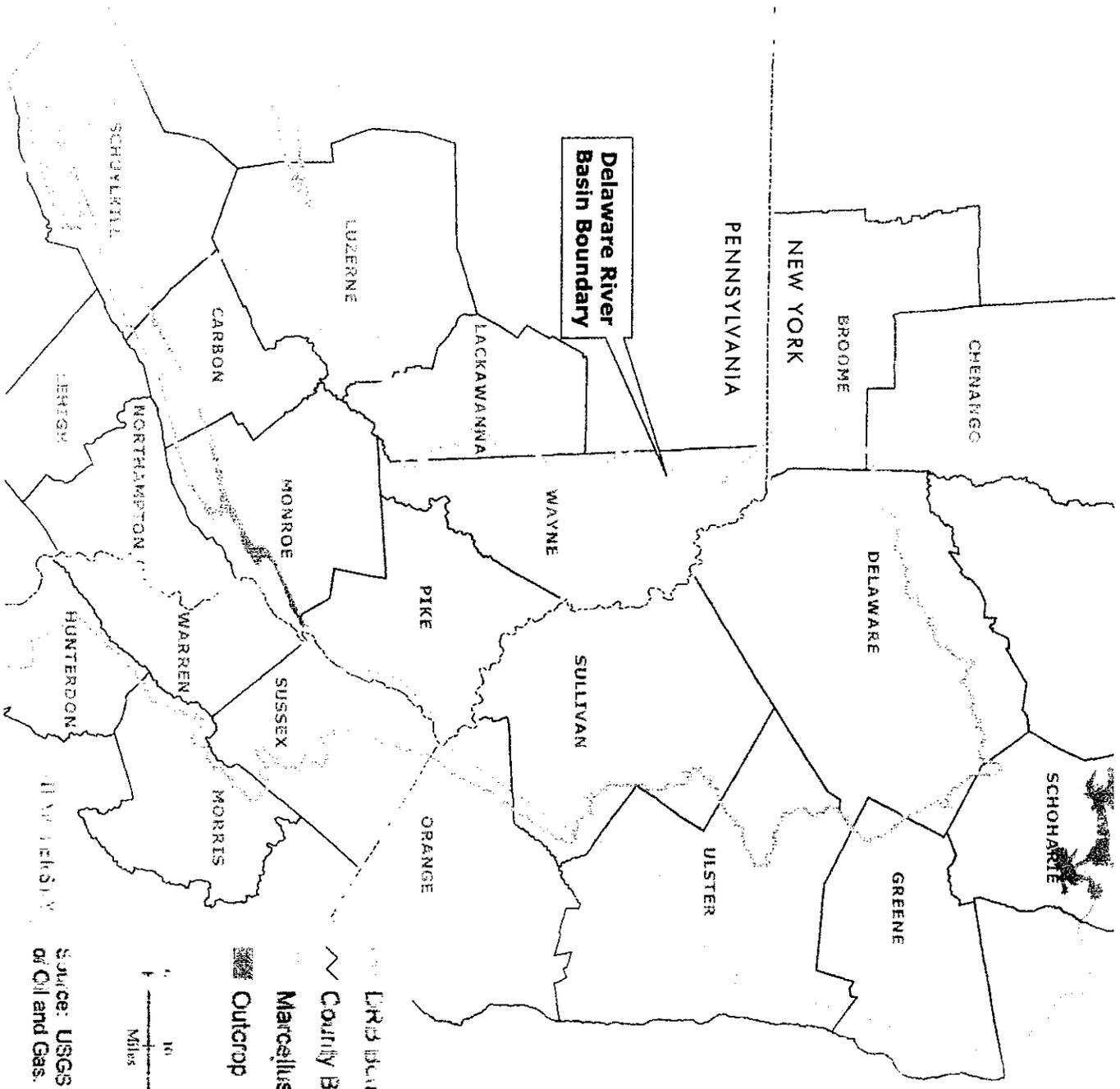
MARCELLUS SHALE

- Outcrop
- Subsurface

Marcellus Shale distribution based on Hamilton Group outcrop & subsurface areas.

72% of the Susquehanna River Basin is underlain by the Marcellus Shale.





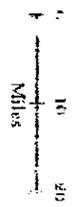
Delaware River Basin Boundary

LRB Boundary

County Boundary

Marcellus Shale Subbasin

Outcrop



Source: USGS National Assessment of Oil and Gas.

What's in that fracking fluid?

Pennsylvania discloses the chemicals used by the drilling companies

By SANDY LONG

sandy.long@riverreporter.com

PENNSYLVANIA — It's something many people in the Upper Delaware region want to know: what chemicals are being used by the natural gas industry in its drilling processes?

The Pennsylvania Department of Environmental Protection (DEP) notes that while companies may keep their fracking "formulas" proprietary, the individual ingredients are public record in Pennsylvania. The agency supplied *The River Reporter* with a list of chemicals that may be used during the fracking process. Any of them may be present in the wastewater generated and may be stored temporarily in open pits at the site.

We asked researchers at The Endocrine Disruption Exchange (TEDX) to analyze the list for its potential health effects. TEDX is a non-profit organization that reviews

and interprets scientific research focused on the effects of synthetic chemicals on human and animal health. TEDX president Dr. Theo Colborn has published, lectured and testified extensively on the effects of chemicals on the developing endocrine, immune, metabolic and nervous systems.

The tables and graphs presented here were generated by that organization. Of the 59 chemicals on the list, several were synonyms for the same chemical (e.g. Isopropanol, Isopropyl Alcohol, Propan-2-ol). When this occurred, the names were combined to create a final list of 54 chemicals.

TEDX staff searched the literature for health effects associated with the 54 chemicals and broke them into 14 different health effect categories commonly used in government toxicological literature. The table below shows the number of chemicals out of the 54 that have effects on at least 10 health categories.

Chemical	# of Categories	Chemical	# of Categories
2-butoxyethanol	13	Monoethanolamine	11
Ethylhexanol	13	Dazomet	10
Formaldehyde	13	Acetic Anhydride	10
Glyoxaldehyde	13	Isopropanol	10
Boric Acid	12	Propargyl Alcohol (Prop-2-yn-1-ol)	10
Ethane-1,2-diol (ethylene glycol)	12	5-chloro-2-methyl-4-isothiazolin-3-one	10
Ethylene Glycol	12	Sodium Bicarbonate (NaHCO ₃)	10
Methanol	11	Diesel	10

Fracking chemicals associated with ten or more health effect categories.

Controlling fracking fluids

Defenders of the fracking process say that the Marcellus Shale it is safe because the process takes place well below the water table that provides drinking water.

The water is injected deep underground through lined wells that prevent the fracking fluid from contaminating the water in the higher part of the earth beneath the drill site.

Critics, however, argue that the casings around the well bore that are intended to

prevent fracking fluids from entering the ground water supply have failed in the past, and will likely fail in the future in at least some instances.

Further, a large amount of fracking fluid comes back out of the well after drilling, and can then contaminate air and ground water if not properly handled. The chemicals pose a threat to human health until they are disposed of.

Chemicals that can move through air

Of the 54 chemicals identified by DEP as being used in fracking fluid, 21 are readily airborne. As noted in the table below, all of these chemicals can harm the eyes, skin, respiratory tract, gastrointestinal tract or liver.

Health Effect Category	Number of Chemicals	Percent of Chemicals
Gastrointestinal and liver	21	100%
Respiratory	21	100%
Skin, eye and sensory organ	21	100%
Other	20	95%
Cardiovascular and blood	19	90%
Brain and nervous system	19	90%
Kidney	17	81%
Ecological	15	71%
Immune	11	52%
Developmental	10	48%
Reproductive	9	43%
Mutagen	7	33%
Endocrine disruptors	7	33%
Cancer	6	29%

Chemicals that can move through water

Of the 54 chemicals identified by DEP as being used in fracking fluids, 34 are soluble, allowing them to move into surface and underground water.

Health Effect Category	Number of Chemicals	Percent of Chemicals
Skin, eye and sensory organ	34	100%
Respiratory	32	94%
Gastrointestinal and liver	31	91%
Cardiovascular and blood	26	76%
Other	26	76%
Brain and nervous system	25	74%
Kidney	21	62%
Ecological	21	62%
Immune	19	56%
Developmental	14	41%
Cancer	11	32%
Endocrine disruptors	11	32%
Reproductive	11	32%
Mutagen	10	29%

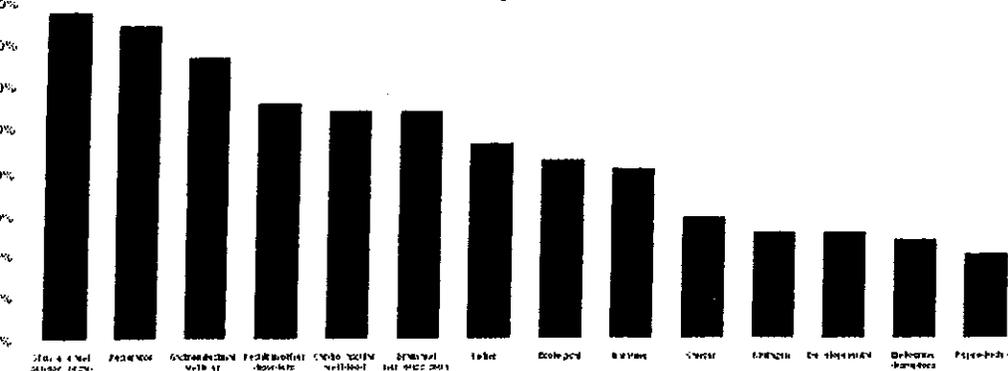
Fracking fluid complaints and identification

According to a report from the Oil & Gas Accountability Project, citizens from many states have reported negative impacts to water quality in the wake of hydraulic fracturing.

The report says, "Common complaints include: murky or cloudy water, black or gray sediments, iron precipitates, soaps, black jelly-like grease, floating particles, diesel fuel or petroleum odors, increased methane in water, rashes from showering, gassy taste and decrease or complete loss of water flow."

The report continues, "In most cases, the agencies conducting follow-up water quality sampling do not know what chemicals have been used in fracturing operations because companies are not required to disclose this information. Consequently, state agencies do not test for all fracturing fluid chemicals. Citizens have also experienced soil and surface water contamination from spills of hydraulic fracturing fluids."

54 chemicals identified by the DEP as being used in fracking fluids, and the percentage of which have effects on health categories.



of the chemicals in the above chart were associated with skin, eye and sensory organ irritation and toxicity, followed by respiratory effects, gastrointestinal and liver effects.

The "Other" category includes such effects as death, teeth effects, etc. The most often cited effect in this category is the ability of the chemical to cause death.

The "Ecological" category refers to damage to a wide variety of birds, fish, amphibians, or other aquatic species.

Testimony of Bruce Baizel, Senior Staff Attorney
Oil & Gas Accountability Project,
a program of Earthworks
P.O. Box 1102
Durango, Colorado 81302

for the

Committee on Environmental Protection,
James F. Gennaro, Chair
Council of the City of New York

September 10, 2008

I. Introduction

Thank you for the opportunity to present testimony related to Natural Gas Drilling in the New York City Drinking Water Watershed. I am the Senior Staff Attorney for the Oil & Gas Accountability Project (OGAP), a program of Earthworks. Our mission is to work with communities to address and reduce the impacts of oil and gas development.

My testimony is based upon OGAP's experience with oil and gas development during the past decade. In particular, I am drawing upon my experience as an appointed member of the New Mexico Governor's Pit Rule Task Force, OGAP's formal participation in three sets of state rulemakings covering all aspects of oil and gas development over the past 3 years and OGAP's development of, and support for, successful surface owner protection legislation in Colorado and New Mexico.

In addition, my testimony draws upon OGAP staff research and involvement in EPA processes regarding coalbed methane development and hydraulic fracturing. During this involvement, OGAP staff prepared Our Drinking Water at Risk (2005) and The Oil and Gas Industry's Exclusions and Exemptions to Major Environmental Statutes (2007).

We have also produced the Oil and Gas at Your Door? A Landowner's Guide to Oil and Gas Development (2nd Ed., 2005), the preeminent guide for landowners facing the prospect of oil and gas development on their land.

Finally, in response to numerous inquiries from individuals, organizations and local governments, OGAP produced Marcellus Gas Shale – A Report (2008) earlier this year, which discusses what can be expected from gas development in the Marcellus shale.

My testimony will first address the three main risks to water posed by gas development: well drilling and production, hydraulic fracturing and transportation of fluids to and from the wellsite. I will then briefly describe some specific incidents that illustrate these risks in a number of different states. Then, I will briefly discuss the current New York regulations most applicable to the risks associated with gas development. Finally, I will present some of the approaches that other municipalities and states have developed to try to address these risks.

II. Contamination Risks to Water from Gas Development

It is important to keep in mind that gas development is an industrial activity. The operations associated with gas development, no matter where they take place, generally follow a similar pattern of scope and intensity. It is also important to keep in mind that gas development will take place over a 20 to 30 year time frame. It is not a simple, once in and out kind of operation, particularly in the case of the Marcellus shale.

There are a number of potential environmental and public health impacts associated with each stage of gas development – exploration, drilling, production, treatment of the gas, and plugging and abandonment of wells. These impacts include loss of land value due to surface disturbance, contamination of ground and/or surface waters, human or animal

health effects related to ground and/or surface water contamination, erosion or sedimentation, loss of wildlife habitat, and air and soil degradation.

Based upon experience with gas development elsewhere, the most important risks from the perspective of protecting the New York City water supply are those that might result in the release of hydrocarbons and other contaminants to the land surface, into soils and groundwater or into surface waters. Releases of these contaminants may occur in a single event, such as a spill, or over longer periods of time, through seepage from drilling or fracturing pits, or from slow leaks in pipes and storage tanks. Spills are the most common type of release and may be small or large in volume. These spills and seepage result from human error, equipment failure, transportation accidents, improperly designed containment facilities, vandalism, or natural phenomena, such as floods or storm events.

These releases and subsequent contamination are not just theoretical, but are real events that have been documented across the gas fields of the United States today. For example, New Mexico has experienced significant impacts to its water resources from oil and gas development. Between 1992 and 2000, the New Mexico Oil Conservation Division (OCD) documented over 700 groundwater contamination events due to oil and gas development.¹ As a consequence, New Mexico has recently completed a revision of its rules related to drilling and fracturing fluids and how oil and gas wastes are handled following the completion of a well. The experience in New Mexico has led to a far stronger emphasis in regulation on prevention of the risks of contamination, and a shifting of the liability and cost of contamination from the public to the gas company.

The New Mexico experience, based upon sampling, has also shown that many of the contaminants released by oil and gas development are hazardous and even toxic to public health and the environment. The New Mexico OCD conducted an analysis of drilling and production pits in 2007 and found that many of these pits contained high enough levels of heavy metals and other hazardous constituents, e.g., naphthalene, benzene, and toluene, to be considered Superfund Sites.² In fact, a report prepared by the OCD staff stated that: “except for the RCRA Exemption, ... constituents were present at concentrations that would be characteristically hazardous at other sites”.³

There has been a similar experience in Colorado. Our review of that state’s database found that over 1500 reported spills/releases have occurred since January of 2003. Of these 1500, over 20% have impacted ground and/or surface water.⁴ The oil and gas industry submitted its own study to the Colorado Oil and Gas Conservation Commission this past summer. The industry’s testing results were above state groundwater standards

¹ New Mexico oil Conservation Division, *Generalized Record of Ground Water Impact Sites*, September 30, 2005. Available at: <http://www.emnrd.state.nm.us/ocd/Statistics.htm>.

² New Mexico Oil Conservation Division, *Analytical Results of OCD’s Pit Sampling Program* (2007). Available at: <http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental>.

³ New Mexico Oil Conservation Division Presentation by Staff at Pit Hearing #14015, Exhibit #15, *OCD’s 2007 Pit Sampling Program: What is in that pit?* (November 2007).

⁴ Oil & Gas Accountability Project, *Colorado Oil and Gas Industry Spills: A Review of COGCC Data (January 2003-March 2008)*, April 23, 2008. Available at: <http://www.ogap.org>.

for benzene and toluene for samples taken in each of the four major oil and gas development basins.⁵

Impacts to water sources from the transportation of produced water, waste pit contents and hydraulic fracturing (fracing) fluids are also of great concern. For almost all gas shale wells the rock around the wellbore must be stimulated or hydraulically fractured before a well can produce significant amounts of gas.⁶ This fracturing process, as well as others during the life of a well, requires hundreds of large trucks to haul the stimulating and fracing constituents. Not only does this impact the roads and residents with noise and dust, but it also creates the inevitable consequences of trucking accidents - accidents that can involve large volumes of hazardous materials.

For example, residents in the area of the Barnett shale in Parker County, Texas are already experiencing tremendous amounts of truck traffic – approximately 100 trucks per day in a neighborhood that, as yet, only has 10 wells drilled out of the 30 planned for development. Citizens living in older gas fields, such as those in Colorado, also know the consequences of heavy truck traffic on their neighborhoods and water resources. In 2005, a Halliburton truck released over 300 gallons of acid into the Colorado River when the truck overturned. In 2006, another Halliburton truck spilled diesel fuel into the Colorado River as a result of an accident.⁷

III. Specific Incidents

The following incidents illustrate that the spills and releases occur in a variety of ways, through drilling, waste pits and hydraulic fracturing, affecting both people and their water.

Hydraulic Fracturing: A couple in Garfield County, Colorado had their water well explode after fracturing activities began on the neighboring property (approximately 1000 feet from their house). They could light their water on fire because of the high levels of methane, although the agency initialing maintained that the methane was naturally occurring. It wasn't until the impacted woman developed a rare adrenal gland tumor and pursued her case with the legal help, and the assistance of a scientist, that more tests were completed showing that methane and chemicals, including 2-BE, had in fact gotten into their water because of the drilling and fracturing activities.⁸

⁵ Colorado Oil and Gas Association, Rebuttal Statement Exhibits 10 - 5 & 10 - 6, Colorado Oil and Gas Conservation Commission Hearing Docket #0803-RM-02 (2008). Available at: <http://cogcc.state.co.us/RuleMaking/2007RuleMaking.cfm>.

⁶ Oil & Gas Accountability Project, *Shale Gas: Focus on the Marcellus Shale* (May 2008). Available at: <http://www.ogap.org>.

⁷ Department of Homeland Security, *Dept. of Homeland Security Daily Open Source Infrastructure Report* (November 11, 2006). Available at: http://osd.gov/com/osd/200611_November/DHS_Daily_Report_2006-11-22.pdf.

⁸ Oil & Gas Accountability Project, *Oil & Gas at Your Door? A Landowners Guide to Oil and Gas Development*, pg. IV 23 – IV 25 (2005).

Drilling and Fracturing Fluids from Pits: A rancher in southwest Colorado came home a day after a well had just been completed on the neighboring property, approximately 400 feet from his house. He took a drink of water from his kitchen sink and immediately spit it out because of the bad taste. The regulating agency in Colorado determined that an unlined drilling pit had been used and that fluids from that pit had contaminated the rancher's domestic water well.

Another Coloradoan recently visited his hunting cabin in the western part of the state to find that his water well had been contaminated. The gentleman took a drink of water from his tap and immediately felt a burning sensation in his mouth and throat. He was taken to the hospital for treatment, as testing of his water revealed that it contained benzene – a known carcinogen. The regulating agency has issued notices of alleged violation to several companies and the exact source of contamination remains under investigation.⁹

Waste Drilling Fluids: This past winter, as a result of at least four pit-related leaks near the Garden Gulch area in northwest Colorado, a frozen waterfall of pit sludge threatened the land and irrigation surface waters of area residents. The release came from leaks at the bottom of pits and traveled through fractured shale until it reemerged as a frozen waterfall over a cliff. The regulating agency has confirmed that the spills were from pits, has issued notices of alleged violation, and is working towards remediation.¹⁰

Water Well Contamination: On August 26, 2008, the Pinedale (Wyoming) Anticline Working Group released its annual report on area ground and surface water quality for the Pinedale gas field. The report revealed that a number of water wells in the area were contaminated. The Sublette County Conservation District (SCCD) performed the yearly analysis, testing for a number of chemicals, including chloride, fluoride, sulfate, and total dissolved solids. Beginning in spring 2008, some wells were also tested for total petroleum hydrocarbons (TPH), which measures the diesel range organics (DRO) and gasoline range organics (GRO) of the water.

In its annual report, the SCCD gave results from 257 samples, taken from 220 wells. These included industrial wells, stock wells and domestic wells. 23 percent were above accepted limits for drinking water.¹¹

House Explosion and Hydraulic Fracturing: On December 15, 2007, the Geauga County Emergency Management Agency notified an Ohio Department of Natural Resources, Division of Mineral Resources Management (DMRM) Inspector that there had been an explosion at a house in Geauga County, Ohio. The Bainbridge Township Fire Department and Dominion East Ohio personnel recognized that natural gas was entering

⁹ Article pertaining to the contamination can be found at:
<http://www.postindependent.com/article/20080701/VALLEYNEWS/270473249/1001&parentprofile=1074>

¹⁰ Article pertaining to the spills in the Garden Gulch area can be found at:
<http://www.postindependent.com/article/20080315/VALLEYNEWS/877853434>

¹¹ Article pertaining to the contaminated wells in Pinedale, WY can be found at:
http://www.pinedaleroundup.com/V2_news_articles.php?heading=0&story_id=788&page=72.

homes via water wells. The DMRM subsequently determined that accumulation and confinement of deep, high-pressure gas in the surface-production casing annulus of a recently drilled gas well resulted in the migration of gas into natural fractures in the bedrock below the base of the cemented surface casing. The pressure associated with the hydraulic fracturing of the well contributed to the gas migrating vertically through fractures into the overlying aquifers before exiting the aquifers through local water wells.¹²

IV. Brief Assessment of NY Regulations

OGAP staff has recently begun a detailed review of New York's oil and gas regulations, as compared with other state regulations. Our initial review indicates that the current New York state oil and gas regulations do not seem adequate to protect public health and the environment. Comprehensive regulations that require operators to maintain chemical inventories, residential setbacks, best management practices, and exclusionary buffer zones are currently in use around the country. These regulations are not in place in New York and should be incorporated into the New York regulatory scheme prior to development in the Marcellus Shale.

Specifically, the current setback for public water sources provided in 6 NYCRR § 553.2 is 50 feet. The incidents mentioned above clearly show that contaminants can travel considerably farther than 50 feet. Colorado is currently considering a buffer zone of 300 feet within municipal watersheds, based on these incidents and many others that have threatened the quality of ground and surface water sources.¹³

Further, the regulations for waste pits provided in 6 NYCRR § 554.1 do not address drilling fluids. Waste pits that contain drilling fluids do not have to be lined, cleaned up and wastes disposed of in a permitted facility, or even monitored for potential seepage into groundwater sources. As was found in studies conducted by Colorado and New Mexico, drilling fluids move very rapidly, in air or in soil and water, can be hazardous and can be very expensive to clean up, if not properly managed. New Mexico has implemented considerably stricter standards for all waste pits, which have almost effectively eliminated them from the southeastern part of the state. Colorado is in the process of overhauling all of its rules, including those that apply to waste pits.

There are currently over 14,000 active wells in the state of New York.¹⁴ This number is expected to grow exponentially over the next 30 years, as the Marcellus shale begins to be developed. While OGAP could not get a firm confirmation of staffing levels from the Bureau of Oil and Gas Regulation, we believe that there are three compliance and

¹² Report on the Investigation of the Natural Gas Invasion of Aquifers in Bainbridge Township of Geauga County, Ohio, September 1, 2008, Ohio Department of Natural Resources Division of Mineral Resources Management.

¹³ Information regarding the proposed Colorado oil and gas regulations can be found at: <http://cogcc.state.co.us/>.

¹⁴ <http://www.dec.ny.gov/energy/205.html>.

environmental enforcement staff. If the Marcellus shale develops quickly, it is physically impossible for this level of staffing to adequately handle this level of growth, particularly given that the current NY regulations are based on a reactive standard rather than a proactive one.

V. Possible Approaches

In thinking about possible approaches to protecting New York City's drinking water, there are a number of suggestions that can be made, based upon experience elsewhere.

1. A Voice at the Table. At the most general level, municipalities and landowners have consistently found that they need a direct voice in the permit process. As with most states, the New York Bureau of Oil and Gas's mission is mostly focused on the development of the resource, not on protecting drinking water. It would be a mistake to expect otherwise. Therefore, the user of the water needs to establish a formal role in any drilling permit application process. Trying to get others to protect the water, or trying to influence how permits are administered after the fact does not result in good protection.

2. Prevention first. The hydrocarbons and chemicals at the heart of this industrial activity are notoriously mobile and (often) hazardous to health. Trying to chase down benzene, salts, heavy metals or polymers once they have been released into the soil or water is difficult, expensive and often unsuccessful. Therefore, building prevention measures into any gas drilling regulations is the most effective approach to protecting the water resource.

Two items in particular are critical to reducing the risk of contamination of water. First, the use of pitless drilling systems (sometimes called closed-loop drilling systems) should be mandatory within the city's drinking water watershed. The use of drilling mud or fracing fluid pits is not operationally required, is one of the single biggest contamination risks and represents a significant liability risk for the operator.¹⁵ Lovington, New Mexico, Palisade and Grand Junction, Colorado, and now the state of Colorado have required pitless drilling or are about to require pitless drilling in drinking water watersheds.

Second, any drilling regulations must require that the drilling site and related facilities be cleaned up to 'multiple-use' standards upon completion of gas development. By this, I mean incorporating any state hazardous waste numeric standards, for constituents such as hydrocarbons, chlorides, and heavy metals, in particular, into the gas drilling closure regulations. Experience in other states has shown very clearly that having such a clean-up standard at the end of the line focuses the operator's attention on his operations during the life of the well. In order to avoid heavy clean-up costs down the road, the operators find ways to minimize their waste production and handling in salutary ways, which has the effect of reducing the risks of contamination to water resources. After all, a gas well's life is only 20 to 30 years, not forever. So it is reasonable to expect that the site

¹⁵ Oil & Gas Accountability Project, *Closed-loop drilling systems - a cost-effective alternative to pits* (2007). Available at: <http://www.earthworksaction.org/alternativestopits.cfm#CLOSEDLOOP>

As a consequence, New York City may want to explore with the state the ideas of clustering gas development and phasing it over time. By clustering, I mean focusing permit approvals within a fairly focused area, and not simply allowing drilling everywhere at once. By phasing, I mean requiring the full development of the focused area before allowing development to move into other areas. Otherwise, the development pattern is driven by uncoordinated individual operators and their short-term revenue needs. This nearly always results in increased impacts to water, air, communities and wildlife.

6. Federal regulatory support may be helpful. As OGAP and others have noted, the Energy Policy Act of 2005 exempted hydraulic fracturing from federal regulation under the Safe Drinking Water Act (SDWA).¹⁷ Industry has often confirmed that hydraulic fracturing occurs at least once at 90% of all oil and gas wells. If the experience in the Barnett shale is any guide, each Marcellus shale gas well will require multiple hydraulic fractures over the life of the well. Given the range of chemicals involved, the high pressures used and the potential hazards associated with these chemicals, it may be prudent for New York City to look for assistance in regulating hydraulic fracturing not only with the state, but also with Congress.

Thank you for your time and attention, and I would be glad to answer any questions that you might have.

¹⁷ Oil & Gas Accountability Project, *The Oil and Gas Industry's Exclusions and Exemptions to Major Environmental Statutes* (2007). Available at <http://www.ogap.org>.



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City Ordinances

Myth or Fact?

City Ordinances

Local municipalities (cities) are responsible for various ordinances for issues such as zoning, the environment, building and construction permits and such in their respective city's limits.

Because of the increased production in the Barnett Shale area, cities have either developed or amended their individual natural gas well ordinances to regulate issues such as distance requirements, sound level, water usage and permitting processes. In fact, almost all North Texas municipalities have adopted an ordinance regulating the exploration and production of oil and gas.

Setback distances (the minimum length between a dwelling and a gas well that is required by a city) are the most common municipal regulation. However, these distance requirements vary from city to city, as do other gas exploration and production ordinances.

While oil and gas exploration and production companies are required to comply with city ordinances, which are set at minimum levels, many are being proactive in working with individuals and neighborhood associations on specific guidelines above and beyond the legal requirements.

Local City Ordinances (as of August 2007)

City officials review their ordinances from time to time and make amendments as necessary so please make sure to check your city's Web sites to find the most current ordinances. Below is a sample of select cities' regulations. Please refer to your city's Web site to find out what the ordinances are in your area.

I. Setbacks

Minimum distance of a wellbore (the open hole at the drill site) from an inhabitable dwelling

Resources

Fort Worth

Arlington

Bedford

Burleson

Colleyville

Denton

Keller

Southlake

Flower Mound

Ch. 34 Environment

Grand Prairie

Ch. 13 Health and Sanitation

Mansfield

North Richland Hills

Weatherford

Benbrook

Title 8; Health and Safety

Fort Worth	500 feet
Arlington	300 feet
Burleson	300 feet
Benton	300 feet
Flower Mound	1,000 feet for any residence with no mineral interest, and 500 feet for residence that share a mineral interest.
Grand Prairie	500 feet
Haselfield	300 feet
North Richland Hills	300 feet
Southlake	500 feet
Senbrook	500 feet
Weatherford	1,000 feet
Wylieville	1,000 feet
Bedford	no less than 500 feet
Keller	no less than 500 feet

- All cities have procedures to allow reduction in setbacks.
- Reductions in setbacks are typically authorized by a majority vote of one of the following: Council, Planning & Zoning Commission, Appeals Board.

If the adjoining property owner consents, some cities allow a setback as close as 200 feet.

II. Sound

Decibel levels allowed at certain distances

Fort Worth	Not more than 5 db over ambient (day) Not more than 3 db ambient (night)
Arlington	Not more than 5 db over ambient (day) Not more than 3 db ambient (night)
Burleson	72 db at 500 feet
Benton	90 db at 300 feet
Flower Mound	70 db at 300 feet
Grand Prairie	78 db at 300 feet
Haselfield	Not more than 5 db over ambient (day) Not more than 3 db ambient (night)
North Richland Hills	78 db at 300 feet
Southlake	70 db at 300 feet
Senbrook	Not more than 5 db over ambient (day) Not more than 3 db ambient (night)
Weatherford	A consultant shall recommend noise reduction levels and screening when deemed appropriate.
Wylieville	No greater 65dB when measured at 300 ft. from the drill site boundary.
Bedford	Cannot exceed Ambient Noise Level by more than 5 db during daylight or 3 db at night measured.
Keller	Internal combustion engines may be used in drilling operations, so long as noise does not exceed 65 (day) decibels at 300 ft.

How loud is 78 decibels?

- 25 db - ambient sound within a recording studio.
- 60 db - normal conversation at 3 to 5 feet.
- 75 db - inside car while driving down the highway.
- 80 db - home dishwasher or noisy office.
- 85 db - inside a car in city traffic.

How do drilling companies comply?

- Acoustical blankets.
- Sound walls - cargo containers, semi-trailers.
- Engine mufflers.

III. Road Maintenance

Cluteville	Road maintenance agreement required
Adrian	Road maintenance agreement required
Carleton	Road maintenance agreement required
Clark	Road maintenance agreement required
Powerdown	Road maintenance agreement required
Grand Prairie	Road maintenance agreement required
Mansfield	Road maintenance agreement required Security Bond, single well - \$100,000 Blanket Bond - \$200,000
North Richland Hills	Road maintenance agreement required Performance Bond - \$50,000
Southlake	Road maintenance agreement required Security Bond, single well - \$100,000 Blanket Bond - \$200,000
Benbrook	Signed citywide road maintenance agreement required
Weatherford	Must have approval from city council to use public streets
Coleville	Nothing specific
Oxford	A signed Road Repair Contract provided by the City that provides that the Operator shall repair, at his own expense, any damage to roads, streets or highways
Deller	Road Repair Agreement required before a gas well permit can be issued

How is damage determined?

- Self reported/video tape road condition before and after drilling.
- City staff inspection/citizen complaint.

IV. Landscaping and Screening

Fort Worth	Permanent chain link fence of least 6' in height Landscaping - 30% tree canopy coverage - Urban Permit Gas Wells
Arlington	8' masonry wall to enclose wells and tanks Landscaping - commercial standards
Burleson	8' masonry wall to enclose wells and tanks Landscaping - tree mitigation and shrubs
Denton	6' chain link to enclose wells and tanks Landscaping - tree mitigation
Flower Mound	8' chain link to enclose wells and tanks Landscaping - tree mitigation and shrubs
Grand Prairie	8' masonry wall to enclose wells and tanks Landscaping on all street frontages
Mansfield	8' masonry wall to enclose wells and tanks Landscaped earthen berm
North Richland Hills	8' masonry wall to enclose wells and tanks Landscaping on all street frontages
Southlake	8' masonry wall to enclose wells and tanks Landscaped earthen berm (or mound)
Benbrook	Minimum retention of 25% of existing trees required. All high impact production wells must be enclosed in 6 ft. masonry wall
Weatherford	All fencing and landscaping shall be within the discretion of the city council.

- (i) Some cities require a temporary fence around the drill site, while others only require fencing after drilling.
- (ii) Some cities are very detailed about the varieties of plants to use.

V. Other Areas of Municipal Regulation of Oil and Gas Operations

Some cities have developed regulations beyond distance requirements, sound, road use/maintenance and landscaping.

Saltwater disposal	No cities presently allow it inside the city limits
Compressor regulations	Many cities mandate that any combustion engines comply with noise requirements much the same as all other drilling operations. North Richland Hills and Arlington have setback requirements from property lines for these engines. Compressor screening, decibel threshold and zoning requirements vary dependent on the city ordinance.
Drilling mud systems	Some require a "close loop" system (no pits), while others allow open loop systems with temporary drilling mud pits. All pits are closed after drilling and the original contours restored.
Drilling in floodplain	Some do not allow it; others allow while others allow on a limited basis; several require approval from the US Army Corps of Engineer
Zoning	Of the cities on the list, half require zoning for Oil & gas sites
Cost well permits fee	Range from \$1,500 (Fort Worth) to \$9,700 (Arlington) per well

Who do I contact with questions or concerns?

BSEEC
 contact@bseec.org
 817-336-8789

January 30, 2009

DEP zeros in on gas tainting water

Tests show source is a formation tapped for energy

By Tom Wilber
twilber@gannett.com

Natural gas invading at least nine water wells in Dimock Township has been tracked to the Marcellus Shale or a similar formation being tapped by drilling crews working in the area.

In an effort to fix the problem, regulators from the state Department of Environmental Protection have asked Cabot Oil & Gas to vent its natural gas production wells around the Carter Road area, just south of Montrose, said Mark Carmon, a spokesman for the agency. The intention is to give the gas seeping in the ground and collecting in water supplies a means to escape.

"The company is doing everything we are asking of them," Carmon said.

Cabot has taken water supplies of four homes off line and provided water tanks. State officials have advised residents of other homes in the area to vent their wells to reduce the chances of an explosion.

Tests have found gas in water supplies, but not basements or living areas. The state and Cabot are continuing to monitor homes in the area, Carmon added.

Tests show gas found in water is "production gas," Carmon said, meaning it escaped from the kind of geological formation commonly tapped for energy. The state has ruled out the possibility it was a product of organic conditions in shallow ground that sometimes affect water wells.

Carmon stopped short of blaming Cabot, adding more lab work is needed to pinpoint exactly how the gas migrated from thousands of feet below the earth.

Cabot, of Houston, is drilling dozens of wells into the Marcellus Shale, a massive natural gas reserve running a mile or more under the Southern Tier and Pennsylvania countryside. Agency scientists are conducting more tests expected to determine whether the gas came from the Marcellus, Carmon said.

Geologists were at a loss to explain how gas trapped in bedrock thousands of feet down could migrate into shallow aquifers without the drilling.

"This whole thing is very perplexing," said Gary Lash, a geology professor at SUNY-Fredonia. "It will be interesting to see what they find."

Ken Komorowski, a spokesman for Cabot, could not be reached Thursday evening.

APPENDIX F

Jonathan Rouis
Chairman of the Legislature



(845) 794-3000 EXT.3310
FAX: (845) 794-0650

SULLIVAN COUNTY LEGISLATURE
SULLIVAN COUNTY GOVERNMENT CENTER
100 NORTH STREET
MONTICELLO, NY 12701

December 1, 2008

Mr. Jack K. Dahl, Director
Bureau of Oil and Gas Regulation
Division of Mineral Resources
New York State Department of Environmental Conservation
625 Broadway - Third Floor
Albany, NY 12233-6500

RE: Scoping Comments on the Draft Generic Environmental Impact Statement on the Oil, Gas, and Solution Mining Regulatory Program

Dear Mr. Dahl:

This letter contains the scoping requests of the County of Sullivan. These requests represent the unanimous position of the Sullivan County Legislature (see, Resolution No. 426/08 attached) and the County urgently requests that each of the items set forth below be included in the scope of work with respect to the Supplemental Generic Environmental Impact Statement which you are about to undertake.

At the outset the County Legislature wishes to make it very clear that we are supportive of gas extraction from the Marcellus shale in this region. We believe such extraction represents both a responsible means of developing domestic energy sources and would provide a positive benefit for local economies if conducted in an environmentally prudent manner and in a manner which recognizes specific local features and conditions. That is why we request that the Department address the issues contained below. We believe that the requirements we are seeking will not impede drilling or extraction, but rather that they will facilitate and assure drilling and extraction in a manner which is harmonious with this region.

Sullivan County contains three areas of environmental sensitivity cited in the draft Scope: the New York City Watershed, the Catskill Park and the federally designated Upper Delaware Scenic and Recreational River. Much of the land situated between these major features contains "rugged topography, unique habitats and other sensitive areas," as highlighted in Sec. 1.4 of the Draft Scope. Specifically these include state-protected natural areas, DEC protected trout streams; state agricultural districts recognized for soils of statewide significance and as visual resources--through scenic/open space easements; contiguous forest lands of regional and "global" significance. Sullivan County has a concentration of Eagle habitats. Our road and

bridge infrastructure is distinctly rural, which, combined with local topography, means that most of our County and town roads, which would have to be used to access drilling sites, are narrow, twisty, hilly and contain many bridges of limited tonnage capacity. Finally, as I am sure you are aware, our location and topography means that we frequently suffer from major, sudden, catastrophic flooding events, events which cause loss of life, wash out structures, roads and bridges, denude hillsides, and carry all manner of things downstream. The very real prospect of such catastrophic flooding occurring where drilling and/or extraction is being conducted requires that particular precautions be implemented so as to prevent serious adverse environmental consequences.

We appreciate that some of our concerns may not be applicable elsewhere in the State and that as regards a State-Wide Generic Environmental Impact Statement it may be desirable to limit certain requirements only to this region. We believe that by including the following in the scope of work, even if limited as only regional requirements, the Department will be able to develop an updated GEIS which will permit cost effective drilling and exploration while at the same time responsibly addressing vital environmental concerns.

Assess the Impacts of Associated Pipelines, Transmission lines, Compressor Stations, and Accidental Spills or Emissions.

Section 1.5 of the Draft Scope states reasons why pipeline regulation is not included in the draft scope. Primarily it cites that "(1) the Public Service Commission, not the DEC, has jurisdiction over the siting of transmission lines and (2) at the time of well permit issuance, there is not certainty that any pipelines will be constructed." It further cites that "Department permits are required if an environmentally sensitive area such as a stream or wetland would be disturbed. Because these permits reviews are done when the decision is made to construct a pipeline rather than as part of the well permit review process, pipeline regulation is not included in this draft scope."

While we appreciate the jurisdictional issues, the problem with this segmented approach is that it adversely affects both the gas companies and the local communities. The gas companies must have the ability to forecast their true total costs not only in drilling but also in transmitting the gas. By leaving the consideration of the environmental issues related to transmission to another day and another agency the State would be depriving the gas companies of requisite information about true final costs. Moreover, as far as the communities are concerned, once exploration wells are successfully drilled there could be pressure to ignore significant environmental issues related to transmission in order to assure the gas is extracted and used. Neither the gas companies nor the local communities should be put in this position as a result of segmentation. The potential impacts of transmission should be evaluated as part of the cumulative impacts of development of the Marcellus shale basin. Depending on the volume of gas production, the construction of pipeline and transmission networks could have a significant impact on the local environment, especially in rural and secluded areas like Sullivan County. We know from other regions around the country that the siting and operation of compressor stations has an ongoing impact on the quality-of-life of residents due to the noise generated by these facilities. The impact on roads resulting from digging and laying pipelines needs to be assessed. In addition, the potential impact from runoff from the volume of site disturbance along roadways and other pipeline rights-of-way should also be part of the Scope of the dGEIS.

Furthermore, given that the responsibility for responding to accidents or construction failures in gas transmission networks will fall on local governments and Emergency Management Services, the SGEIS needs to evaluate potential impacts and hazards from natural gas transmission and recommend appropriate mitigation measures for local authorities to be equipped with the knowledge and resources in order to address potential hazards.

Evaluate Sound Environmental Practices of Storage and Transportation of Fracing Fluids, particularly if such is to take place in 100 and 500 Year Flood Plains.

Sullivan County welcomes the DEC pledge to review “information about fracturing fluid additives collected from service companies and chemical suppliers” and to review “fluid handling and whether any additional controls are required.” However, we recommend that the study investigate independent science on the fracturing fluid additives, beyond what is provided by industry, and assess and identify best-practice management as for the handling of these materials.

Additionally the updated GEIS must assess potential hazards and evaluate using and transporting these materials in flood plains given that Sullivan County and the Western Catskills are prone to violent and sudden events. Section 4.4 (Floodplains) must be expanded to incorporate FEMA’s forthcoming new guidelines on floodplain boundaries, plus local conditions where flash flooding has occurred in creeks and streams.

The County acknowledges the DEC’s intent to examine “whether pit liner specifications should be required for high-volume hydraulic fracturing flowback operations” and “whether steel tanks should be required in some or all areas to contain flowback fluids” (Sec. 2.1.2.1 Fluid Handling at the Well Site). The County urges to the DEC to apply the most expansive criteria in determining why and where these safeguards are to be implemented, as we see no benefit to taking risks in the handling of these fluids, particularly given the high incidence of flood events over recent years within our region. We submit that any cost-benefit assessment will demonstrate that proper requirements concerning the handling, storage and transportation of these fluids will ultimately benefit the gas industry as well as appropriately protect the localities.

Additional analysis is needed on the safety of disposing of returned fluids in injection wells and determining “whether any additional controls are warranted” (Sec. 2.1.2.2). The County urges the DEC to require “well permitting procedures” that mandate “verification of a disposal well permit or contract with a specific treatment plant,” because municipalities in Sullivan County are not served by industrial treatment plants or local sewage treatment facilities with unused capacity to process these fluids. Equally important, the scoping document needs to offer an examination of the question of enforcement on disposition and the need for resources to carry out enforcement, either by DEC personnel or local authorities, must be addressed as part of this evaluation—as must be the identification of mitigation measures.

In flood-prone regions like Sullivan County (i.e. with mountainous conditions, steep slopes and narrow floodways—all prone to flash flooding), the Department should evaluate the likely specs for well-pad sites against land-use conditions that typically trigger site plan review and approval. For instance, several municipalities have local laws and ordinances requiring special permits for construction in flood zones and for clearing areas of forested land of a specified number of acres. Construction of well-pad sites could indirectly increase downstream flood conditions, either through the size of surface disturbance or due to impermeable or lower-permeability materials covering well pad sites.

Sullivan County welcomes the Department's pledge to "examine the likelihood of larger well pads to determine whether there are any associated environmental impacts not addressed by the GEIS" (2.1.4 Natural Gas Production). As such, the County recommends that the Department consider the aforementioned impacts, both site-specific and cumulative, related to flooding and erosion that may be caused either directly or indirectly by larger, potentially impermeable well pads. The Department should further consider what mitigation measures would be required, and under what conditions well pads should be prohibited.

Assess the Cumulative Impacts of Truck Traffic on Road and Bridge Infrastructure.

Under "Road Use" (Section 4.6), while the DEC acknowledges that the proposed activities "will result in more truck traffic than is associated with traditional drilling..." the scope needs to provide data on estimates for vehicle traffic based on industry projections on the number of wells and duration of drilling activities and the duration of these activities. Furthermore, the issues of vehicular traffic and damage to roads and bridges must be examined within "Cumulative Impacts" (Section 4.7) and "Community Character" (Sec. 4.8). Research by our County Planning Division shows that estimates of one-way truck traffic can be established for each phase of the drilling process. Recent testimony by municipal officials before the NYS Assembly Standing Committee on Environmental Conservation noted that road bond agreements they sought with the gas industry were inadequate for their circumstances. Therefore, it is imperative that a quantitative assessment of truck traffic be established to not only gain a general understanding of impacts on local roads, but provide a methodological justification for financial recovery to protect the public interest of municipalities and offer a justification for the gas industry of costs due to impacts to mitigate disputes between parties (i.e., municipalities and gas companies). Consistent with this point, the scope needs to acknowledge that this activity and the associated truck traffic will be occurring in areas like Sullivan County that lack a modern roadway infrastructure developed for industrial activity of this magnitude.

While Section 4.6 states that the dSGEIS will address "mitigation measures to ameliorate the impacts of short-term, high-volume truck traffic," the Scope needs to directly address the challenges for local municipalities, particularly in low-development, rural areas like Sullivan County, to manage the costs of damages to their roads and bridges, and to the costs of enforcement of any regulatory regime that arises. Finally, under "Noise impacts" (Sec. 4.1.1), the Scope must be expanded to evaluate noise from truck traffic en route through communities as part of the analysis.

Assess a Mechanism for Notifications to Municipalities by NYSDEC Upon Receipt of Permit Application.

On October 15, 2008, municipal officials from different parts of the New York State offered detailed testimony to the NYS Assembly Standing Committee on Environmental Conservation of issues related to gas development. A common theme mentioned among these officials was the lack of timely notification by the state of when a gas company is applying for a permit. As such, the dSGEIS needs to assess a means for municipalities to be informed when the NYSDEC receives a permit application. The analysis should assess a mechanism of notification for impacted municipalities and surrounding municipalities as well. In addition, the analysis should also outline procedures for the County and the local municipalities to be given "interested agent status" for review of proposed developments in these restricted areas.

Assess a Mechanism for Requiring a Drill Company to Notify a Municipality of a Permit Approval and Coordinate with Municipalities on Local Permitting.

As a corollary to the aforementioned point, the scoping document needs to include an evaluation for reasonable timeframes for notification, response and establishment of a road assessment agreement prior to the start of drilling. Furthermore, the scoping document needs to incorporate a municipal coordination component that outlines a required interface of the gas companies with the county and municipalities on road and driveway permits, and a discussion and plan on routes to be used to gain access to a potential drilling site. This assessment should outline a time period for the gas companies, and their subsidiaries, and consideration should be given to this time period and process as prerequisite to issuance of a drill permit.

Evaluate a Mechanism Requiring all Applicants that they be Required to Include, as Part of their Application Document, Statements from each Affected Municipality Regarding Potential Impacts and Suggested Mechanisms to Address such Impacts.

We noted earlier in this discussion that municipalities should be given interested agency status for the review of a proposed gas development project. Requiring that application documents contain statements from each affected municipality regarding potential impacts and suggested mechanisms to address such impacts would be of material benefit to the gas companies, to the localities, and to the Department. Please note: the County is NOT asking that there be a requirement of a signoff or approval by local affected municipal entities, but only that their comments be included with the application. By requiring that the gas companies deal with the affected local jurisdictions prior to submitting an application, and including the comments of such localities together with the application, the following would occur: (1) the gas companies would have the opportunity to be apprised of local concerns at the earliest possible stage; responsible gas companies would have the opportunity to sit down with affected local communities and formulate mutually acceptable mitigation measures; (2) the localities would be put on notice of possible drilling and/or transmission at the earliest possible stage and would have the opportunity to sit down with gas and transmission companies, in a calm, pre-application atmosphere, to work out acceptable mitigation measures. As a result, the Department would benefit in two ways: (a) to the extent that the companies and the localities had worked out their issues prior to the submission of the application the Department would be spared having to address such issues in its review process, and (b) to the extent that there were issues which had not been worked out and which were set forth in the comments of the local municipal entities submitted with the application the Department would know what the issues were up front and would be able to address them in a focused and timely manner. Everyone would benefit from such a requirement.

Assess Impacts on Aquifers and Individual Wells Due to Drilling Activity.

Under the "Assessment of Water Withdrawals..." (Sec. 4.2.1.4), the County welcomes DEC's intent to evaluate "potential aquifer depletion from the incremental increase in withdrawals" and mitigation measures related thereto, in the case of consumptive uses of potable water from public water supply systems (Sec. 4.2.1.4, p. 26). However, the County urges the DEC to also examine the potential for depletion of aquifers from cases where permits seek to draw water from *private* wells, whether on other *private* water wells or on the aquifers general. We ask the Department to recognize that in this area many existing industries, including farming, hotels, camps and the like, as well as residences, are totally dependent on private wells. Any adverse impact on the aquifers or on such wells would be devastating to existing industries and residents.

Under "Groundwater Quality" (Sec. 4.2.2), the County welcomes the DEC's pledge to "evaluate whether anticipated [activities under review] have the potential to create any groundwater pollution scenario that is not examined by the GEIS or is not addressed by existing requirements and practices." (Sec. 4.2.2, p. 28). The County urges the DEC to take an inclusive view of past experience with similar practices in other regions of the country as well as the unique conditions of regions like the Western Catskills within New York State.

Furthermore, while the County acknowledges that "Casing and Cementing Practices" (Sec. 4.2.2, p. 27) have been determined to seal freshwater aquifers from contamination by fracturing fluids or naturally occurring contaminants during operations, we urge the DEC to review incidents where contamination of aquifers and water wells has occurred during the drilling and installing of these casings prior to operations. Beyond the initial installation, the scoping document should review all possibilities for contamination via breaks or failures in the casings, mitigation measures and liability for address contamination of aquifers from unforeseen circumstances.

Finally, under "Safe Drinking Water Act Hydraulic Fracturing Exclusion" (Sec. 4.2.2.1), the County applauds the DEC's interpretation of the Energy Policy Act of 2005 as NOT applicable to oil and gas extraction in New York State, in seeking to exclude hydraulic fracturing from the definition of "underground injection" in the Federal Safe Drinking Water Act.

Assess the Social and Economic Impacts Both During and After Drilling Operations.

The dSGEIS needs to look at the total social and economic picture, both negative and positive, surrounding proposed gas development. As such, the scoping document needs to include methodological approaches that assess: (1) boom and bust effects on housing market, schools, medical facilities, emergency facilities and other infrastructure; (2) social problems (crime, etc.) witnessed in other regions; (3) effects on adjacent property values (Will gas leases, drilling or possibility of leasing have a blighting effect on adjacent properties?); and (4) study the benefits to New York taxpayers that would result for gas development in the effected shale basins and additional geographic areas that will experience gas drilling.

Assess Impacts on Municipal Services due to Activities Ancillary to the Drilling Operations.

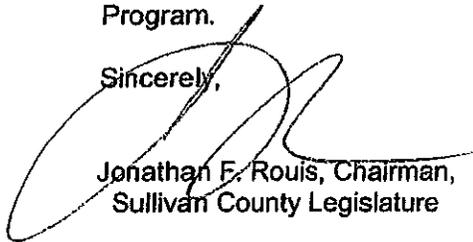
It is plausible to assume that gas development will yield accompanying impacts beyond just the impacts on land use and infrastructure. Therefore, the scope should require an analysis of ancillary impacts to assess (1) potential conflicts with agricultural practices in the area; (2) impacts of seismic exploration; (3) impacts on municipal services due to influx of workers and support personnel; (4) potential conflict with recreational and tourism activities in the area; and (5) ability to provide workforce housing.

Final Comments

In closing, we urge the DEC to include the aforementioned categories and issues within the Scope of the SGEIS and to thoroughly address these concerns in terms of the cumulative impacts of anticipated gas drilling activity in our area. While the SGEIS is narrowly targeted to the practices of horizontal drilling and high-volume hydraulic fracturing, the DEC must acknowledge and evaluate the full spectrum of industrial activities that can be projected to occur in our area as relates to development of the Marcellus and/or other shale basins, which will be made possible by the use of these practices.

We thank you for the opportunity to provide these comments to be included in the Scope of the Draft Generic Environmental Impact Statement on the Oil, Gas, and Solution Mining Regulatory Program.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jonathan F. Rouis', written over the word 'Sincerely,'.

Jonathan F. Rouis, Chairman,
Sullivan County Legislature

Cc:

Hon. Sen John Bonacic, 42nd Senatorial District
Hon. Aileen Gunther, 98th Assembly District

CHAPTER 253 SEISMIC SURVEYS

[HISTORY: Adopted by the Town Board of the Town of Bethel 12-11-2008 by L.L. No. 9-2008 . Amendments noted where applicable.]

GENERAL REFERENCES

Street excavations — See Ch. 294, Art. I.

§ 253-1 Findings.

Seismic exploration is the primary method of exploring for subterranean hydrocarbon deposits. When a survey of the earth's substructure takes place, the waves of sound vibrate underground and bounce back to the surface and are analyzed. Controlled charges of dynamite, thumper trucks, or vibrator trucks are used on land to create the sound waves. Since the thumper trucks and vibrator trucks often operate on local roads and highways, the Town finds that it is in its interests to regulate such activities on Town highways to protect the integrity of the roadways, and the infrastructure thereunder, and to minimize impacts on traffic.

§ 253-2 Definitions.

The following defined terms are used in this Chapter 253.

APPLICANT

Any person who makes an application for a permit authorized by this chapter.

COMPLETION DATE

The date that the permit holder notifies the Town that the seismic survey has been completed.

GEOPHONE

A recording device used in the collection of soundwaves for a seismic survey.

MULCHING EQUIPMENT

Any equipment used in the clearing of brush and smaller trees and typically used in the creation of seismic lines.

PERMIT HOLDER

A person to whom a permit has been issued pursuant to the requirements of this chapter.

SEISMIC LINE

The locations for the distribution of explosive devices and recorders to be used in certain forms of seismic surveys. This term is also referred to as a "source line."

SEISMIC SURVEY

The production and recordation of images produced by generating and analyzing sound waves that travel through the earth. It includes any geophysical operation that uses a seismic energy source to generate acoustic waves that propagate through the earth for the purposes of exploration. It also includes any reflection seismology used to map the subsurface structure of rock formations or gather data to map structural traps that could potentially contain hydrocarbons.

THUMPER TRUCK

Any vehicle, including but not limited to any weight-drop truck, that emits acoustic waves by dropping a weight to the ground for the purposes of conducting a seismic survey.

TOWN HIGHWAY

Shall include any highway located in the Town of Bethel meeting the definition of New York Highway Law § 3, Subdivision 5, and shall include the necessary sluices, drains, ditches, waterways, embankments, retaining walls, rights-of-way, culverts and bridge approaches appurtenant thereto.

VIBROSEIS TRUCK

Any vehicle, including but not limited to a vehicle that contains a shaker unit or vibrator, that emits energy signals into the earth for the purposes of conducting a seismic survey.

§ 253-3 Regulated and prohibited activity.

A.

No person shall conduct any seismic survey, operate a vibroseis truck, or use a geophone on any Town highway without first obtaining a permit under the provisions of this chapter.

B.
No person shall conduct any seismic survey, operate a vibroseis truck, or use a geophone on any Town highway between the hours of 6:00 p.m. and 8:00 a.m., Monday through Friday, or on any Saturday, Sunday or national holiday unless a permit issued hereunder expressly provides otherwise.

C.
No person shall operate a thumper truck, operate mulching equipment with the intent to create a seismic line, drill holes for any explosive charge, or use any explosive charges in connection with any seismic survey on or within 100 feet of any Town highway unless a permit issued hereunder expressly provides otherwise.

D.
No person shall conduct any seismic survey, operate a vibroseis truck or thumper truck, operate mulching equipment with the intent to create a seismic line, drill holes for any explosive charge or use any explosive charges or use a geophone in connection with any seismic survey on any private land within the Town of Bethel without providing ten (10) days advance written notice of such seismic survey or related activity to the Town Code Enforcement Officer.

E.
The notice required by Subsection D, above, shall provide the name, address, and contact information of the party conducting the seismic survey and the dates, and hours during each day, during which the seismic survey will be conducted.

§ 253-4 Permits; applications; fee.

A.
Permits for certain activities. Where a seismic survey is planned to be conducted on any Town highway by any person, such person must secure a permit pursuant to this § 253-4.

B.
Application for permit.

(1)
The application shall be on a form provided by the Town Clerk for such purpose, and if no form is available shall contain the following information:

(a)
The name, address, and contact information of the applicant;

(b)
The name, address, and contact information of any subcontractors who will be performing any work in connection with the seismic survey;

(c)
A description of the seismic survey, including a summary of the methodology thereof, and the number of trucks, and their gross weight, to be used in the seismic survey;

(d)
A list of the Town highways (or portions thereof) and the length in miles that will be traversed during the implementation of the seismic survey;

(e)
A specification of the dates, and hours during each day, that the seismic survey will be conducted;

(f)
The identification and contact information of the job foreman or person responsible for the seismic survey and who shall be responsible for ensuring that the implementation of the seismic survey complies with any permit issued pursuant to this section;

(g)
A description of any road closures and a plan for diversion of traffic, if necessary, and a description of needed support personnel including flagmen, survey crews, police support, and any other similar persons; and

(h)

Any other information that the Town Board may reasonably require.

(2)

The application for a permit shall be submitted at least 45 days in advance of the proposed commencement of any seismic survey or related activity.

C.

Application process.

(1)

Permit applications shall be made to the Town Clerk who shall forward each application to the Town Board for review and consideration. The issuance of a permit shall be discretionary and shall be issued only where the Town Board determines that the permit application is complete and that such permit is reasonable and necessary and will allow a seismic survey that is consistent with the requirements of this chapter.

(2)

For each permit application, the Town Board shall consider the number of days that the proposed survey will take place, the number of miles of Town roads affected, the potential impact on Town roads and any infrastructure thereunder, the impact of the survey upon traffic, the financial resources of the applicant, and any other factors deemed relevant by the Town Board.

(3)

The applicant must post security in the form to be determined by the Town Board and shall be in an amount to cover any potential loss or damage to Town highways or any infrastructure within said Town highways. Said security will be posted in accordance with a written agreement, the form of which must be approved by the Town attorney. Said security must remain in place for six (6) months after the completion date of the seismic survey where the seismic survey is conducted on a Town highway that contains sewer or water infrastructure and for sixty days (60) days after the completion date of the seismic survey on all other Town highways. Within five (5) days of the completion of the seismic survey, the applicant shall notify the Town of the completion date.

(4)

The applicant must indemnify the Town to cover any potential loss or damage resulting from the conduct of the seismic survey. In addition, the applicant must provide evidence of insurance, including workers' compensation insurance, automotive insurance, and comprehensive general liability insurance. The limits of coverage for the automotive insurance and comprehensive general liability insurance shall be in an amount as determined by the Town, and the Town shall be listed as an additional insured on each such policy.

(5)

The Town Board may include any reasonable conditions in the permit, including but not limited to, a limitation of the term of the permit to a fixed period of time, date, duration and location of the seismic survey. Further, the Town Board may designate certain Town highways upon which no survey may be conducted or upon which certain vehicles are not permitted on the basis of designated weight, designated length, designated height, or in excess in eight feet in width.

(6)

Any permit application review shall be subject to the requirements of the State Environmental Quality Review Act and its implementing regulations found at 6 NYCRR Part 617.

(7)

If the Town Board fails to rule on a permit application within 60 days of its submission to the Town Clerk, the application shall be deemed denied. The Town Board and the applicant may mutually agree to extend the foregoing time period.

D.

Any permit issued by the Town Board under this chapter may not be assigned to any other party without the express written consent of the Town, which consent may be withheld at the sole discretion of the Town. The issuance of a permit under this chapter shall not confer any drilling or exploration rights to any applicant beyond the scope of a seismic survey.

E.

A copy of any permit shall be provided to the Town Constables and the Building Department for use by the Code Enforcement Officers and inspectors.

F.

Each applicant shall pay a nonrefundable application fee at the time of making the permit application in an amount established from time to time by resolution of the Town Board. Each applicant shall be subject to the payment of the fees and expenses incurred by the Town for the retention of experts and consultants who provide services in connection with any review and advice rendered in connection with any application. The payment of such fees and expenses shall be governed by the procedures set forth in Town Code § 345-7.

G.

Each applicant shall supply to the Town copies of all reports, data, and information gathered or assembled during any seismic survey conducted pursuant to a permit issued hereunder. Said reports, data, and information shall be submitted to the Town no later than 30 days after the completion date, unless the permit shall specify a different time period. An applicant may make written request that the Town withhold public dissemination of any such report, data, and information, provided that it can establish that any such report, data, or information would constitute an exception from disclosure under New York Public Officers Law § 87, Subdivision 2(d).

§ 253-5 Stop-work orders; modification or revocation of permit.

A.

Stop-work orders.

(1)

The Town Code Enforcement Officer, and any inspector designated by the Town Board, may issue a stop-work order to any person who is in violation of any provision of this chapter or any permit issued hereunder.

(2)

If a stop-work order issued pursuant to this section is not withdrawn or vacated by the issuer within five business days of its issuance, the person to whom the stop-work order was issued may file a written appeal to the Town Zoning Board of Appeals, unless the permit in question is subject to modification or revocation as provided in Subsection B, below. No work that is the subject of any stop-work order may continue until such time as the stop-work order is withdrawn or vacated by the issuer or the Town Zoning Board of Appeals.

B.

Modification or revocation of permit.

(1)

Any permit issued in accordance with this chapter may be modified upon the mutual written consent of the Town and the permit holder or modified or revoked by the Town Board upon 10 days advance written notice to the permit holder. The modification or revocation of a permit can occur upon a finding by the Town Board of a violation of this chapter or any permit issued pursuant thereto. In addition, the Town Board may modify or revoke a permit upon a finding by the Town Board that the conduct of any work pursuant to any such permit causes unanticipated damage to any Town highway, or the infrastructure thereunder, or traffic delays, or if said work is conducted in a negligent or reckless manner that exposes the Town, its citizens, or the general public to potential injury.

(2)

Except upon the mutual written consent of the Town and the permit holder, no permit shall be modified or revoked until such time as the permit holder has an opportunity for a public hearing before the Town Board. The hearing shall be scheduled on a date within 30 days of the date of the notice issued in Subsection B(1), above, or at some other date mutually convenient to the parties. The Town Board shall not be bound by the formal rules of evidence. At the conclusion of the hearing, the Town Board shall promptly issue a written decision and serve a copy of the same on the permit holder, who shall be bound thereby. Appeal of any adverse determination hereunder shall be governed by Article 78 of the New York Civil Practice Law and Rules.

§ 253-6 Penalties for offenses.

Persons who violate this chapter shall be guilty of a violation and subject to punishment by a fine of not less than \$50 nor more than \$500 or by imprisonment of not more than 15 days or by such fine or imprisonment or other penalties as may be available under the Town Law or the Penal Law. Each separate violation shall constitute a separate additional offense.

