



## TOMPKINS COUNTY

# ENVIRONMENTAL MANAGEMENT COUNCIL



121 East Court Street Ithaca, New York 14850

Telephone (607) 274-5560 Fax (607) 274-5578  
www.tompkins-co.org/emc

January 11, 2013

New York State Dept. of Environmental Conservation  
625 Broadway  
Albany, NY 12233-6510

Attn: Draft HVHF Regulation Comments

When political scientists review the history of the High-Volume Hydraulic Fracturing Marcellus Shale gas exploration and development program in New York State, they will conclude that the process for implementing it was inherently flawed from its inception. The New York State Environmental Conservation Law has assigned the New York State Department of Environmental Conservation (NYSDEC) the mission of conserving, improving, and protecting the State's natural resources and environment while simultaneously encouraging industrial and commercial development in the State. Unfortunately the Legislature combined minerals management and environmental protection functions in one agency. Very few other states utilize this model due to its inherent conflicts; combining gas production drilling oversight with environmental regulation. It has been obvious to many for some time that New York State requires an autonomous environmental regulatory agency.

Promotion of gas development is occurring in a period of economic recession. There are substantial pressures from industry and many landowners to proceed with this program expeditiously. Meanwhile reductions in staff and funding resources at the NYSDEC have limited the scope and thoroughness of the environmental review. Gas exploration and development regulations for New York State were adopted in 1972. Despite a Generic Environmental Impact Statement conducted in 1992, few additional regulations were subsequently promulgated. Instead of overhauling these 40-year-old regulations to address the utilization of a potentially environmentally impactful technology, the State's proposal only tinkers with the existing regulatory framework. In order to facilitate fast tracking of the development of gas production facilities, the expediency of this decision has hampered the environmental review process from the beginning. The pressure to expedite the process and the lack of available resources for an appropriate environmental review have limited the opportunity for the collection and assessment of the necessary and relevant scientific data.

The Gas Drilling Working Group of the Tompkins County Environmental Management Council wishes to communicate our specific concerns with the process as follows:

1. The NYSDEC has frequently provided an inadequate public comment period to review hundreds of pages of documents. Fortunately after substantial public criticism, comment

periods have been extended and we urge you to do so here with regard to the comments on the draft HVHF regulations. Providing for only a 30 day comment opportunity with an intervening period of major religious and national holidays is disrespectful and may substantially limit the public response to these draft regulations.

2. Consistent with the disjointed nature of this entire environmental review process, and in response to a looming legal deadline, the NYSDEC prematurely released these regulations. We request that you suspend this comment process until there is a full disclosure and public review of potential health and safety impacts. This information should not be incorporated into the rdSGEIS without the opportunity for public comment as the comment period already has been completed on that document. The internal review under preparation by Dr. Nirav Shah of the NYS Department of Health, at least from reports in the press, appears to be insufficient in scope and detail to address the myriad of previously identified potential health and safety concerns.
3. By truncating the review process and issuing the proposed regulations prior to the full rdSGEIS completion, we shall be required to undertake another regulatory review process at a later date. **Therefore, we submit the following comments under protest.** Also since Gov. Cuomo has been frequently quoted as stating that the HVHF regulations will be based on strict scientific evidence, we find it disturbing that the proposed regulations contain no foot notes, citations, bibliography, or any other references to specific scientific findings. **We do not believe, therefore, that the draft document complies with the requirements of the New York State Administrative Procedures Act** and it will need to be supplemented with identifiable sources for any supporting scientific data before the regulations can be formally adopted.

Respectfully submitted,  
Contributing Members of the Gas Drilling Working Group  
Tompkins County Environmental Management Council

Martha Ferger



Brian Eden



The EMC is a citizen board that advises the County Legislature on matters relating to the environment and does not necessarily express the views of the Tompkins County Legislature.

**Our comments on specific sections are listed below.**

**1. Re: Section 553.2**

Comment:

While Section 560.4 increased setbacks to dwellings or places of assembly, this increased setback should also be included in Section 553.2 where the setback remains at 150 feet.

**2. Re: Sec. 554.1 Drilling Practices and Reports: Prevention of Pollution and Migration (c)(1)** *Prior to the issuance of a permit to drill...requires pre-approval from the department...the owner or operator must submit and receive approval for a plan for the environmentally safe and proper ultimate disposition and/or disposal of used drilling mud, flowback water, and production*

*brine. The owner or operator must state in its plan that it will maximize the reuse and/or recycling...*

Comment:

Recycling and reuse will divert only a portion of the waste stream from proper disposition. Some of these residuals may be hazardous or radioactive. There are no existing facilities qualified and capable of safely treating and disposing of all such materials and fluids in New York State. Publicly Owned Treatment Works (POTWs) were surveyed by the NYSDEC's Division of Water and apparently none were interested in upgrading their facilities to treat the chemical and radioactive constituents in these wastes. Potential contaminants of concern found in flowback and produced water are as follows: benzene and other volatile aromatic hydrocarbons, surfactants and organic biocides, barium and other toxic metals, and soluble radioactive compounds containing thorium, radium, and uranium. The municipal filtration systems were not designed with such toxic constituents in mind, and the filtration systems' ability to remove them has received little study. It is reasonable to conclude, especially in light of the information from the study of Pennsylvania POTWs, that most of these substances would pass through a filtration system. POTWs would risk their ability to treat their primary waste streams and these toxic wastes would jeopardize the optimum functioning of their facilities.

It is unconscionable for the NYSDEC to promote the development of High Volume Hydraulic Fracturing production facilities without the in-state capability to safely treat this waste stream. Our experience with the by-products of the nuclear power industry should be instructive in this regard. Nuclear plants were constructed and permitted to become operational without an adequate plan to safely treat and dispose of their highly radioactive wastes. 50 years later we lack a wholly environmentally safe treatment and disposal strategy. The waste stream is currently inadequately managed by segregation and interim storage facilities. From their failure to intercept production brines from Marcellus Shale production facilities applied to local roads in NYS as a beneficial use, it is clear that the NYSDEC does not take seriously the radioactive pollution generated by waste water from shale gas drilling. EPA Region III requested data for drilling companies in Pennsylvania. Some of the radioactive contamination in the waste water was hundreds of times the safe maximum for drinking water (See Chesapeake Energy Corp. letters to EPA on May 26, June 9, and June 17, 2011). Testing of public drinking water supplies for radioactivity occurs very infrequently. The public could consume excess radioactivity without an awareness of having done so.

Once the HVHF technology is adopted in New York State, there will be an ever expanding waste stream. This may pressure the NYSDEC to approve inadequate and unsafe disposal options. Following the development of the chemical industry after World War II, waste products were often mishandled and improperly disposed. Hazardous waste sites such as those at Love Canal and Times Beach were discovered to be widespread. Adequate treatment and disposal technologies were developed. A system was established to provide the regulators with the necessary information to track chemical waste through its production and use to safe treatment and disposal. Costly Federal and NYS Superfund programs were enacted to clean-up the extensive water pollution and soil contamination that resulted from improper handling of these wastes. We do not wish to see this failed process replicated here.

There are no objective standards in the proposed regulations to address the more toxic components of this waste stream. Until such time as the needed regulations have been adopted and there is sufficient environmentally safe treatment and disposal facilities in operation to address the projected waste stream, no permits should be issued for HVHF production facilities.

### 3. Re: Section 555.5(a)(1-4) Plugging and Abandonment

**Comment:**

This section prescribes how wells will be plugged when they are abandoned. What is not mentioned is how abandoned wells from decades ago affect the migration of fluids and gas as the high pressure of hydraulic fracturing moves fluids through the geological formations above the shale. The DEC must assess the dangers presented by these unknown abandoned wells prior to allowing drilling, to determine whether there is a threat to a water resource and the potential for damage to the water resource from blowouts of unplugged or improperly plugged wells.

Citation: How Abandoned Wells Can Contribute to Methane Migration Problems.

<http://stateimpact.npr.org/pennsylvania/2012/10/09/perilous-pathways-how-abandoned-wells-can-contribute-to-methane-migration-problems/>

### 4. Re: Sec.556.2 Operating Practices: Gas Wells

**(b) No gas from any well except such as produced in a clean-up period not to exceed 48 hours after a completion or stimulation operation or workover plus that used for the controlled testing of the well's potential in a period not to exceed 24 hours, plus that used in any operational requirements, shall be permitted to escape into the air.**

**Comment:**

All well gas must be flared except for the five above reasons. However, not flaring fugitive gases is allowed for at least 168 hours and an additional open-ended amount for operational requirements. This appears to provide for the exceptions to negate the rule. Raw gas may consist of butane, ethane, propane, benzene, toluene, xylene, and hexanes. Allowing extensive venting of unburned gases not only has potential public health impacts, but also has a heat trapping effect. Permitting these fugitive emissions is inconsistent with the New York State Climate Action Plan. The following are excerpted from the NYSDEC Commissioner's Policy – Climate Change and DEC Action.

*In order to perform its core mission of conserving, improving, and protecting the State's natural resources and environment, DEC must incorporate climate change considerations in all aspects of its activities, including but not limited to, **decision-making, planning, permitting, remediation, rule-making...***

This Policy requires the integration of the following considerations:

1. *Department staff are directed to make greenhouse gas reductions a fundamental goal and to integrate specific mitigation objectives into programs, actions, and activities.*

*DEC should serve as a statewide and national role model in responding to climate change.*

There is a paucity of discussion in the rdSGEIS on climate science and consequently these regulations do not substantially address the environmental impacts of HVHF production facilities in this regard. The NYSDEC has consistently understated the likely greenhouse gas emissions from natural gas drilling and natural gas' contributions to climate change by relying on a few

outdated studies. Recently the National Oceanic and Atmospheric Administration's (NOAA) Earth System Laboratory in Boulder, Colorado found alarmingly high methane emissions from natural gas extraction. At least 4% of the methane produced in a field near Denver was escaping into the atmosphere and possibly much more. The Department has also underestimated how powerful natural gas is as a greenhouse gas. Methane is a significant contributor to climate change over the lifecycle of natural gas production and use especially over the first 20 years following emission. Methane is 105 times more potent as a greenhouse gas than carbon dioxide over a 20 year timeline and 33 times more potent over a 100 year timeline. The state plan estimates that methane is only 72 times more potent over 20 years and 25 times more potent over 100 years. EPA recently concluded that natural gas production and distribution is now the single largest source of methane pollution in the U.S. Given the increasing evidence that climate change is accelerating, it is incredibly important to fully appreciate the significance of these analyses.

Governor Cuomo recently expressed his growing concerns with the impacts of climate change on the residents of New York State. He appointed several commissions to prepare reports to improve the State's emergency preparedness and response capabilities and strengthen our infrastructure to withstand natural disasters. The Tompkins County Environmental Management Council is committed to supporting the State's Climate Action Plan and our County's Comprehensive Management Plan with the associated Energy Strategy 2020. These draft regulations present a substantial threat to our environment and undermine the policies and programs of other state and local agencies.

#### **5. Re: Sec. 560.2 Operations Associated with HVHF: Definitions**

**(7)** *"chemical disclosure registry" shall mean the chemical registry website known as Fracfocus.org developed by the Groundwater Protection Council and the Interstate Oil and Gas Compact Commission. If such website becomes permanently inoperable then chemical disclosure registry shall mean another publicly accessible information website that is designated by the department.*

#### Comment:

A voluntary chemical disclosure registry is insufficient to address the public's right to know of their potential exposures to hazardous materials and substances. A mandatory online registry of all chemicals used in extraction activities must be maintained by the NYSDEC and published on its website.

#### **6. Re: Section 560.3(d)(2) Hydraulic Fracturing Fluid Disclosure**

Revised DEC regulations:

*"The department will disclose to the public the information submitted pursuant to paragraph (1) of this subdivision except that operators or other persons who supply information subject to paragraph (1) of this subdivision may request such records to be exempt from disclosure as trade secrets as provided by Part 616 of this Title. Records determined by the department to be exempt from disclosure shall not be considered a well record for purposes of disclosure."*

#### Comments:

The NYSDEC must make the chemicals used in HVHF operations available to the public, particularly to the medical community which must have this information and be able to release it, not only to treat patients correctly but to aggregate health records in order to determine if there are health related trends within drilling areas. Not to require such disclosure is unethical and a threat to public health and safety.

In addition, HVHF is exempt from the Federal Safe Drinking Water Act which authorizes the EPA to regulate the injection of toxic materials into the ground. The DEC must require that HVHF adheres to the standards governing the Federal Safe Drinking Water Act for all other sources of toxic substances and materials.

**Citation:**

Regulation of Hydraulic Fracturing Under the Safe Drinking Water Act

[http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/wells\\_hydroreg.cfm](http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/wells_hydroreg.cfm)

**7. RE: Section 560.4 – Setbacks Fail to Protect Livestock and the Food Chain**

**Comments:**

The 2012 peer reviewed paper by Dr. Michelle Bamberger and Dr. Robert Oswald, "Impacts of Gas Drilling on Animal and Human Health," concludes that "Animals, especially livestock, are sensitive to the contaminants released into the environment by drilling and by its cumulative impacts. Documentation of cases in six states strongly implicates exposure to gas drilling operations in serious health effects on humans, companion animals, livestock, horses, and wildlife." Domestic and game animals are likely to consume toxic drilling waste because they will be attracted by the high concentration of chlorides that is typical of produced water.

Section 560.4 must include a comprehensive list of protected land uses. Setbacks must be written for pasture lands and lands used for hunting in order to protect the agricultural industry and our food chain. Once the radioactive contaminants, endocrine disruptors and toxic compounds of other kinds enter animal tissues that are sold for human consumption, there is no limit to the number of people whose health may be harmed.

**Citations:**

Impacts of Gas Drilling on Animal and Human Health.

[http://www.psehealthyenergy.org/data/Bamberger\\_Oswald\\_NS22\\_in\\_press.pdf](http://www.psehealthyenergy.org/data/Bamberger_Oswald_NS22_in_press.pdf)

Consideration of Radiation in Hazardous Waste Produced from Horizontal Hydrofracking. E. Ivan White, Staff Scientist for the National Council on Radiation Protection, October 2012

**8. RE: Section 560.4 – Venting and Flaring**

**Comments:**

The proposed setbacks, Section 560.4, are insufficient to protect both human and animal health from the effect of air pollution associated with venting and flaring. The DEC has included arbitrary setbacks from the well locations as part of these regulations instead of basing them on the best available science, which indicates that public health will not be protected by 500 foot setbacks.

There is ample evidence to suggest that human and animal health has been compromised in locations downwind from high volume hydraulic fracturing (HVHF) operations. See "Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources" published in Science of the Total Environment in 2012 (<http://www.ncbi.nlm.nih.gov/pubmed/22444058>). It reported on air sampling data collected in Colorado that showed that residents living near extraction operations are at greater risk of health-related impacts than those living further away.

The Ventura County Air Pollution Control District (in California) has estimated that the following air pollutants may be released from natural gas flares: benzene, formaldehyde, polycyclic aromatic hydrocarbons (PAHs, including naphthalene), acetaldehyde, acrolein, propylene, toluene, xylenes, ethyl benzene and hexane.

In 2000, Canadian Public Health Association reported "There have been over 250 identified toxins released from flaring including carcinogens such as benzopyrene, benzene, carbon disulphide (CS<sub>2</sub>), carbonyl sulphide (COS) and toluene; metals such as mercury, arsenic and chromium; sour gas with H<sub>2</sub>S and SO<sub>2</sub>; nitrogen oxides (NO<sub>x</sub>); carbon dioxide (CO<sub>2</sub>); and methane (CH<sub>4</sub>) which contributes to the greenhouse gases."

The DEC must prevent exposure to these air borne chemicals that cause human and environmental harm.

**9. Re: Sec. 560.5 Operations Associated with HVHF: Testing, Recordkeeping, and Reporting Requirements**

**(f) A Drilling and Production Waste Tracking Form must be completed. Forms shall be retained for three years by the owner or operator, transporter, and destination facility for any used drilling mud, flowback water, and production brine and drill cuttings removed from the well site.**

Comment:

Part 364 Waste Transporter Permits have no specific requirements for the transportation of drilling mud, flowback water, production brine, or drill cuttings because of federal exemptions for the oil and gas industry. These wastes are not classified as hazardous waste. Therefore, the form does not require sufficient information on the volume and contents of the waste and the methods of treatment. Since this exemption was politically inspired, there is widespread public awareness that, in fact, some of these chemical and radioactive wastes are toxic and may have a long-term environmental impact. These wastes may contain organic hydrocarbons, inorganic and organic additives, and naturally occurring radioactive materials. NYS must test these wastes to determine if there are indeed hazardous components present and then properly treat them prior to discharging them to the environment.

**(h) Hydraulic Fracturing Fluid Disclosure**

**(2) The department will disclose to the public information submitted by the owner or operator pursuant to paragraph (1) of this subdivision except that the owner or operator or other persons who supply information subject to paragraph (1) (ix) and/or (1) (x) may request that this information be exempted from disclosure as a trade secret as provided by Part 616 of this Title. Records determined to be exempt by the department shall not be considered as a well record for the purpose of disclosure.**

Comment:

This provision allows proprietary chemical constituents to be withheld from public disclosure. Companies may avoid disclosure if they claim that the additive is a trade secret. Trade secrets cannot be permitted to trump public health concerns. Regulations must require full public disclosure of all chemicals and additives including quantities employed in all stages of the gas extraction process. Material Safety Data Sheets must name and identify the quantity of every chemical used and be linked to each oil and gas well listed in the NYSDEC's online searchable database. Individuals charged with protecting public health including county health officers, doctors, and first responders must have ready access to the chemical composition of all compounds used in the drilling and fracturing process.

**10. Re: Sec. 560.6 Operations Associated with HVHF: Well Construction and Operation**  
**(c) Drilling, Hydraulic Fracturing, and Flowback**  
**(24) Diesel fuel may not be used as the base fluid for hydraulic fracturing operations.**

Comment:

While prohibiting diesel fuel from being used as the base fluid in hydraulic fracturing, it appears to still be allowed as an additive to the hydraulic fracturing mixture. Diesel contains benzene which is fairly water-soluble and which has been shown to be a carcinogen. A small amount can contaminate large sources of water. The NYSDEC should not permit any use of diesel or other known carcinogens in hydraulic fracturing fluid. Although migration of fracturing fluid into water sources is relatively rare, it has occurred. Those people whose drinking water sources would be contaminated must be protected against such an outcome.

**11. Re: Sec. 560.7 Waste Management and Reclamation**

**(i) Flowback Water**

*Flowback water recovered after high-volume hydraulic fracturing operations must be tested for naturally occurring radioactive material prior to removal from the site. Fluids recovered during the production phase (i.e. production brines) may also be tested for naturally occurring radioactive material prior to removal. Radiological analysis of flowback water and production brine must include analysis for combined radium (Ra-226 and Ra-228) and eight 226 and R8 to 28) and other analytes as directed by the department.*

*The soils adjacent to the flowback water and production brine tanks must be measured for radioactivity upon removal of the tanks and at such other times as the department may require. For soil samples, analyses must at a minimum include gamma spectroscopy for all naturally occurring gamma emitters including Ra-226 and Ra-228 (as determined by the presence of their decay products).*

Comment:

Testing for radioactivity is important but these regulations do not require tracking of radioactive waste to ensure that it is safely treated and disposed. The NYDDEC must determine where radioactive waste has been treated and disposed to ensure that there are no pathways of human exposure or ability to migrate to water bodies. Treatment of radioactive waste is expensive and not highly effective. The NYSDEC must assure residents that any and all radioactive waste will never make its way into the water supply either via disposal wells, landfills, or beneficial use determinations. The NYSDEC must assess the costs and require them to be borne by the owner of the well not the taxpayers of NYS or the residents living nearby.

**12. RE: (560.4) SETBACKS**

*Revised DEC regulations:*

*(a) No well pad or portion of a well pad may be located:*

*(1) within 500 feet from a residential water well, domestic supply spring or water well or spring used as a water supply for livestock or crops;*

*(2) within 500 feet from an inhabited dwelling or place of assembly;*

*(3) within a primary aquifer and a 500-foot buffer from the boundary of a primary aquifer*

*(4) within a 100-year floodplain; and*



*(5) within 2,000 feet of any public water supply (municipal or otherwise, or the boundaries of any public water supply reservoir, natural lake or man-made impoundment (except engineered impoundments constructed for fresh water storage associated with fracturing operations)."*

Comments:

The revised Draft Regulations (Section 560.4) proposes setbacks from high volume hydraulically fractured gas wells that are without scientific basis and fail to protect water supplies and public safety. They apparently ignore a 2011 peer-reviewed scientific study on gas migration, "Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing", conducted by Duke University (<http://www.nicholas.duke.edu/cgc/pnas2011.pdf>) which demonstrated that elevated levels of methane contamination of water supplies occur as far as one kilometer away from Marcellus gas wells. Since high volume hydraulic fracturing (HVHF) is known to impact water resources within a radius of one kilometer of a gas well, that should be a the minimum setback from all water supplies in New York State.

Setbacks of 500 feet from private water wells, Section 560.4(a)(1), are inadequate to protect the potable water sources for private water wells, which provide unfiltered water for hundreds of thousands of New York citizens who live on the targeted shale formations. Moreover the definition of water sources must include all waters that feed into or affect present or potential drinking water supplies. These include reservoirs, wetlands, streams, lakes, ponds, rivers, intermittent and seasonal water bodies and springs.

Section 560.4(a)(3) must be expanded to include principal and secondary aquifers and, as stated above, a 500 foot setback is inadequate. These regulations must be expanded to recognize and protect all usable aquifers. Principal aquifers are the primary water source for most of upstate New York and currently lack any protections in the proposed regulations.

The 2009 Hazen and Sawyer report, "Impact Assessment of Natural Gas Production in the New York City Water Supply Watershed", commissioned by the NYC Department of Environmental Protection recommended "that natural gas well construction be precluded within a buffer zone of seven miles from NYCDEP subsurface infrastructure." The final regulations should adopt this guideline for New York City's drinking water infrastructure.

[http://www.nyc.gov/html/dep/pdf/natural\\_gas\\_drilling/rapid\\_impact\\_assessment\\_091609.pdf](http://www.nyc.gov/html/dep/pdf/natural_gas_drilling/rapid_impact_assessment_091609.pdf)

**13. Re: Section 560.5 (c) Testing, Recordkeeping and Reporting Requirements**

*Any non-routine incident of potential environmental and/or public safety significance during access road and well pad construction, well drilling and stimulation, well production, and well plugging that may affect the health, safety, welfare, or property of any person must be verbally reported to the department within two hours of the incident's known occurrence or discovery, with a written report detailing the non-routine incident to follow within twenty-four hours of the incident's known occurrence or discovery.*

Comment:

Perhaps it is too obvious to include in the regulations, but we believe the **first** requirement should be to call for emergency help via 911. In addition to the DEC being notified of any non-routine incident of potential environmental and/or safety significance, the DEC must also require notification of the property owner, immediate neighbors, and the local municipality. In case the non-routine incident will potentially cause harm to human health, the local County Department of Health should also be notified.

14. RE: Section 560.5 (d)(1) – Benzene, Toluene, Ethylbenzene and Xylene (BTEX)

Comments:

The statement that water testing specifically include BTEX. (560.5 (1)) seems to indicate that BTEX may be used in HVHF, something the DEC has previously denied. These volatile aromatic compounds are known to be toxic to humans and animals and can contaminate both air and drinking water supplies.

Benzene, a component of both diesel fuel and BTEX, is classified by the EPA as a carcinogen. The Center for Disease Control (CDC) states "ethylbenzene is carcinogenic in animals." According to the CDC's Agency for Toxic Substances and Disease Registry "... all four chemicals can produce neurological impairment ..." and "Neurotoxicity is the critical non-cancer effect of concern for BTEX mixtures." "Based on findings in human and animal studies, acute or repeated exposure to any of the BTEX component chemicals is expected to produce neurological impairment resulting from the parent chemicals acting on components of neuronal membranes"

BTEX and all other toxic additives must be prohibited in all phases of oil and gas extraction.

15. Re: Section 750-3.3(a) Prohibited Activities and Discharges

*The prohibitions in this section are in addition to those listed in section 750-1.3 of this Part, unless in conflict, superseded or expressly stated otherwise in this section. Well pads for HVHF operations are prohibited, and no SPDES permit will be issued authorizing any such activity or discharge:*

*(1) within 4,000 feet of, and including, an unfiltered surface drinking water supply watersheds;*

*(2) within 500 feet of, and including, a primary aquifer;*

*(3) within 100-year floodplains;*

*(4) within 2,000 feet of any public (municipal or otherwise) drinking water supply well, reservoir, natural lake, man-made impoundment, or spring; and*

*(5) within 2,000 feet around a public (municipal or otherwise) drinking water supply intake in flowing water with an additional prohibition of 1,000 feet on each side of the main flowing waterbody and any upstream tributary to that waterbody for a distance of one mile from the public drinking water supply intake; and*

*(6) within 500 feet of a private water well or domestic use spring, or water supply for crops or livestock, unless the Department has granted a variance from the setback pursuant to subparagraph 560.4(c) of this Title, adopted on XX, 20XX.*

Comment:

While the DEC is very stringent in prohibiting drilling activities within 4,000 feet of an unfiltered public drinking water supply, it allows drilling within 500 feet of a private well which is also unfiltered water. The DEC must be consistent and demonstrate as much concern for those who draw their potable water supplies from homeowner wells as for those in the State's largest municipality.