Tompkins County

DEPARTMENT OF PLANNING

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Attn: Draft HVHF Regulations Comments
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-6510

Thank you for the opportunity to comment on the draft HVHF proposed regulations. As stated in our comments of January 10, 2012 on the revised dSGEIS, the rdSGEIS contained many serious deficiencies, even after considering the thousands of comments on the initial draft, and we were forced to conclude that the proposed HVHF drilling activities using current technology should not be permitted at all in New York State. That was the formal position of Tompkins County as stated in a resolution of the County Legislature adopted on December 20, 2011. We are now being asked to review proposed regulations without the benefit of seeing DEC's response to the thousands of comments on the rdSGEIS. We believe that this procedure is contrary to SEQR law and totally inconsistent with DEC's responsibilities.

Overview

On November 13th, NYSDEC Commissioner Joe Martens, Deputy Commissioner Gene Leff, and Bob Chinerey of the NYS Department of Health met with representatives of Elected Officials to Protect New York (EOPNY). According to the EOPNY letter to Governor Cuomo, Commissioner Martens, and Commissioner Shah dated December 3, 2012, during the meeting Commissioner Martens stated that there have been substantial changes to and expansions of the SGEIS, and that the public comments on the first two drafts of the SGEIS raised important issues and led to improvements in the NYSDEC's understanding and in the document. Under the State Administrative Procedures Act, the public must have an opportunity to see and weigh in on such significant changes. Since the regulations are based on the SGEIS and substantial changes have been made to the draft, the regulations should not be finalized before the SGEIS.

The Assessment of Public Comment accompanying the proposed regulations contains numerous references to the draft SGEIS. In those responses the DEC now repeatedly refers to undefined "permit conditions," supposedly to be based on the SGEIS, as a justification for not including important mitigation measures in the regulations. However, no one has had the benefit of seeing the proposed final SGEIS or responses to the most recent round of comments on the rdSGEIS. How are we to know what is proposed as final mitigations that could be included in such "permit conditions?" How can we comment on the adequacy of the regulations when we have no idea what changes, if any, have been made to the SGEIS? The proposed regulation of gas drilling as delineated in Part 560. Operations Associated with High-Volume Hydraulic Fracturing fails to require many of the mitigation measures identified in the rdSGEIS. We believe that it is essential that all of the mitigation measures identified in the SGEIS be incorporated in regulations. That is

the only way that the public can be assured that these measures are incorporated in every permit and that there is legal recourse if they are not complied with. We believe that DEC's publication of proposed regulations prior to completing the SEQR process is a fatal flaw in this process.

It is hard to imagine any court of law upholding this process. Nonetheless we feel it is once again necessary to point out some of the most glaring problems with the proposed SGEIS and regulations. We must emphasize, however, that trying to effectively comment on regulations when DEC's responses to prior comments repeatedly refer to an incomplete and unpublished SGEIS is an almost impossible task.

Comments on the rdSGEIS that directly relate to the regulations

Before turning to comments on specific provisions of the proposed regulations we must return to certain aspects of the rdSGEIS that relate directly to the content of appropriate regulations governing HVHF.

The rdSGEIS identifies several areas where local involvement would help to mitigate potential environmental impacts and the permitting process should actively involve local governments. The regulations provide for notification of the town supervisor or mayor of the first permit for a well site but only provide a 15 day comment period. As noted below that is woefully inadequate if local government is to play the role suggested in the rdSGEIS. Given the extremely limited resources of many local governments it is totally unrealistic to expect that this could be achieved in less than 60-90 days and the regulations should specifically recognize that this comment period will be incorporated into the permit application review process resulting in the necessity to apply for a permit at least 120 days in advance of any planned activity on a site. The regulations do not clearly indicate how that local input will be handled nor do they identify or acknowledge what authority local governments may have to impact the gas development process.

Assessing Cumulative Impacts

We noted in our comments on the rdSGEIS that if the Marcellus Shale gas resource is as great as is estimated, then broad-reaching cumulative impacts to New York State are likely to occur. Nothing in the regulations suggests any attempt to mitigate cumulative impacts and the rdSGEIS did not include dedicated sections addressing cumulative impacts. In order to understand our grave concern and some of the comments below on specific proposed regulations it is necessary to recount our analysis of potential cumulative impacts of HVHF in Tompkins County. The Tompkins County Planning Department has quantified some of the potential impacts within Tompkins County. These analyses could be extrapolated statewide and calculated county by county.

- If built out to the horizontal drilling spacing standards outlined in the rdSGEIS, Tompkins County could anticipate one three-acre site per 40 acres or one five acre industrial site per square mile (640 acres). In Tompkins County, assuming that a five-acre multi-well pad is located every square mile (the development pattern that would create the least cumulative impacts), and assuming that well pads would not be located within city or village boundaries, a total of 512 well sites could be developed. Further assuming that eight wells would be developed on each well pad, we can begin to estimate the potential cumulative impacts of well drilling in Tompkins County.

- Over 2,500 acres of land could be directly developed as well pads and nearly 60 miles of access roads to the well pads could be built. This would double the total industrial land use in Tompkins County. In Tompkins County under these conditions, over 1,000 acres of forestland would be developed and the forested landscape would be further fragmented (over 150 miles of 'edge' would be created).

- According to the rdSGEIS, each well could utilize 5 million gallons of water for hydro-fracking activities. Under the build-out conditions in Tompkins County this would result in total water usage of over 20 billion gallons. The three major water supply plants in Tompkins County together use

7.17 MGD or 2.6 billion gallons of water per year. In other words, even if Marcellus Shale development was spread over 30 years, the potential use of water for the hydro-fracking activities would be equivalent to 25% of all the water supplied by these public water supply systems during that time. If the build-out occurred over 10 years, the water used would equal 77% of the water supplied by these public water systems.

- According to the rdSGEIS, the development of a single well would generate 6,790 truck trips including 3,950 heavy truck trips. According to the Ithaca-Tompkins County Transportation Council, the Metropolitan Planning Organization for Tompkins County, there are 602,250 heavy truck trips annually on State highways in Tompkins County. Thus the development of nearly 4,100 wells in Tompkins County would generate the equivalent of a 90% increase in heavy truck traffic on State roads in Tompkins County if it occurred over 30 years, and a 270% increase in heavy truck traffic on State roads if it occurred over 10 years. What is even more significant is that very little of the current heavy truck traffic utilizes local roads, but it could be expected that virtually all of the trips generated by well drilling activity would use county and local roads for a portion of those trips.

Mitigating Cumulative Impacts

The regulations take a site by site, well by well approach that totally fails to recognize that the Marcellus Shale resource is fundamentally different from prior natural gas development in New York State in that it is anticipated to be of relatively uniform distribution within a broad geographic area, which is likely to lead to more intensive well development with the attendant network of access roads, pipelines and other facilities. It also requires a tremendous amount of water with chemical additives resulting in additional anticipated infrastructure impacts and energy use to both deliver water to the site and address wastewater treatment issues. These are likely to result in cumulative impacts of a scale and intensity unlike any prior natural gas development in the State, requiring an in-depth cumulative impact analysis that is lacking in the rdSGEIS. Such a cumulative impact analysis would point out conflicts between the proposed activity and the New York State Open Space Plan and the State's Greenhouse Gas Emission reduction goals and strategies. *These conflicts are not even identified or acknowledged, much less addressed, in the document or the regulations.*

The rdSGEIS and the proposed regulations are silent on the question of how cumulative impacts of gas drilling can be mitigated. There are several ways to address some of the identified cumulative impacts. Without the benefit of review of how prior comments on the rdSGEIS were or were not addressed it is not useful to revisit our prior suggestions in that regard at this time. Suffice it to say that the proposed regulations do not provide any such mechanisms for mitigating cumulative impacts.

Establishing Environmental Impact Thresholds

The regulations should establish clearly stated, mandatory, measurable environmental impact thresholds. That the rdSGEIS and the regulations do not do so is a major failing. One approach to this issue is to compare potential rates of development that could reasonably be expected based on what is known of the resource, the industry, and experience in the development of similar energy resources. The impacts of varying rates of development could then be assessed and either the pace controlled through the permitting process, in order to mitigate identified impacts of rapid development, or additional mitigation measures could be identified that would be required if the pace of development reaches specified thresholds.

To take just one example, there can be no doubt that there is a traffic impact on a community from the large number of truck trips required to develop even a single well. The fact that this will be deemed as a significant community impact is indisputable. The recent experience and public outcry over trash-hauling trucks in the Finger Lakes region is testament to the public's attitude toward and the very real impacts of increases in heavy truck traffic. Those trucks were much fewer in number than is projected from the gas drilling activity and were traveling almost exclusively on State highways. Regulations could place a threshold on the amount of increased truck traffic permitted in a community and limit permits to keep such traffic under that threshold.

Incomplete Information
There are several places in the rdSGEIS that acknowledge that reports and studies being undertaken by others would have been helpful in assessing and mitigating the potential environmental impacts of the gas drilling operations. These include the proposed state invasive species management plan and the need to better understand the variability of NORMs in the Marcellus formation. The rdSGEIS should not have been issued until the reports that are underway were completed so that the public would have had an opportunity to review them and make comment based on the information contained within them. Completion of the SGEIS should be suspended until an additional supplement can be prepared to include this information. *Regulations should not be promulgated in the absence of consideration of this information.*

Mitigation Measures
We found that the rdSGEIS was incomplete because it inadequately addressed the impacts and mitigation measures required for those aspects of the process that are addressed in the rdSGEIS. In several instances, the rdSGEIS identified potential environmental impacts of proposed drilling operations but failed to recommend any mitigation measures to address those impacts. In other cases, although mitigation measures were identified or alluded to, they were left as suggestions for operators to implement and not required. The NYSDEC could either ensure that mitigation measures are permit requirements for operations, or require that operators select an array of Best Management Practices that achieves clearly stated, mandatory, measurable environmental impact thresholds set by the NYSDEC. Unfortunately the proposed regulations take neither approach. These mitigation measures are found in various areas throughout the rdSGEIS document and it is difficult to identify all of the sections where required mitigation measures should be incorporated into the regulations. *The draft regulations should not have been issued prior to completion of the SGEIS.*

The rdSGEIS is inadequate in addressing the impacts on water resources and so are the proposed regulations. The primary difference in the process for extracting natural gas from the Marcellus Shale versus conventional drilling is the tremendous amount of water used consumptively in the hydraulic fracturing process and the huge volumes of wastewater resulting from the process. Although a number of measures are identified in the rdSGEIS with respect to addressing impacts on water resources, they are generally not sufficiently protective of this precious resource. The NYSDEC should, in all cases, require the most protective measures identified to mitigate potential adverse impacts on water quality. For example, the regulations should treat all municipal water supplies equally. *The hydraulic fracturing ban proposed for the New York City and Skaneateles Lake Watersheds should apply to the watersheds of all municipal water supply systems.*

Additionally, the rdSGEIS admits that threats to drinking water supplies from accidents, construction activity, runoff and surface spills in Primary and Principal aquifer areas cannot be fully mitigated and "partial mitigation would be unacceptable due to the potential consequences posed by such impacts. Therefore, the Department concludes that high-volume hydraulic fracturing operations have the potential to cause a significant adverse impact to the quality of the drinking water resources provided by Primary and Principal Aquifers, even if the risk of such events is relatively small." *Nonetheless the regulations do not provide the same level of protection to Principal Aquifers that are provided to Primary Aquifers and this needs to be rectified.*

In the rdSGEIS the NYSDEC states that it will "consider whether significant adverse impact relating to land use and zoning would result from permit issuance." It is not stated who exactly will determine this and based on what criteria. Any use not in compliance with land use plans and zoning is by definition a significant impact if it does not go through a municipal review process. No single State regulatory official should be able to make this determination which has been delegated to local municipalities by New York State law. The rdSGEIS did not clearly indicate what would happen if the answer is "yes". *The minimal notice and public comment period provided in the regulations are clearly insufficient to allow consideration of such adverse impact.*

The rdSGEIS projects peak production in 2043, just seven years short of the year during which carbon emissions must be reduced by 80% per State climate change goals. The question should be asked and answered, "Is this level of production consistent with that goal and would it even be possible to achieve it with this level of natural gas production and use?" *The proposed regulations do not place any limit on methane emissions and they should.*

The rdSGEIS states that "some industries may contract ..." and specifically identifies tourism and agriculture but doesn't mention higher education, high tech and health care where the ability to attract qualified staff may be adversely impacted by industrialization. These are among the key regional assets and opportunities noted in the Southern Tier Regional Economic Development Council Strategy. There is no serious attempt to quantify any of the adverse economic impacts. Also, no attempt is made to address the larger economic issue of what the boom and bust gas economy does to attempts to establish a healthy sustainable economy based on clean energy, diverse agriculture, technology, higher education and health. Industrialization of the landscape and adverse impacts on communities from drilling activity undermine and run counter to all of those community economic development goals. *The Rural Impact analysis accompanying the proposed regulations relies on this flawed analysis.*

The rdSGEIS states that DEC will monitor pace and concentration of development to mitigate adverse impacts at the local and regional levels. "The Department will consult with local jurisdictions, as well as applicants, to reconcile the timing of development with the needs of the community. Where appropriate the Department would impose specific construction windows within well construction permits in order to ensure the drilling activity and its cumulative adverse socioeconomic effects are not unduly concentrated in a specific geographic area." The DEC does not explain how this would be determined or by whom. Nothing in the proposed regulations sheds any light on this issue. These types of decisions are typically made by elected municipal boards or by planning and zoning boards of individuals appointed to represent their community. It is hard to imagine how anyone else could "reconcile the timing of development with the needs of the community." Moreover, because of the fact, recognized elsewhere, that this work, especially initially, will be done by transient workers there will likely be incredible pressure to intensively drill a given geographic area before moving on.

Visual Impacts

The rdSGEIS restates visual mitigation measures that are related to design and siting as well as maintenance and decommissioning measures. Nothing is provided in the regulations to address these impacts. Each of these measures should be required as a condition of the drilling permit in both areas that are and are not identified as "visually sensitive areas." NYSDEC should additionally develop a Best Practices Manual to assist the State, local governments, and drilling operations in identifying the types of mitigation measures that can specifically be required (i.e. earth tone colors of storage tanks, avoiding ridgelines, preserving natural vegetation and minimizing uplights) as a condition of the permit approval. *The regulations do not provide such requirements.*

The rdSGEIS states that "Depending on the location of the well pad and the resource potentially impacted, it may also be necessary to consult with additional state and federal regulatory agencies to develop measures to mitigate visual impacts on specific types of visual resources or visually sensitive areas, including but not limited to...consultation with local (town, county or regional) agencies for locally designated visual resources or visually sensitive areas that were identified on the EAF." Nothing in the proposed regulations suggests that such consultation will occur in any meaningful manner. NYSDEC should require, as a condition of a permit, and provide time in the review process to allow applications to be reviewed by local governments against established local plans and regulations, including scenic resources inventories. Local governments should be involved by assisting in the identification of appropriate mitigation and design measures to reduce adverse visual impacts as well as other environmentally sensitive features. *There is no time for this built into the regulatory process.*

The rdSGEIS discusses the situations in which a Visual EAF Form will be used to evaluate the potential for those projects that may have an effect on aesthetic resources." NYSDEC should require a Visual EAF for each application and further require appropriate measures to mitigate impacts. *The regulations do not include a requirement for a Visual EAF for each application.*

Noise Impacts

The rdSGEIS lists a number of noise mitigation techniques "that can be implemented as site-specific permit conditions." These techniques include specifying daytime and nighttime noise level limits, the use of noise reducing requirements, installing temporary sound barriers, and providing advance notification of drilling schedule to nearby receptors. However the proposed regulations governing the site-specific permit process do not clarify noise thresholds and standards related to these measures nor do they require them as a condition of the permit. *Again the permit process should provide adequate time for the involvement of local government in the noise mitigation planning process. It does not.*

The rdSGEIS indicates that as a part of the permit process the applicant must submit a transportation plan, which details proposed routes, parking/staging areas as well as other details such as whether the operator has entered into road use agreements with local governments. Due to local government's authority to retain control over their roads, they should be included in the review of the required transportation plan. The rdSGEIS further requires that operators "attempt to obtain a road use agreement with the municipality or document the reasons for not obtaining one." Road use agreements would include route selection for maximum efficiency and safety, coordination with emergency management and highway departments, and road upgrades for water transport routes. The regulations should require the development of road use agreements with municipalities, not just make an "attempt." This must include agreements with all municipalities, including counties, whose local roads will be utilized by vehicles servicing or transporting fluids or materials to or from a well site.

Community character impacts and mitigation

One proposed mitigation measure in the rdSGEIS suggests that applicants be required to identify through an EAF Addendum whether or not the location of "the well pad or any other activity under the jurisdiction of the Department, conflicts with local land use laws, regulations, plans or policies. The applicant would also be required to identify whether the well pad is located in an area where the affected community has adopted a comprehensive plan or other local land use plan and whether the proposed action is inconsistent with such plan(s)." The regulations should require that NYSDEC consult with municipalities and counties that have established plans to determine the extent to which the proposed gas drilling activity is consistent with or inconsistent with the established plans and to identify potential mitigation measures to bring the proposed activities into line with these established plans. The rdSGEIS goes on to indicate that when these conflicts are identified the Department "intends to request additional information in the permit application to determine whether this inconsistency raises significant adverse environmental impacts that have not been address in the SGEIS." This intent is not reflected in the proposed regulations. NYSDEC should also require that the affected county and municipal governments have an opportunity to be involved in the review of these EAF Addendums, to ensure applicants and NYSDEC capture and accurately address all issues identified in local planning documents. Furthermore, NYSDEC should clearly outline the specific authority that local governments have in their planning processes, with relation to gas drilling activity and infrastructure. *The notice and comment period provided in the regulations will not accommodate this type of involvement by municipalities.*

Local government notification and coordination requirements

The rdSGEIS identifies several areas where local involvement would help to mitigate potential environmental impacts. However, although the rdSGEIS alludes to consultation with local governments when the applicant indicates that the proposed activity will not be in compliance with local plans or regulations, it does not propose any formal, consistent mechanism for providing that local input, nor does it clearly identify what authority local governments may have to impact the gas development process.

NYSDEC should establish a formal process for local governments to have the opportunity to address these issues prior to the issuance of any permits. *The regulations make no specific provision for such a process and they should.*

The rdSGEIS identifies many issues, potential impacts, and mitigation measures that could benefit from a partnership between NYSDEC and local governments. In particular, local governments have experience in reviewing site plans for development projects of all types, including industrial development. NYSDEC should develop a procedure for the review of gas drilling site plans that takes advantage of this experience. NYSDEC could identify the scope of local government review of site plans (including such topics as noise impacts, visual impacts, highway access impacts and community character impacts) and could base its permit conditions on recommendations made by local governments. A portion of the well permit application fee should be provided to local governments to support this local involvement. *The regulations provisions regarding fees do not provide any such support for local governments.*

Of course, this will require that NYSDEC give local governments adequate notice of and time to review proposed plans as well as resources with which to undertake this activity. NYSDEC should require that applicants provide an adequate number of site plans for NYSDEC to provide to local governments, including County governments and regional planning agencies, for their review. Local governments should be given at least 60 days to review these plans and to submit their comments to NYSDEC. NYSDEC could then determine the appropriate measures to require of the applicant prior to the issuance of permits. *The currently proposed regulations provide only a 15 day comment period.*

Tompkins County and its municipalities, as an example, are not included in the rdSGEIS's defined "places" assessment of impacts on Community Character (Section 2.4.15) even though they are located in an area underlain by the Marcellus Shale in New York State. It is necessary to acknowledge that local governments across New York have expended time and resources defining and preserving distinct local community character, including in Tompkins County. Local governments should be priority partners that are involved when considering natural gas drilling, which will most certainly have local impacts.

The rdSGEIS states that the "EAF addendum for high-volume hydraulic fracturing will require evidence of diligent efforts by the well operator to determine the existence of public or private water wells and domestic-supply springs within half a mile (2,640 feet) of any proposed drilling location." *Evidence of diligent efforts should require contacting municipal and county officials for information and the regulations should explicitly state this requirement.*

Prohibition on well pads in NYC and Syracuse watersheds and 4000 foot buffer
The rdSGEIS and regulations propose a ban on hydraulic fracturing in the New York City and Skaneateles Lake Watersheds, though not in any other watersheds that are the sources of drinking water for municipalities across New York State. *The hydraulic fracturing ban proposed for the New York City and Skaneateles Lake Watersheds should apply to the watersheds of all municipal water supply systems.*

Greenhouse gas mitigation requirements - Cumulative GHG Emissions Impacts to Tompkins County
Using the figures identified in the rdSGEIS, the Tompkins County Planning Department has estimated that the lifetime greenhouse gas (GHG) emissions from one eight-well pad would be roughly equivalent to one year of GHG emissions from the entire Tompkins County community.

The rdSGEIS looked at three well types for GHG emissions: single well vertical, single well horizontal, and 4 well pad – horizontal at the same site. In preparing these calculations, we chose to double the results for the 4 well pad to look at the impacts from the anticipated 8 wells per pad. Also, applying the figures provided in the rdSGEIS for the single well vertical and single well horizontal to 8 wells produces much greater emissions numbers, so the 8 well pad was a conservative figure to use. Finally, the natural gas industry is saying each well will be operational for 30 years, so that's what was used.

TCPD Summary Table for 8-Well Pad

Four-Well Pad	CO2e (tons) Annual	CO2e (tons) Over 30-year Life of 4-Well Pad	CO2e (tons) Over 30-year Life of 8-Well Pad
Total First Year Emissions	23,951	23,951	23,951 x 2 = 47,902
Annual Emissions during years 2 – 30	20,300	20,300 x 29 years = 588,700	588,700 x 2 = 1,177,400
Total GHG Emissions	NA	612,651	612,651 x 2 = **1,225,302**

All numbers pulled from Appendix 19 of the rdSGEIS

For comparison, Tompkins County Community Emissions in 2008 was 1,292,920 short tons CO2e. Therefore, one year of all community emissions (1.29 million tons CO2e) is roughly equal to the emissions from the life of one developed well pad (8 wells) (1.23 million tons CO2e).

Cumulative GHG Emissions Impacts to New York State

Chapter 2 of the SGEIS states that in NYS "An average year may see 1,600 or more applications. Development of the Marcellus Shale in New York may occur over a 30-year period."

If one assumes 1,600 wells drilled per year for 30 years = 48,000 wells. This translates into 6,000 eight-well pads over the 30 years in New York State (48,000/8 = 6,000).

Applying the GHG emissions from the rdSGEIS of 1,225,302 short tons CO2e over the 30 year life of the 8 well pad, then 1,225,302 x 6,000 well pads = 7,351,812,000 short tons CO2e, or 7,352 million short tons CO2e. Lifetime production for buildout over 30 years may actually be spread over 60 years, i.e., 30 years from last well drilled. Total emissions divided by 60 would be 125 million short tons CO2e/year average over 60 years.

According to a PowerPoint presentation found on the NYS Climate Action Council website, titled "NYS Scenarios to 2050" by Gerald Stokes, Associate Lab Director, Brookhaven National Laboratory and President of NY Energy Policy Institute: 1990 emissions for NYS were 277 MMT CO2e (converted to short tons for this analysis: 277/0.9071847 = 305.3 million short tons CO2e). 2050 Business as usual CO2e emissions are projected to be 360.5 MMTCO2e (397.4 million short tons CO2e). Goal Emissions in 2050 are 80% of 1990 levels: 277 (0.20) = 55.4 MMT CO2e (61.1 short)

This requires emissions reductions from 1990 to 2050 of 305.1 MMTCO2e (360.5 – 55.4 = 305.1) from business as usual) (397.4 – 61.1 = 336.3 million short tons CO2e). The addition of 125 million short tons CO2e annual emissions from natural gas drilling and production will make it impossible to meet these New York State greenhouse gas emissions goals.

GHG Emissions Mitigation

While it is a requirement to construct and operate a well site in accordance with a Greenhouse Gas Emissions Impacts Mitigation Plan as a required mitigation, the rdSGEIS never states the levels of emissions that are acceptable, nor is it a requirement that the DEC review the plan or its adequacy. To make such mitigation effective, the regulations should set a threshold for total CO_2e emissions per well (or well pad) using a production life of 30 years, and the Greenhouse Gas Emissions Impacts Mitigation Plan should be required to detail how each BMP described in the plan shall reduce emissions so that the well project or well pad meets the established emissions threshold. Such an emissions threshold should be calculated so that it may still be possible for New York State to meet Executive Order 24, which established New York State's goal to reduce greenhouse gas emissions from 1990 levels by 80 percent by 2050.

Comments on Regulatory Review Analysis

The DEC's Revised Rural Flexibility Analysis states:

> Although the Department does not expect the proposed revised rules to adversely affect the regulated community in rural areas, the proposed rules will indirectly impact the ability of rural areas to respond to activities associated with the approval of HVHF. Indirectly the proposed rules may require local governments to respond to additional complaints about water well quality as well owners are made aware of water well testing required by the proposed rules. Approval of HVHF is also expected to increase local traffic and in some areas, increase the local population. As a result, local governments may experience increased demand on local services, such as emergency response and local road maintenance. The 2011 rdSGEIS contains a detailed analysis of the socioeconomic impacts associated with approval to utilize HVHF and proposed mitigation measures.

Comment: There are several serious problems with this statement. While acknowledging issues local governments may face regarding residents' concerns with well water, traffic and roads, and emergency response, there is no recognition of the issues of noise, air quality, visual impacts and destruction of community character that will also likely be directed to that level of government closest to the people, their local town, village, city or county government. Moreover, local governments in rural areas have limited capacity to respond and the level of activity associated with gas drilling could easily overwhelm the resources of local governments in these areas. But most egregious is the statement that "the 2011 rdSGEIS contains a detailed analysis of the socioeconomic impacts associated with the approval to utilize HVHF and proposed mitigations measures." Our detailed comments on that socioeconomic analysis in our January 10, 2012 letter regarding the rdSGEIS pointed out numerous flaws and omissions and concluded:

> The Socioeconomic assessment goes to great length to identify and quantify all of the purported positive economic impacts of high volume hydraulic fracturing in the Marcellus shale and almost nothing to identify and quantify the negative impacts, including cumulative impacts, of a boom and bust economy that handsomely rewards the relative handful of economic winners and spreads the negative impacts upon just about everybody else. The complete disregard for the conflict between this boom and bust economy and the sustainable economy that communities throughout the Marcellus shale region are trying to develop is remarkable. The complete absence of an approach that would result in a balanced socioeconomic analysis that adequately assesses the actual benefits and costs equally and identifies the distribution of those benefits and costs suggests that this analysis was not undertaken with an intent to produce such a balanced assessment of the impacts.

The Revised Rural Flexibility Analysis goes on to state:

> Public entities will incur minimal costs under this revised proposal as the public sector is not the focus of the proposed revised rules. This is no different than the public entities' role with respect to other industries, and public entities may be able to use increased tax and other revenue generated through HVHF activities to offset any increased burden on services it provides.

Comment: To say that this is no different than public entities' role with respect to other industries fails to recognize that local governments generally determine where and how such other activities are allowed to occur, if they are allowed to occur at all, through their land use and zoning authority. While how that authority applies in the case of gas drilling is a matter being resolved in the courts the regulations do not recognize the authority of local governments to regulate this activity. Therefore, all of the tools that local governments usually rely on to regulate industrial impacts are not acknowledged in the regulations and the statement is patently false as applied to gas drilling. Since no complete and objective socioeconomic or fiscal impact analysis was performed the question of whether revenues will adequately compensate for costs is purely speculative.

Finally, the flexibility analysis states that "Through this proposed revised rulemaking, the Department will provide for an additional public review and comment period." However the 30 day review period provided actually made it virtually impossible for most rural local governments to prepare and act on comments on the revised regulations. In the absence of professional staff most of these local governments rely on volunteer planning or conservation board members to advise elected officials on such issues and the comment period did not provide adequate time for such review, recommendation, consideration and action by local town and village boards.

The DEC's Revised Job Impact Statement states:

> The proposed revised rules are not expected to have an adverse impact on jobs and employment. The Department already regulates the drilling of natural gas wells and the proposed rules, while adding new regulatory requirements applicable to HVHF, will lead to new employment opportunities in some areas of the state and will have positive impacts on both income and employment levels. Having the rules in place will allow for a more consistent level of development, which will be the basis for longer-term employment. Having the rules in place will also allow those jobs that rely on other natural resources and the environment such as tourism and forestry to remain viable.

Comment: The final statement belies the fact that no analysis has been conducted by DEC of the adverse impacts of gas drilling on jobs that rely on other natural resources and the environment. Such analysis would require consideration of the cumulative impacts of multiple drill pads, access roads, pipelines, water storage facilities, and greatly increased truck traffic on areas where drilling occurs. Several independent studies have concluded that the long-term economic impact on tourism, agriculture and other aspects of rural economies may very well be negative and that areas with boom and bust energy extraction often have local economies that perform poorly compared to areas without such extractive activities.

The Revised Regulatory Impact Statement Summary accompanying the regulations states:

> The new Parts 560 and 750-3 will ensure the minimization of the potential environmental impacts to New York's water resources, ecosystems, and air quality, as well as the impacts of HVHF on communities where these wells are expected to be drilled.
>
> Greater environmental protection includes minimizing the probability and risk to uncontaminated aquifers and drinking water wells, streams and surface waters, and maintaining the passive use of natural resources, amongst others.

Comment: Again the failure to address cumulative impacts on the environment in either the regulations or the rdSGEIS means that we have no assurance that the statements above are true. In fact the evidence is to the contrary.

The Regulatory Impact Statement also says:

> These regulations will create additional costs for several state agencies, including the Departments of Environmental Conservation (Department), Health (DOH), Transportation (DOT), Public Service and Agriculture and Markets. DOH would incur costs investigating complaints related to public health concerns; DOT would be expected to review transportation plans that drillers submit with well applications; Public Service staff would be involved in the siting and construction of natural gas transmission pipelines; and, Agriculture and Markets would incur additional costs in its Agricultural District Program.
>
> The actual costs that may be incurred by the Department and other state agencies cannot be currently estimated, given a lack of necessary information. However, the implementation of these regulations can be expected to require a significant increase from the existing Department staffing levels to carry

out the large number of activities relating to permits, with actual staffing levels dependent on the actual level of activity.

Comment: The State of New York should not undertake the approval of HVHF gas drilling activities with no idea how it will impact State agencies including their ability to protect the health and welfare of New York residents, their environment and community character. It is possible to estimate fiscal impacts of an activity if there is a will to do so. The rdSGEIS makes assumptions about different scenarios regarding the pace of gas drilling should it be allowed. It would be possible to evaluate the level of impact on State agencies' responsibilities under those scenarios including the capacity of those State agencies to deal with those impacts. The "lack of necessary information" is simply a failure to conduct a comprehensive and complete analysis.

The Regulatory Impact Statement says the following about *Local Government Mandates*:

> While the proposed revised regulations do not mandate the expenditure of funds by any sector of local government, local governments will likely incur some indirect effects as a result of the Department's approval to utilize HVHF. The rules would require well operators to test private residential water wells within 1,000 feet of a well pad's location, or 2,000 feet in some circumstances. County health departments may need to respond to issues with these residential water wells that may arise as a result of testing. Those costs will be compliance driven and cannot be quantified at this time.
>
> These regulations would allow operators, under certain requirements, to dispose of flowback water and production brine through publically owned treatment works (POTWs). To accept this water, POTWs must perform a headworks analysis to ensure they can properly remove contaminants expected to be present in flowback water and production brine prior to discharge.
>
> In addition, heavy truck traffic will result in local costs for road maintenance, though the proposed revised rules contain requirements to assist in mitigating those impacts. It is projected that HVHF activities would result in a substantial increase in economic activity in the affected areas and also result in a substantial increase in tax revenues to the state and to localities. These revenues are expected to offset local government costs that may result from HVHF activities.

Comment: Rather than conduct a comprehensive fiscal impact analysis of the impacts on local governments, including the opportunity cost of devoting the huge amount of time and effort required to deal with gas drilling as opposed to other community issues, the DEC makes another unsubstantiated generalization about revenues offsetting expenses.

In the proposed revised regulations, Section 553.4 – Variances, the following amended process is outlined:

> Upon receipt of this [exception] variance request, the department shall [promptly schedule a public hearing to facilitate a decision on the application] publish a notice of intent to issue a permit and spacing variance in the environmental notice bulletin and provide for a public comment period of at least 15 days. The owner or operator shall also, in advance of the 15-day public comment period required by this subdivision, provide notice by publication of the request for a variance, in a manner prescribed by the department.

Comment: This regulatory change replaces a mandatory public hearing process with a 15-day comment period after which a hearing may be scheduled. It is not the only place in the regulations where a 15-day comment period is provided. This is inadequate given the nature of the activities that are being addressed and the possibility that no local government process for review of these activities may be available. Local communities that want to provide comment, as a practical matter, will need a time period similar to what would be required for review of a local industrial activity under zoning or site plan review provisions, which is typically at least 60 days from the time a full application is submitted. It is disingenuous to even suggest

that a 15 day comment period would afford any meaningful opportunity for comment to either an individual member of the public or a local government.

Comments on Specific Provisions of the Proposed Regulations

Section 556.2 of the regulations is proposed to be amended to read:

> (b) No gas from any gas well, except such as is produced in a clean-up period not to exceed 48 hours after any 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. [Extensions of these time periods shall be granted administratively by the department upon application therefor by the owner or operator and the demonstration of sufficient good cause.]

Comment: The proposed regulations fail to address impacts related to greenhouse gas emissions. The regulations should instead require a standard as to the amount of methane that can be emitted and require that a plan be submitted to meet that standard and that applicants provide a description of planned greenhouse gas emission control measures. This is required to mitigate the incredible potency of methane as a greenhouse gas, especially in the near term. We are increasingly seeing that the pace of climate change may be more rapid than previously thought and many leading climate scientists believe that there may be a tipping point at which the impacts of climate change become irreversible and self-reinforcing. Under such a very realistic if uncertain scenario emissions over the next 30 years may determine the ultimate impact of climate change and the fate of future generations. This coincides with the likely period during which exploitation of the shale gas resource would be at its peak in New York State and the period during which methane emissions would be most potent. At a minimum a rigorous standard for limiting methane emissions from gas drilling activities is required. Also, the rdSGEIS discusses requiring via permit condition and/or regulation, a Leak Detection and Repair Program. The proposed regulations fail to address the impacts of greenhouse gas emissions in a manner consistent with the findings and recommendations of the rdSGEIS.

Section 556.2 of the revised regulations provides in part:

6) A request from the owner or operator for approval to fracture or re-fracture a well after initial completion or perform a subsequent re-fracturing operation shall be submitted to the department on the Sundry Well Notice and Report form, and approval from the department must be obtained prior to commencing operations. A request shall be submitted at least 15 days before operations are requested to begin. Such operations are subject to the department's approval after:

(i) review of the planned fracturing or re-fracturing procedures and products, water source, proposed site disturbance and layout, and fluid disposal plan;

(ii) site inspection by department staff; and

(iii) determination of whether any other department permits are required.

(7 Under unusual or emergency circumstances, or for other good cause shown, the department may permit the commencement of operations by verbal authority of the director or director's deputy prior to the issuance of a formal approval if a complete Sundry Well Notice and Report form request is on file with the department.

(8) The department may, for good cause, suspend or terminate any approval to a Sundry Notice and Report form request granted under this section.

Comment: These provisions assume that DEC will have adequate staff to review all of this information and make the required site visit within 15 days. There is no reason to believe that this is the case if the number of wells suggested in the rdSGEIS were to be developed in New York State.

New Part 560 provides, in part, as follows:

3(a) (18) a transportation plan indicating the planned route for delivery of water to the site for hydraulic fracturing, the proposed route for transport of flowback water requiring tracking by means of the department's Drilling and Production Waste Tracking Form, all other truck trips associated with hydraulic fracturing at the site, and an estimated number of truck trips associated with same. Further, the transportation plan must include a copy of any road use agreement(s) between the owner or operator and any municipalities or documentation of the owner's or operator's efforts to obtain such agreements; and

Comment: Where the community has adopted a Road Use Law the applicant should be required to include documentation indicating compliance with that law.

(5) scaled distance from the proposed surface location of the well and the closest edge of the proposed well pad to any water supply reservoir, intake, water well or domestic supply spring, or water well or spring used for water supply for crops or livestock within 2,640 feet, including any public or private wells, and community or non-community systems;

(6) scaled distance from the proposed surface location of the well and the closest edge of the proposed well pad to any primary or principal aquifer boundary, perennial or intermittent stream, wetland, storm drain, lake, or pond within 500 feet, and any surface water body within 500 feet that is a tributary to a public drinking water supply;

Comment: This should also include any known groundwater resource of significance that has not been classified as a principal aquifer due to lack of necessary geological testing.

(7) scaled distance from the proposed surface location of the well and the closest edge of the proposed well pad to any inhabited private dwellings or places of assembly within 1,320 feet;

Comment: Places of assembly are not defined in the regulations. It should be clearly stated that this requirement includes any public or private school.

(16) a list of invasive species found at the well site and description of the best management practices which will be used for preventing the spread of these invasive species, including measures being used to prevent new invasive species from being transported to the site;

Comment: Invasive species are not defined in the regulations. This should be included.

(d)

(2) The department will disclose to the public the information submitted pursuant to paragraph(1) of this subdivision except that owner or 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 secret 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.

Comment: The assertion of a trade secret should not be allowed as a reason to keep disclosure of chemicals used from the public. If this activity is to be allowed the public has an absolute right to know what is being pumped into the ground to access the shale gas.

(e)

(1) An application for a permit under this Part shall be made in a format and on forms prescribed by the department.

(2) The department shall determine whether the application is functionally complete for purposes of department review within 10 business days after it is submitted to the department. The department shall inform the applicant of any deficiencies.

Comment: Will DEC have the staff required to make this determination in 10 business days? Will there be pressure to approve applications as "functionally complete" in order to meet this deadline?

(3) The department shall provide or cause to be provided the applicant's name, well name and number, and location coordinates of the well to the supervisor of the town or the mayor of the village or city, as the case may be, or any other point of contact designated, in a manner prescribed by the department, by the municipal governing board to the department for receipt of applications under this Part.

(5) There shall be a public notice period on the draft permit of fifteen days from the date that the notice of availability of the draft permit is published in the Environmental Notice Bulletin. In conjunction with such notice, the department shall publish or cause to be published a copy of the draft well permit on a publicly available website. The department will only consider comments on local and site-specific issues that have not been addressed in the Final Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program (1992) or in any final supplemental generic environmental impact statement accepted by the Department pursuant to Article 8 of the Environmental Conservation Law and Part 617 of this Title.

Comment: As stated above the 15 day public notice period for comment is woefully inadequate given the scale of potential impact and range of issues that may need to be reviewed by local governments with no professional staff in order to determine the nature of "local and site specific issues that have not been addressed in the Final Generic Environmental Impact Statement." Moreover this suggests that municipalities will not be allowed to comment on potential cumulative impacts from a concentration of well drilling activity in a particular area.

(6) The department shall mail or electronically provide to the applicant or its designated agent the decision on an application after the close of the public notice period.

Comment: A copy of this decision should also be provided to the local municipality and the county in which the project is located.

(7) Unless otherwise required by law, applications for the permitting of additional wells on a well pad associated with any well that has already been granted a permit pursuant to this Part shall not be subject to the public notice or comment period provided for under this section.

Comment: Local municipalities should be notified of each well being drilled. This is critically important information for local highway and public safety officials to be aware of as well as for local officials to be aware that the required permission from DEC has been applied for before such activity occurs.

Section 560.4 Setbacks provides in part:

(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;

Comment: Definition of place of assembly is not included in the regulations. This needs to be included in the list of definitions and include public or private school.

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

Comment: Many private wells are drilled in principal aquifers and these should be provided the same protection as primary aquifers. Also, these water resources are by definition of similar quality and quantity as primary aquifers and may be essential to the future water resource needs of the State. Moreover many aquifers that may meet the criteria for principal aquifers exist but are not so classified due to lack of comprehensive geological analysis of our groundwater resources. Tompkins County is in the midst of a 20-year agreement with the United States Geological Survey to evaluate the surficial aquifers in Tompkins County. This mapping should include any potentially significant known groundwater resource regardless of whether it is currently classified as a principal aquifer. The applicant for a permit should be required to check with local municipal and county officials to verify the locations of such groundwater resources.

Section 560.5 Testing, Recordkeeping and Reporting Requirements provides in part:

(c) 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: There is no reason to permit a two hour delay in reporting a "non-routine incident." Such incidents should be reported immediately to both DEC and local Emergency Response officials.

(d) Water well and spring testing:

(1) prior to site disturbance for a new pad or a new well spud for an existing pad, the owner or operator must make all reasonable attempts, with the landowner's permission, to sample and test, at the owner's or operator's expense, all residential water wells, domestic supply springs, and water wells and springs that are used as water supply for livestock or crops, that are within 1,000 feet of the well pad for the parameters specified by the department, which at a minimum include barium, chloride, conductivity, gross alpha/beta, iron, manganese, dissolved methane and ethane, pH, sodium, static water level (when possible), total dissolved solids (TDS), and volatile organic compounds (VOCs), specifically BTEX. If no wells or springs are available for sampling within 1,000 feet of the well pad, either because there are none of record or because any landowners within 1,000 feet of the well pad deny the owner or operator permission to sample their wells or springs, then the owner or operator must make all reasonable attempts, with the landowner's permission, to sample and test such water wells and springs within 2,000 feet for the parameters specified by the department. The landowner of any water well or spring tested must be provided with a copy of the test results within 30 days of the owner's or operator's receipt of the results.

Comment: This proposed water well sampling and analysis is inadequate in two regards. First, the sampling and analysis of groundwater is proposed only from existing drinking water wells within 1,000 feet (or, under certain circumstances, 2,000 feet) of the well pad. This procedure is inadequate to protect groundwater, which is the resource that should be considered in the rdSGEIS, not just drinking water wells. We suggest that monitoring wells be installed in close proximity around well pads in order to track possible groundwater contamination before it reaches any drinking water wells. Second, groundwater flows in some areas may be slow enough that contaminated groundwater may not reach water wells 2,000 feet away within the one year testing period. We suggest that water well testing take place annually for three years after the last well is hydraulically fractured.

(f) A Drilling and Production Waste Tracking Form must be completed and such completed forms shall be retained for three years by the owner or operator, transporter and destination facility for any used drilling mud, flowback water, production brine and drill cuttings removed from the well site and must be made available to the department upon request during this period.

Comment: Tracking forms should be provided to DEC and accessible to the public.

Section 560.6 Well Construction and Operation provides in part:

(a) Site Preparation

(28) The venting of any gas originating from the objective formation during flowback must be through a flare stack at least 30 feet in height, unless the absence of H_2S has been demonstrated at a previous well on the same pad which was completed in the same producing horizon. Gas vented through the flare stack must be ignited whenever possible. The stack must be equipped with a self-ignition device.

(29)A reduced emissions completion, with minimal venting and flaring (if any), must be performed whenever gas is capable of being transported or marketed by connection of an available commercial sales line, interconnecting gathering line and any necessary compressor station.

Comment: As noted previously methane is an extremely potent greenhouse gas and methane emission standards should be applied to each well site and a plan required to keep emissions below that standard.

Section 560.7 Waste Management and Reclamation provides in part:

(a) Fluids must be removed from any on-site pit and the pit reclaimed no later than 45 days after completion of drilling and stimulation operations at the last well on the pad, unless the department grants an extension pursuant to paragraph 554.1(c)(3) of this Title. Flowback water must be removed from on-site tanks within the same time frame.

(d)The pit liner must be ripped and perforated prior to any department-approved burial on-site and to the extent practical, excess pit liner material must be removed and disposed of properly.

(e)Permission of the surface owner is required for any department-approved on-site burial of cuttings and pit liner, regardless of type of drilling proposed for use, listed by fluids used.

(f) Burial of any other solid waste on-site is specifically prohibited and all such waste must be removed from the site and disposed of properly.

Comment: On-site burial of any material related to the gas drilling process should be prohibited. The risk of intentional or unintentional burial of inappropriate materials is too great to allow this activity to occur on sites across the landscape where drilling will occur if permitted in accordance with these regulations.

(h) Unless otherwise approved by the department, well pads and access roads constructed for drilling and production operations must be scarified or ripped to alleviate compaction prior to replacement of topsoil. Reclaimed areas must be seeded and mulched after topsoil replacement. Any proposal by the owner or operator to waive these reclamation requirements must be accompanied by documentation of the landowner's consent.

Comment: The public has the right to expect full reclamation of lands disturbed by drilling activities. Failure to do so, even with landowner consent, should require a permit and be subject to public comment. This could be a way for a landowner to circumvent local zoning, site plan review or other laws that would otherwise prohibit the road building and land clearing activities that accompany gas drilling.

(i) 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 brine) must also be tested for naturally occurring radioactive material prior to removal. Radiological analyses of flowback water and production brine must include analysis for combined radium (Ra-226 and Ra-228) 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 from the presence of their decay products).

Comment: While we are in total agreement regarding the need for this testing it raises a question we previously raised in our comment on the rdSGEIS. Since it will be impossible to know whether such radiological elements are present prior to drilling how can a wastewater treatment option be approved in advance? The POTW which may be the intended site for such treatment will not necessarily have the capability to deal with such elements. If radiological elements are discovered wastewater may need to be stored for long periods while a waste handling alternative is identified and implemented.

Section 750-3.3 Prohibited Activities and Discharges provides in part:

(a) 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;

Comment: The contaminants from gas drilling operations that are most likely to threaten water quality are not subject to filtering systems found in public water supplies. Drilling should be prohibited in all public water supply watersheds.

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

Comment: This prohibition should apply to all significant groundwater resources whether they are currently used or designated as primary or principal aquifers.

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

Comment: Drilling should be prohibited in all public water supply watersheds and designated wellhead protection areas.

(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: No variance should be allowed for the prohibition of activity proximate to a water well, spring or supply.

Section 750-3.6 Individual HVHF SPDES Permit Application Requirements provides in part:

(c) The owner or operator must submit documentation of the anticipated depth of the top of the objective formation, and the depth of the base of the known freshwater supply, along the proposed length of the wellbore.

Comment: The owner operator should be required to verify this anticipated depth with the United States Geological Survey.

(d) HVHF operations within certain distances of specific surface or ground waters may be ineligible for coverage under an HVHF general permit and would require authorization under an Individual SPDES permit. At a minimum, HVHF operations sited within the following buffers cannot be authorized by a HVHF GP (calculated from the closest edge of the well pad):

Principal Aquifer	500 feet
Wetland	300 feet
Perennial or intermittent streams, as described in Parts 800-941 of this Title, storm drains, lakes, or ponds	300 feet

Comment: No general permit should be allowed within 500 feet of a significant groundwater resource that has the potential to be classified as a principal aquifer but is awaiting geological testing and analysis to verify that potential.

In conclusion, commenting on proposed regulations in the absence of a final SGEIS has posed a challenge. The final revised SGEIS should have been published prior to requesting comment on proposed regulations.

Sincerely,

Edward C. Marx, AICP
Commissioner of Planning

cc: Governor Andrew Cuomo
NYSDEC Commissioner Joe Martens
NYSDEC Executive Deputy Commissioner Marc S. Gerstman
New York State Senator James Seward
New York State Senator Michael Nozzolio
New York State Senator Thomas O'Mara
New York State Mark Grisanti
New York State George D. Maziarz
New York State Dean Skelos
New York State Thomas W. Libous
New York State John Sampson
New York State Neil D. Breslin
New York State Senator Liz Krueger
New York State Senator Thomas Duane
New York State Senator Bill Perkins
New York State Assembly Speaker Sheldon Silver
New York State Assemblywoman Barbara Lifton
New York State Assemblyman Ron Canestrari
New York State Assemblyman Brian Kolb
New York State Assemblyman Robert Sweeney
New York State Assemblyman Kevin Cahill
Attorney General Eric Schneiderman
United States Senator Charles Schumer
United States Senator Kirsten Gillibrand
United States Representative Tom Reed
United States Representative Richard Hanna
New York State Association of Counties
New York Association of Towns

New York Conference of Mayors.

Electronic copies to:

- Tompkins County Legislature
- Tompkins County Health Department
- Tompkins County Environmental Management Council (EMC)
- Tompkins County Water Resources Council (WRC)
- Tompkins County Council of Governments (TCCOG)
- Tompkins County Soil and Water Conservation District (TCSWCD)