## Sweeney, Mark

**From:** Jeffrey Allison [jc_allison@msn.com]
**Sent:** Monday, July 25, 2011 6:27 PM
**To:** Sweeney, Mark; Jeffrey Allison
**Subject:** Comments on MMTF DGEIS
**Attachments:** MMTF Comments ja.pdf

My comments on the draft GEIS are attached.

If you need anything else please let me know. Thanks.

Jeff Allison 908-217-2725 (cell)

**Jeffrey C. Allison**

**P O Box 188 Bethel, NY 12720 845-583-4322**

Multi-Municipal Task Force
C/0 Mark Sweeney,Esq.
White, Osterman & Hanna
One Commerce Plaza
Albany, NY 12260

July 25, 2011

Dear Mr. Sweeney,

Thank you for the opportunity to review and comment on the Draft Generic Environmental Impact Statement regarding the road preservation local law and the related road use agreement. This is a critical part of the protection of our community, and I strongly support its adoption with the modification and/or inclusion of the comments included in this letter.

Please note that comments or questions in "**bold**" lettering are specific comments or questions that I ask you to consider. Other non-bold comments are for context or clarification.

In the MMTF DGEIS conclusion, it is stated..."it is imperative that this law, the classification of road segment importance, and the requirement of the action be in place well in advance of any permitting or subsequent legal challenge." **What is the proposed timeframe for implementation of the town resolutions and road use agreement process? Will the MMTF report take into consideration the recently released NY DEC SGEIS? Is it anticipated the road use agreement and town resolutions will need to be changed based on the NY DEC SGEIS and additional reporting on local impacts and road impacts?**

## GENERAL COMMENT

The purpose of the law as stated in Section 1 is to protect the towns from financial burdens caused by damage to town roads by developers of large construction projects. The purpose is not to control or limit gas drilling. Gas drilling is, however, a covered activity as defined in Section 3 of the law and it is referred to in the Program Manual under Initial Developer Contact. In general the DGEIS is an inadequate description of the impacts of concentrated truck traffic of @2000 truck trips (4000 drivebys) required to support one well and the measures needed to mitigate the impact of that type of traffic

volume. **All efforts to describe and consider the cumulative impacts of drilling in a community should be added to the DGEIS.**

## Industrialization of a Rural Area

The impact is described as temporary in nature and mostly limited to previously disturbed or developed areas. With gas drilling, as well as other potential drilling activities there may be only one final route to the destination and that road very likely will need to be upgraded. Widening and paving roads is not temporary in nature and these changes in road use are the foundation for the industrialization of a rural area.

**The law insures that the town will be adequately compensated for the costs associated with upgrading etc. but the DGEIS should be more accurate in the description of the impact. The mitigation described while useful in some areas does not address the permanent impact of upgrading rural roads.**

There is a large body of evidence indicating gas drilling is a temporary economy that will leads to a "boom and bust" cycle which will leave affected communities in worse economic circumstances than if drilling had never occurred. There will be a negative impact on agriculture and tourism as a result of the heavy industrialization. **References to these studies are attached, and these impacts should be incorporated into this report.**

The purpose of the Local Road Use and Preservation Law is commendable. A law is needed to protect towns but not just from the financial burdens of road repair caused by heavy industrial activity but also to insure that such activity does not destroy the core characteristics of the town, degrade the environment or negatively impact the health and welfare of the residents. Towns may restrict vehicles of a specified weight and traffic of a specified volume to identified haul routes. **Specifically, it should be made clear that towns do not have to permit upgrading of roads to provide sufficient capacity for high intensity industrial activity whether this prohibition is accomplished by a town road use ordinance or by zoning changes. This law as it stands is a missed opportunity if it does not make this clear.**

## Radioactive Waste

**Currently there is no statement that waste from drilling will include toxic chemicals or radioactive materials or solid wastes. Since all are documented aspects of drilling wastes I recommend adding a section on this subject.** It is important to the towns and any reader that they understand the importance of this road use agreement and town resolution so informing the communities about these impacts are important.

**Public Health Impacts**

There are well documented public health concerns related to the many specific impact issues found in this report. These include air pollution, noise pollution, contamination of drinking water, increased traffic accidents and medical emergencies, and more—not just the spills currently referenced in the report. **Full disclosure of the potential impacts on public health should be included in this report and a statement as to whether these impacts can be addressed adequately in a road use agreement and town resolution is possible. If local zoning ordinances are more appropriate to address these concerns then this document should make such a statement.**

In conclusion, it is incumbent on the representatives of the Towns on the MMTF to strengthen the law and provide their towns with real protections from the impacts of high intensity industrial activity.

Other specific comments for inclusion on the MMTF report, town resolution and road use agreement are attached.

Sincerely,

Jeff Allison
Bethel, NY

## Economic Impact Materials

Natural Gas Drilling in the Marcellus Shale: Potential Impacts on the Tourism Economy of the Southern Tier by *Andrew Rumbach, Cornell University Prepared for the Southern Tier Central Regional Planning and Development Board Posted July, 2011*
**http://catskillcitizens.org/learnmore/MarcellusTourismFinal[1].pdf**

The economic impact of shale gas extractions: A review of existing studies *by Thomas C. Kinnaman in Ecological Economics April, 2011*
**http://catskillcitizens.org/learnmore/ThomasCKinnaman[1].pdf**

Drilling Deeper into Job Claims--The Actual Contribution of Marcellus Shale to PA Job Growth *Job creation in Pennsylvania by shale gas extractionhas been wildly overstated. By Stephen Herzenberg, Keystone Research Center, June 20, 2011.*
**http://keystoneresearch.org/sites/keystoneresearch.org/files/Drilling-Deeper-into-Jobs-Claims-6-20-2011_0.pdf**

Unanswered Questions About The Economic Impact of Gas Drilling In the Marcellus Shale: Don't Jump to Conclusions *The economic impact of drilling in several states does not support the conclusion that shale gas extraction will benefit New York State. Prepared by: Jannette M. Barth, Ph.D., JM Barth & Associates, Inc. March 2010.* **http://www.catskillcitizens.org/learnmore/bartheco.PDF**

North American Shale Gas Plays: More Unanswered Questions *By Jannette M. Barth, Ph.D., January 17, 2011.* http://www.catskillcitizens.org/learnmore/bartheco.PDF

A COMPREHENSIVE ECONOMIC IMPACT ANALYSIS OF NATURAL GAS EXTRACTION IN THE MARCELLUS SHALE *By Susan Christopherson and Ned Rightor, May 2011.*
http://catskillcitizens.org/learnmore/SCNRUpdatedfinalMarcellusPolicyWorkingPaper5.6.11[1].pdf

The Truth About Those Industry-funded Studies *Economist Jannette Barth, Ph. D., takes a hard look at the industry-funded studies that extol the economic benefits of gas drilling. March 2011.*
http://catskillcitizens.org/learnmore/RESPONSETOINDUSTRY.pdf

## DGEIS—MMTF Additional Questions and Comments

1. The road use agreement references only "construction activity" and not "concentrated traffic". The proposed town resolution that must be passed refers to both. **Why isn't "concentrated traffic" included in the road use agreement?** It appears that without both references in the road use agreement it will not apply to "pass through" traffic—that is traffic passing through our town but to a "construction activity" in a neighboring town. The cause for concern is that "construction activity" is defined as such within the town. What if a town zones out heavy industry (no drilling allowed) but the drillers need to pass through the town on locally maintained roads thus producing "concentrated traffic". **Shouldn't the road use agreement also take such activity into consideration?**

2. The driller is going to start drilling in a neighboring town and wants to use the roads, then my reading of the resolution is that the driller must approach the town for a permit or road use agreement. **How will we know that the drilling company plans on using our roads for wells in another town?** It sounds like all of the towns have to join together to make sure they know what is happening in each town

3. AASHTO methods to be used as a basis for the permitting program will include an Equivalent Single Axel Load ("ESAL") based methodology that provides an objective, broadly recognized engineering standard for use in comparing the structural capacity of an existing road and its normal traffic volume to proposed traffic volumes which exceed normal wear and tear for the road. (Page 4)

   Yet under the road use agreement some companies may be exempted from the agreement. **Under what circumstances do you envision "exempting" any business from this resolution?** See Sec. 9 of the agreement. **If the company seeking a permit exceeds the baseline and the normal deviation from the baseline, why would they be exempted even if the company is not a gas drilling company?**

4. **Will roads constructed on leased land be subject to this agreement?** Such roads can cause dust (air pollution) and runoff that can damage locally maintained roads and surrounding areas. **If so, how will these roads be monitored? If so, how will the condition of these roads be enforced?**

5. Upon permitting the applicant would have to identify the number of trips per day they would be making, the size of their anticipated loads, and the route they intend to use. Using criteria established. (Page 4) **What will be the ability of towns to enforce this agreement?**

6. Damage would not be limited to public infrastructure and could affect personal property (homes and vehicles) damaged by the use of affected roads. In addition accidents, some involving human death or injury, may become more frequent on these effected routes as motorists maneuver around potholes, and navigate damaged roadways. (Page 5). **What process will be in place for citizens to bring a suit for damages?**

7. As a proactive step to provide roads and other infrastructure capable of accommodating heavy loads and frequent trips it will be necessary in some cases to upgrade existing roads and infrastructure prior to the expected traffic. (page 6) **Will this be true even if the town has strong regulations which don't allow drilling but has a road use agreement? Do drilling companies HAVE to sign a road use agreement if there won't be drilling in that town?**

8. **What does the term "upgrade" mean? What if the residents do not want the particular upgrade being asked for?**

9. In the resolution it talks about if the road is upgraded at the driller's expense then they don't have to repair the road. **Does that mean if the driller upgrades the road, then they destroy it to worse than it was before the upgrade then they don't have to pay for repairs to bring it back up to where it was before the drilling?**

10. Such damage must be mitigated by the permit holder, which will result in some cases in road repair construction projects. (page 6). **Will there be a bond to ensure compliance with the agreement? Will the bond be at a sufficient level to encourage performance by the permit holder?**

11. By adding additional impervious surface (pavements) it may be necessary to acquire additional lands to construct storm water controls to offset the runoff increase caused by the addition of impervious surface. Also, wetlands may be impacted by construction, and it may also be necessary to acquire additional land for construction of wetland impact mitigation treatments as may be required by NYSDEC, US Army Corp. etc. Finally, lands located within the roadway alignment have the potential to be impacted vertically, in cases where it is necessary to excavate the roadbed to provide for an increased roadway section thickness as may be required to provide a higher structural capacity of a road section. (Page 7) **Who pays to acquire this land? Impact on land section does not adequately describe impact on rural roads which may be the only route developer may have, especially gas drillers; widening roads & paving roads not temporary in nature. The upgrading of rural roads is the foundation for industrializing a rural area**

12. Upgrade and/or repair costs for the portion of damage caused by regulated traffic will be the responsibility of the permit holder. (page 7) **Are the towns'**

**personnel able to make this determination? How much oversight will this require?**

13. Being that the level of noise presented by truck traffic is ambient, attention should be directed to mitigate the duration. This can be accomplished by limiting days and hours of operation, limiting operations to normal work days and hours. (Page 12) **Will truck traffic be prohibited at certain times due to excess noise?**

14. Provided the noise level of permitted trucks is within the regulatory limits mitigation would include measures to limit the effects of noise. (Page 12) **How will the noise be measured?**

15. The town may also place sound level thresholds more stringent than state and federal regulations for certain areas or the entire town. This type of noise ordinance may also dictate hours and days of the week noise at a certain level will be tolerated. Enforcement shall remain with the local town by use of trained personnel and equipment. (Page 13) **Who will bear the cost of personnel and equipment for enforcement? Would this include additional resources to manage the road use agreement?**

16. **Will all 8 towns need to pass identical regulations?**

17. **Does a "stop work" order in the road use agreement include "stop driving through my town" if that town zoning doesn't allow drilling?**

18. **Do the towns have the resources currently to manage the road use agreements?**

19. **If additional resources are needed to manage drilling can the driller be required to pay for them?**

20. **Can we use the "application fee" to cover the additional resource costs? Can we initiate a "local impact" fee to cover these additional resource costs?**

21. Article 6 of the resolution says that "an applicant shall have the option of entering into a road use agreement with the town." **Why is this optional and why is this at the applicant's option. Why doesn't it say that it's "required" to have a road use agreement or even that it's "generally required"?**

22. **Can we mitigate noise, odor, emissions, pollution, fugitive dust, etc. through this agreement or do we do that strictly through zoning?**

    a. Regarding noise pollution: **Can the road use agreement limit the days and hours of operation of concentrated traffic, increase setbacks**

**from buildings, require use of electric or natural gas powered vehicles and the other mitigation strategies? Would the recommended mitigation strategies in a road use agreement be in conflict with ECL 23-0303(2) regarding DEC control of gas drilling operations?**

b. Regarding emissions pollution: **This document should be expanded to include a detailed explanation of the 2000 diesel truck trips to required to service one well. An effort should be made to estimate the cumulative impact of all such trips for all potential wells in the townships.**

23. The penalties under sec 10 of the resolution seem to be excessively small and ineffective in causing someone in violation of the resolution to take corrective action. **Why so small? If it isn't the penalties what is the main "stick" that we are holding to enforce action? Bonds? Commerical Liability Insurance? Letters of Credits?**

24. **What if a bridge is falling down--not an unlikely scenario--will the drillers rebuilt it even though its current condition is due to lack of maintenance by the state or local authorities?**

25. Leaseholders may negotiate particular leases that determine the placement of roads on their private property. **How will the town determine appropriate mitigation measures to the locally managed roads that are required as a result of the construction of "additional impervious surfaces" created on the leased land?**

26. **Through the road use agreement process can we undertake any specific acts that will protect the unique character of our communities?**

27. At the NY Association of Towns meeting the emergency responders presenting said the major impact will be increased traffic accidents involving tanker trucks will be the largest impact of drilling. **Can we prepare for this circumstance through the road use agreement, i.e., ensuring payment for additional services by the permit holder?**

28. **If there isn't a haul route that meets the requirements of the planning documents does that mean that drilling WILL NOT take place on the leased land?**

29. Wastewater is described as Medical Waste. **How is medical waste disposed of? Is it equivalent with hazardous waste disposal?** We would like the definition of waste to include "toxic chemicals" and feel that is appropriate since the drilling fluid is called hazardous waste when delivered to the drill site.

30. We strongly object to the use of "captured well water, ground water flowback, production brine from drilling operations" as a means of fugitive dust reduction by applying it to gravel roads. Drilling fluids contain toxic chemicals and may be radioactive and contain dissolved solids from the drilling process.

**Sweeney, Mark**

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| **From:** | Karen London [naarlondon2@gmail.com] |
| **Sent:** | Thursday, August 18, 2011 3:27 PM |
| **To:** | Sweeney, Mark |
| **Cc:** | Dan Sturm |
| **Subject:** | Comments on MMTF Draft GEIS, Local Road Use and Preservation Law and Agreement for Road Use, Repair and Improvements |
| **Attachments:** | Transportation-Impacts-Paper-LEAKED[1].pdf; MMGDTF Road Use Comments.doc |

Dear Mr. Sweeney:

Please accept the attached comments on the Multi-Municipal Task Force draft GEIS, Local Road Use and Preservation Law and Agreement for Road Use, Repair and Improvements.

Thank you.

Karen London
Bethel, NY

**Karen London**
**PO Box 913**
**Smallwood, NY 12778**

August 18, 2011

Multi-Municipal Task Force
C/o Mark Sweeney, Esq.
White, Osterman & Hanna
One Commerce Plaza
Albany, NY 12260

Dear Mr. Sweeney:

Thank you for the opportunity to comment upon the draft GEIS, the Proposed Local Road Use and Preservation Law (the "Proposed Road Use Law"), and the Agreement for Road Use, Repair and Improvements" (the "Proposed Road Use Agreement").

This was difficult reading and will be unfamiliar territory for many residents who will, nonetheless, be significantly impacted by the heavy truck traffic anticipated to accompany the shale gas extraction industry into our communities. In addition, the Road Use and Preservation Program Manual was only available in hard copy at the Town Hall, not on the Town's website. As such, the following comments do not take into account—and perhaps were addressed in-- that additional document.

Although the DEC has not yet released its SGEIS section on community impacts, a leaked memorandum from the NYS Department of Transportation, included and incorporated herein by reference, states that the "potential transportation impacts are ominous", concluding that the DOT and local governments lack the authority and resources necessary to mitigate the foreseeable problems.

I am most concerned that the Proposed Road Use Law does not adequately and fully capture the various circumstances that could lead to significant road use damage. Please see my comments below.

***Comments to the DGEIS***

Under Section V, "Alternatives", the final paragraph reads:
" Use of roadways without regard for other interests such as historical and aesthetic resources, importance for emergency management, and high traffic volumes would result in disruption in quality of life, emergency services response and general traffic congestion." (page 5)

It is unclear what provisions in the Proposed Road Use Law and Proposed Road Use Agreement have addressed these significant concerns for the Town and its residents.

Where are there any legal requirements imposed on the Developer for the use of the Town's highways that address these safety and quality of life impacts?

Many of the recommended or suggested mitigation measures that are cited in the DGEIS do not seem to be incorporated into either the proposed Road Use Law or the proposed Road Use Agreement. This is of significant concern.

For example, under "Noise", it is suggested that haul routes have adequate setback distances or are offset from buildings, residences and places of assembly or are buffeted by trees and vegetation. (page 12). The Town, the DGEIS states, "shall be responsible for setting limits on hauling hours in certain areas and restricting hauling in other areas" (page 16; legal under ECL 23-0303(2)?); yet the Proposed Road Use Law and Proposed Road Use Agreement currently leave the selection of the haul route exclusively to the Developer. And despite the suggestion that trucks be "noise tested and certified" prior to being put in service (page 13), this also was not incorporated in the either the proposed law or agreement. (This sentence and the first full sentence on page 13 also seem to be missing some language.)

Again, under Mitigation measures for Emissions, the DGEIS suggests that the selection of haul routes should attempt to minimize routing scenarios where trucks are stopping and starting. It also suggests that Developer's trucks be required to have current emissions test certificates as a condition of securing permits and haul route selection and that this requirement be included in the Proposed Road Use Law. (pages 15-16, DGEIS) But where has this suggestion been implemented in the documents provided us? Although not mandatory, if the Proposed Road Use Law and Proposed Road Use Agreement are drafted so as to best protect the Town and its residents—rather than the Developer which will, no doubt, want the least regulations imposed—then one would expect to see at least some of the mitigation measures suggested in the DGEIS incorporated into the proposed documents. I do not.

The DGEIS concludes on page 36 by stating:
"Many other mitigation measures involve the haul route selection process. The process of selecting haul route segments can potentially have the greatest effect on residents....***Municipalities must rank by importance their most vital routes in terms of public safety and emergency services, environmental resources, economic development and commerce, historical and cultural resources and general quality of life***." (emphasis added)

Despite this statement, it was difficult to understand the interface between the town being urged to conduct a haul route ranking in advance of any permitting (even taking into account aesthetic resources! see DGEIS page 34) and the acceptance of the Developer's specified haul route in the Road Use Law and Road Use Agreement.

**Comments to the Proposed Local Road Use and Preservation Law:**

**General Comment:**
**The entire applicability of the Proposed Local Road Use Law (as well as the Proposed Road Use Agreement) turns on the pivotal definition of "Construction Activity" and its incorporation into the definition of "Concentrated Traffic." Besides the irony that the shale gas extraction industry is being covered under the definition of "construction" ("destruction" might have been more applicable!), the definition fails to capture critical components of hydraulic fracturing operations necessary to adequately protect the Town's roads and highways.**

**First, the definition's inclusion of the words "in the Town" means that the town's roads can be damaged or destroyed by heavy traffic that travels through the town but is traveling to an ultimate destination outside the town. If the so-called Construction Activity is in Cochecton, for example, but the heavy traffic travels on, and thereby damages, Bethel roads, the current definition would be inadequate to protect Bethel. Deleting the words "in the Town" from this definition and adding language elsewhere in the Proposed Road Use Law (as suggested below) can address this concern.**

**More difficult is the fact that "Construction Activity" is defined as "any activity that results in land disturbance or the improvement of a parcel." When the well pad is first being constructed, access roads created, staging facilities and man-camps established, there will certainly be significant "land disturbance" that will trigger the applicability of the Proposed Road Use Law. However, it is a certainty that additional wells on an established well pad will be drilled and also that, after a period of two or three years, wells will need to be re-fracked to stimulate additional gas production. In fact, wells can be re-fracked every few years and over a period of decades. The same 3-5 million gallons of water and tons of chemicals per well will again need to be hauled to the fracking site in addition to equipment and manpower, but perhaps there will NOT be any "land disturbance" given that the well pads, access roads, etc. have already been constructed. How will the Proposed Land Use Law (and, by extension, the Proposed Road Use Agreement) "capture" this foreseeable heavy road usage and protect the Town and its taxpayers from additional road use damage?**

Another general concern with the proposed documents is that the DGEIS refers to the "permit holder" but the Proposed Local Law does not contain any section on the granting of a "permit" subject to compliance with the provisions of the Proposed Local Law. If there was a "permit" issued, then Section 10 on "Enforcement and Penalties for Offences" could, for example, specify the suspension or revocation of such permit upon repeated violations of the local law.

The absence of any permit issuance is especially troubling, if the Proposed Local Law includes the current section 9 ("Exceptions") and if decision is left to the applicant whether or not to enter into a road use agreement with the town (Section 6 (K)).

**Section 1:**

The purpose of the proposed local law is limited to "establish a mechanism by which the developers of large construction projects that will generate traffic likely to require upgrades or cause damage to Town highways shall ensure that such upgrades are made and such damage repaired at the developer's expense."

The stated purpose of the proposed law is too narrow in focus, being limited only to assuring that the ***expense*** of any road use damage is borne by the developer. The purpose of the proposed law should be expanded to ensure, to the maximum extent possible, the safety and welfare of the town's residents by requiring the town's approval of proposed haul routes that will least alter Baseline Traffic and be least disruptive to town residents. (Section 6 (B) (i) does require the Town's engineering consultant to evaluate the proposed haul route for "health and safety deficiencies"; how will this be defined and what are the steps if he finds such?)

In addition, the initial sentence of Section 1 should be revised to read as follows:

"The Town Board has determined that certain high-intensity traffic associated with large construction projects, whether sited within the Town of ____or in other towns contiguous with or otherwise in the vicinity of the Town of ___, can damage and significantly reduce the life of Town highways...." And add at the end of that sentence "and adversely impact quality of life for area residents for years to come." (language from final paragraph of the DGEIS, page 36).

**Section 3:**
See discussion above regarding the definition of "Construction Activity" for significant concerns regarding this pivotal definition.

The listing of State permits and approvals should specify any water withdrawal permits (under the new water withdrawal law) and DEC permits for hydraulic fracturing.

**Section 4**: To clarify the scope of the proposed law, the words ",regardless of whether such Construction Activity is sited in the Town" should be added to the end of this section.

**Section 5**: It is unclear which "Person" has the obligation to submit the haul route application form and project traffic worksheet as specified in subsection A. Since the law applies to "any Person who, individually or in concert with another Person", what entity is it that actually has the responsibility to make the application? All parties acting in concert should indeed be held responsible, jointly and severally, for adherence to the law but the lack of clarity as to the primary party responsible to file will lead to problems. Is it the land leasing party such as Cabot or Chesapeake? Its trucking company subcontractor(s)?

**Section 6(B):** The proposed law needs to expressly authorize the Town to adjust or revise the applicant's haul route declaration to facilitate mitigation of adverse impacts. This section should be revised to also enable the Town's Engineering Consultant to revise the

haul route set forth in the applicant's declaration or to propose an alternate haul route due to design, geometric, or health and safety deficiencies (i.e. the full litany of deficiencies cited in (i) rather than just "design"). Furthermore, it would seem that the residents along a proposed route should have some available recourse to challenge a proposed route or the upgrading of a proposed route. The so-called "upgrading" of a country road so as to accommodate "Concentrated Traffic" may pose a health or safety hazard to residents, especially mothers with strollers and children who may walk or play on a previously quiet country road. (The Town of Bethel, with its doubling of population during the summer months, has an abundance of pedestrians on its roads.) I note no avenue of recourse for residents who may be adversely and significantly impacted by the proposed haul route.

Section 6(C): How does this section work if there are multiple applicants for the same haul route who submit applications at different points in time? What if unaffiliated applicants each would not individually trigger the definition of "Concentrated Traffic" but, collectively, using the same haul route and overlapping the same time period, constitute "Concentrated Traffic"? How would this scenario be captured by Section 5 and made subject to Section 6?

Further, if the Construction Activity is outside of the Town's borders but there will nonetheless be Concentrated Traffic within a Town, there should be some mechanism whereby each Town within the Multi-Municipal Gas Drilling Task Force is required to notify other member towns of proposed haul routes which will impact such other towns.

Section (H): This section includes a statement that "All repairs or upgrades to Town Highways shall be made in accordance with the specifications established by the Town Highway Superintendent and must be approved by the Town Highway Superintendent." Again, as in the comment above, where are any considerations taken into account by such Highway Superintendent as to the appropriateness or not-- and the impacts on community life of Town residents-- of any contemplated "upgrades" to Town Highways?

Section (K): Where is any recourse to a decision by **residents** on the Town Highway to be affected? Subsection (K) of the proposed law should be revised to state: "If an applicant or any resident(s) who resides on the Town Highway proposed to be upgraded disagrees with any decision ....and the applicant, such resident(s) and the Town are unable to resolve...then the applicant or such resident(s) may make a written request... at which time the applicant and/or such resident(s)...." The next sentence should be revised to delete the words "on the applicant's request" so as to refer to **any** such determination made by the board.

With respect to the second paragraph of subsection (K), entering into a road use agreement should not be optional. The agreement will ensure that all of the requirements deemed important to the Town are articulated clearly. If the applicant has the option to use its own form of Road Use Agreement rather than the one attached as Appendix P, it will undoubtedly be an agreement drafted in a manner far more advantageous to the applicant. It will also force the Town to incur legal fees each time to have the new

agreement reviewed and negotiated by the Town attorney—a needless expenditure for the Town. At the very least, any utilization of a Road Use Agreement other than the one attached or substantively modifying the one attached should require a super majority of the Board as well as approval by the Town attorney.

Section 8: This sentence should replace the word "may" with the word "shall" (not sure why this should be optional) and also add at the end "which fees shall be adequate to ensure the enforcement of this local law." Will there be engineering/legal assistance given to the Towns to help establish a fee schedule clearly adequate to cover the expanded enforcement and services that will be needed?

Section 9: Why should there be **any** exceptions to adherence to the proposed Road Use Law? This is a troublesome provision and triggered by only a Board resolution to that effect. If this provision is required, it should at least be subject to the vote of a supermajority of the full Board. In addition, language should be added that damage will be adequately repaired "at no cost to the Town or its taxpayers" by virtue of any other law.

Section 10: The fines specified are totally inadequate to encourage compliance and will be more likely deemed a minor expense of "doing business". These fines should be increased (imprisonment is highly unlikely) and the Town should be permitted to suspend or terminate a Road Use Permit and/or the Road Use Agreement in the event that there are repeated violations of one or more provisions of the Road Use Law or Road Use Agreement.

**Comments to Appendix P, "Agreement for Road Use, Repair, and Improvements"**

1.Add a recital that also recognizes the Town's responsibility for the health, welfare and safety of its residents.

Add the word "agents" in Recital 4 so as to read "contractors, subcontractors, agents or designees".

Section 1.1: Change to "may use the portions of the roads and highways located in and maintained by the Town identified as haul routes on Appendix A hereto", deleting the words "by Developer". The haul routes identified on Appendix A of the Agreement should be ones that the Developer and the Town have agreed to, taking into consideration not only what the Developer wants but what may be in the best interests of the Town and its residents. This is a major concern with both the proposed Law and the proposed Agreement. The DGEIS addresses ways in which the Town might mitigate some adverse impacts and indicates that the Town should, in advance, identify preferred haul routes. But the documentation provided seems to allow the Developer to specify its haul route **unilaterally** so long as the expense of any needed upgrade or repair is assumed by the Developer. Again, there is a disconnect between the DGEIS and the Proposed Road Use Law and Proposed Road Use Agreement.

Section 1.3: It is critical that "material" be deemed to include water since a significant number of truck trips will be to haul water (3-8 million gallons per well) to the area of the so-called "construction activity".

What are the next steps or consequences if the Engineer has concerns with respect to his "public safety evaluation"? Section 1.4 addresses if the Engineer determines that "structural, geometric or roadbed upgrades" are necessary but what if there are any "public safety" concerns raised by the evaluation mandated by Section 1.3? On this, the draft is silent.

Section 1.5, Last Sentence: "Developer will take all reasonable steps to minimize fugitive dust..." The DGEIS, page 19, indicates that the town is responsible for dust control through a maintenance plan developed by the town superintendent or consultant. As noted on page 18 of the DGEIS, the energy industry has used captured well water, flow back water and production brine to spread on roads to control dust. This should NOT be permitted given the chemicals and/or high salinity of these fluids. The Proposed Road Use Law and the Proposed Road Use Agreement should specifically prohibit the application of any of the foregoing on the Town Highways.

Section 1.6: The penultimate sentence of this section of the Proposed Road Use Agreement is very important with respect to allocation of responsibility amongst various developers utilizing the same haul routes (although it only seems to be applicable if each of the developers is subject to the law; note concern above regarding cumulative impacts). It is not incorporated into the Proposed Road Use Law itself and probably should be added to Section 6 (F).

Section 2.1: It should be mandatory, not optional, for each party to the agreement to designate a primary point of contact. Especially in case of a problem, it should not be incumbent on the Town to have to figure out whom, in a large, likely foreign, corporation, is the appropriate contact person.

Section 2.4: If the Town and Developer enter into an addendum to this Agreement for Developer-conducted upgrades, can such addendum also specify the hours or days when such work can be conducted to least adversely impact baseline traffic? What if private land rights for needed upgrades cannot be secured?

Section 2.5: Given the nature of shale gas extraction and the need to re-frack wells every few years to sustain productivity, it will certainly be ambiguous what constitutes "completion of the Project". As noted above, the ***"land disturbance"*** aspect of shale gas extraction activity may be limited in duration while the ***road usage*** may last episodically for years, if not decades.

Section 6.1(c): the word "that" should be inserted after the word "repair".

Section 6.2 (d): add to the list of possible remedies: "suspend or revoke the permit issued by the Town" (if a Permit is added, as suggested) or "revoke the determination permitting the Developer or Developer Parties from utilizing the Town haul routes".

Section 9.16: This provision should take into consideration the requirements of Section 6 (G) of the Proposed Local Law which requires that the Developer also enter into a Security Agreement with the Town and provide either funds, a performance or payment bond, irrevocable letter of credit or other financial guarantee. Any Transferee should be required to enter into the Road Use and Security Agreements directly with the Town and provide the mandated financial guarantees (and Transferor's unused security returned).

Why is (d) included? Why would this Agreement constitute security for the Developer and why would this be in the interest of the Town to permit, especially without the Town's approval?

Thank you for the opportunity to comment on these important documents.

Sincerely,

Karen London

cc: Daniel Sturm, Bethel Town Supervisor

# DRAFT Discussion Paper

# Transportation Impacts of Potential Marcellus Shale Gas Development

COVER PLACEHOLDER

(Note: This document was created by OCR software from a scanned document found here:

http://un-naturalgas.org/weblog/2011/07/leaked-draft-nysdot-document-the-potential-impacts-are-ominous/

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## i. Executive Summary

The purpose of this document is to provide a preliminary assessment of the nature, scope and intensity of potential transportation impacts of natural gas development in the Marcellus Shale formation for discussion purposes within the Department (NYSDOT), with staff in Governor Cuomo's office, and with the New York State Department of Environmental Conservation (NYSDEC) which is responsible for the promulgation of regulations concerning oil, gas and solutions mining in the State of New York. It is a necessary first step in initiating the dialogue among the many agencies and organizations that will need to prepare for and resolve the problems that may occur, to the greater benefits of the citizens of the State and its economy.

The potential transportation impacts are ominous. Assuming current gas drilling technology and a lower level of development than will be experienced in Pennsylvania the Marcellus region will see a peak year increase of up to 1.5-million heavy truck trips, and induced development may increase peak hour trips by 36,000 trips/hour. While this new traffic will be distributed around the Marcellus region this *Discussion Paper* suggests that it will be necessary to reconstruct hundreds of miles of roads and scores of bridges and undertake safety and operational improvements in many areas.

The annual costs to undertake these transportation projects are estimated to range from $90 to $156 million for State roads and from $121-$222 million for local roads. There is no mechanism in place allowing State and local governments to absorb these additional transportation costs without major impacts to other programs and other municipalities in the State.

This Discussion Paper also concludes that the New York State Department of Transportation and local governments currently lack the authority and resources necessary to mitigate such problems. And, that if the State is to prepare for and resolve these problems it is time to establish a frank and open dialogue among the many parties involved.

## 1. Purpose & Introduction

The purpose of this document is to provide a preliminary assessment of the nature, scope and intensity of potential transportation impacts of natural gas development in the Marcellus Shale for discussion purposes within the Department (NYSDOT), with staff in Governor Cuomo's office, and with the New York State Department of Environmental Conservation (NYSDEC) which is responsible for the promulgation of regulations concerning oil, gas and solutions mining in the State of New York.

The New York State Department of Environmental Conservation's *Draft Supplemental Generic Environmental Impact Statement On The Oil, Gas and Solution Mining Regulatory Program* (DSGEIS) and its predecessor GEIS address the development of oil, gas and solutions wells statewide including both vertical and horizontal drilling methods. It does not focus specifically on the Marcellus Shale Gas Play. However, due to the magnitude of

potential impacts on New York State, the Marcellus Shale is the focus of this Discussion Paper.

The overall purposes of the DSGEIS is to evaluate the impacts of oil, gas and solutions mining, to identify the mitigation actions that might be used to minimize the undesirable impacts of such activities, and then to propose and/or initiate the policy, regulatory, programmatic and other actions deemed to be necessary to implement desirable mitigation. The DSGEIS does not address transportation impacts outside of truck traffic related to site specific drilling and hydro-fracking. It does not address operational impacts on safety or level of service, nor does it address transportation impacts resulting from induced development.

Further, it is critical to identify the possible nature and extent of transportation problems stemming from Marcellus development as, according to the DSGEIS (page 1-3), *"When a final generic environmental impact statement has been filed, no further SEQR compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the generic environmental impact statement/'* Thus, NYSDOT and local governments may be constrained from mitigating future, potentially serious transportation impacts if they are not provided necessary recourse through the finalization of the DSGEIS and its mitigation requirements.

2. Marcellus Overview and Potential Implementation in New York

The Marcellus Shale is a black shale formation extending deep underground from Ohio and West Virginia northeast into Pennsylvania and southern New York. Figure 1 provides a map showing the extent of the Marcellus Shale formation as well as active and inactive gas wells in New York.

The DSGEIS suggests that horizontal drilling and hydraulic fracturing (generally referred to as hydro-fracking in the industry) will be the technologies applied in the Play. Horizontal drilling has been used in New York since the 1980s. A "horizontal well" is first drilled down vertically to a depth above the target gas-bearing rock formation. Special tools are then used to curve the well so that the hole is drilled horizontally within the gas-bearing rock for up to several thousand feet.

Neither the DSGEIS or DEC's website provide significant information in respect to when, where, how much and under what conditions gas development in the Marcellus Shale will occur.

How much drilling might occur?

At the moment there are 58 gas drilling permit requests pending at NYSDEC[1] but from neighboring Pennsylvania's experience we can expect a far greater number of permits to be

[1] Op cit 2

requested once regulatory issues are resolved. In 2004 the Pennsylvania Department of Environmental Protection issued fewer than 100 gas drilling permits in the Play. But, from the beginning of 2005 through the third-quarter of 2010 they issued 5,020 such permits, with the volume increasing each year.[2] Further, the number of wells in more highly developed shale formations has exceeded 10,000, as is the case for the Barnett Shale Play in Texas. Drilling activity has shown similar growth and in 2010 1,445 gas wells were drilled in the Marcellus formation in Pennsylvania.

New York Estimate: More than 7,000 wells. Peak annual drilling could exceed 1,200 wells. Where might drilling occur?

Impacts of drilling will occur at both the local and regional levels. Drilling within a municipality will depend on the availability of leases at attractive locations and NYSDEC spacing regulations which currently allow 1 well / 40 acres or 1, multi-well pad per 640 acres. It is likely that multi-well sites / pads will account for the majority of development given their cost savings and greater regulatory efficiencies. Thus, it would also seem likely that several multiple-well pads could be developed in a Town; accessed by multiple routes. And, at least in the short term, concentrated development could occur in multiple communities; as suggested by the pattern of drilling which occurred in the Marcellus in Pennsylvania in 2010 (Figure 2).[3]

At the other end of the scale, gas development appears to occur over thousands of square miles albeit with significant concentrations in the most productive sub-areas. Therefore, it appears logical that, at least initially, development could occur in New York in Tioga, Chemung and Broome counties—counties which are adjacent to the highly developed deposits in Pennsylvania. It could, however, eventually move on to other areas in the Southern Tier.

Duration and Phasing

The DSGEIS provides estimates of from 30-40 years for the duration of the Play, with most of these estimates provided by the industry. More recent and independent analyses suggest that the estimated productive life of the shale gas wells may be considerably less, and "few will extend beyond 15 years."[4]

The limited information available suggests that development will be modest over the first two or three years. This is because continued expansion of gas development in the Pennsylvania gas play competes for development resources, as well as the need to identify

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[2] PADEP, Bureau of Oil and Gas Management, Weekly Workload Report - 09/20/2010 to 09/24/2010.

[3] PADEP, Bureau of Oil and Gas Management, Wells Drilled 2010, January to August

"Lessons from the Barnett Shale suggest caution in other shale plays", Arthur Bergman, 08/10/09

the most attractive development zones in New York. If the Play proves fruitful, however, development could accelerate quickly and peak drilling could exceed 1,200 wells per year.

New York Estimate: Productive life of more than 20 years. Play essentially built out in 9-12 years. Three to 4 additional fracks per well could be utilized over the life of each well.

Truck Traffic

The DSGEIS addressed only the truck traffic associated with site development, drilling, fracking and demobilization. In its analysis 2 activities accounted for the dominant share of transportation operations: drilling - which required up to 145 trucks per well (290 trips) over a drilling period averaging 28 days (avg. 5/ day, peak 10 +); and fracking - which required up to 1,150 trucks per well (2,300 trips) over an average fracking period of 3 days, as shown below.

Drilling Rig Mobilization, Site Preparation and Demobilization

| | | |
|---|---|---|
| Dr<br>i<br>Dr<br>i<br>Dr<br>i<br>Dr<br>i | I Pad and Road Construction<br>Equipment ling Rig<br>ling Fluid and Materials<br>ling Equipment (casing, drill pipe, etc.) | 10-45 Truckloads<br>30 Truckloads 25 -<br>50 Truckloads 25 -<br>50 Truckloads 15<br>Truckloads |
| Completion Rig | Well Completion<br>Completion Fluid and Materials | Flow Back Water<br>Removal 10-20<br>Truckloads 5 Truckloads |
| Completion Equipment (pipe, wellhead) | | 150 - 200 Truckloads 400 |
| Hydraulic Fracture Equipment | | - 600 Tanker Trucks 20 - |
| Hydraulic Fracture Water | | 25 Trucks 200-300 |
| Hydraulic Fracture Sand | | Truckloads |

Truck traffic impacts depend on the number of wells drilled and fracked each year and the distribution of these activities around the Marcellus region, and truck trip generation at each well the potential for traffic impacts also depends on at least three other factors that are largely at the discretion of drillers. These other factors are:

Truck routing -- Gas drillers have relatively common resource and service requirements including construction materials (e.g. gravel at gravel pits), supplies (chemicals and sand for fracing) and equipment at staging areas, water for fracking, and waste disposal. Transportation impacts will largely be constrained to the routes used to access these resources and services.

Importantly, the scale of impacts will depend on the number of wells served by a road and are, thus, likely to be larger when multiple wells use common routes simultaneously or in sequence, or both.

Overlap and Sequencing of activities at wells served by common routes -- Information from the DSGEIS and the industry suggests that drillers have a "string" of well sites to be developed served by local routes. Simply put, they'll build the first pad and then initiate drilling of two wells on the pad, at the same time that they'll initiate construction at a second well site. Eventually they'll be constructing well sites, drilling, fracking, and trucking waste, simultaneously, from a number of gas sites served by the same local road. If the first two wells on each pad prove fruitful, they'll return to drill and frack an additional four wells, resulting in more overlap.

Importantly, the scale of impacts will depend on the number of wells served by a road and are, thus, likely to be larger where multiple wells use common routes simultaneously or in sequence, or both. Thus, it is likely that the largest operational impacts are found not in the area of the gas wells themselves, but downstream, where trucks from multiple wells in a larger area converge on common routes to water supply sites, equipment and material staging areas and the like; or where these convergent volumes combine with medium to high existing volumes on the same route.

Figure 3 shows weekly truck trip estimates for two wells at a single well pad from construction of site access and the well pad through completion of the well based on phasing and truck data provided in the DSGEIS. There are roughly 90 daily truck trips during the peak fracking phase. However, as discussed above, overlapping development at a number of wells could easily result in daily truck volumes of 400 or more; and if water supply activities are compressed into a tighter time frame, truck volumes could exceed 1,000 per day. Further, if roads serve multiple well development areas, they could also expect higher truck volumes over a much longer period than the 6 to 8 months suggested in Figure 3.

With respect to truck traffic it is also important to understand that if development in New York mirrors that seen in other shale gas plays it will occur over 15-30 years. Since horizontal wells will generally require re-fracking, and the literature suggests this may occur from 3 to 5 times or more over the production life of a well, truck traffic will peak and be sustained for those years in which new wells are being developed at the same time that older wells are being refracked.

For discussion purposes this point is illustrated in Figure XX which illustrates a hypothetical development and refracking scenario assuming peak annual well development of 1,440 (like that experienced in Pennsylvania in 2010), full field development in 13 years, a refracking period of 5 years, and 3 fracks per well. In this example truck trip volumes from gas development average approximately 1,100,000 trips per year over a 21 year period with peak year volumes of roughly 1,500,000 trips.

The DSGEIS DID NOT assess the impacts of traffic other than large trucks. So, traffic associated with commuting, provisioning, inspection and other activities at the well sites

is not considered, nor, for that matter, is traffic associated with industry activities away from the well sites.

*At the same time it is to be expected that the traffic stemming from such development will far exceed that generated by the development of the gas wells alone. For example, the DSGEIS, page 2-4 notes that cumulative growth associated with gas development is quite significant: "In Pennsylvania, where Marcellus Shale development is underway; Penn State found that the Marcellus gas industry generated $2.3 billion in total value, added more than 29.000 jobs, and $240 million in state and local taxes in 2008. With a substantially higher pace of development expected in 2009, economic output will top $3.8 billion, state and local tax revenues will be more than $400 million, and total job creation will exceed 48.000/'*

Traffic volumes from such cumulative growth will be much greater than from just the activities at the well sites. For illustrative purposes and using the job creation projection of 48,000 new jobs peak hour trip generation from these new jobs might be on the order of 36,000 trips-per-hour plus-or-minus 15 %. This may be from 15-to-30 times the peak hour truck volumes generated by well development activities alone.

3. Transportation Impacts

In order to provide a preliminary assessment of potential transportation impacts resulting from Marcellus Shale gas development, we applied information learned from the Pennsylvania experience to a hypothetical scenario which involves looking at potential impacts from projected wells and well pad sites in Tioga, Broome and Chemung Counties in the context of existing highway and bridge condition, inventory data and operational conditions in these counties. The discussion which follows is based on 3 primary types of information: 1) The potential siting of 160 well pads averaging 4 wells/pad in Tioga, Chemung and Broome counties. The siting of wells was based on a visual inspection of well densities and patterns in the three abutting counties in Pennsylvania (which account for roughly 40% of the Marcellus permits issues in Pennsylvania), proximity to gas pipelines and NYSDEC well spacing regulations which stipulate a spacing of 640 acres per multiple well pad or 40 acres per well. In this case we assume multiple well pads. 2) Bridge and pavement condition data, traffic operations data, and quality of life / context information generated by NYSDOT. And, 3) data and information from PennDOT relating to the traffic impacts of gas well development and the nature and cost of impacts to specifically mitigate the local road impacts.

Given current resource levels and funding, NYSDOT does not have the capacity to plan for mitigation on local roads. This type of analysis is complex and time consuming since it would have to be done in conjunction with the owners and operators of local facilities as these entities have understanding of and access to the scope of local data required to perform this analysis.

a. Physical infrastructure Impacts

i.Bridge and Pavement

The design of modern highway infrastructure is generally based on the loading that the bridge structure or pavement will receive over its expected lifespan. In NYS, conventional pavement design is based on both the amount of traffic volume and the percentage of trucks, which equates to the expected loading. While designed for expected loads, highway infrastructure condition is sensitive to the amount of heavy truck traffic with high axle loads that traverse the facility. For example, *'an old rule-of-thumb is that pavement structural damage done by the passage of a single large truck is equivalent to that done by about 9,000 automobiles'.*[5]

Bridge structures are also sensitive to heavy truck loads. Irrespective of bridge type, either steel or concrete structures, cyclical loads stress the underlying structural material to fatigue. Concrete bridge decks, as the wearing surface for vehicles, are vulnerable to overweight trucks and the cyclical loading of legal weight trucks. Once a crack develops in the concrete from natural wear or overweight loads, the cyclical load of heavy truck traffic causes the crack to grow and cause further deterioration to the deck.

Factors affecting pavements typically include: volume of heavy truck traffic, the thickness of pavement, the width of the travel lanes, the sub-base quality and thickness, and the context of the highway, that is whether it is in a cut or fill. Historically, state highways and bridges have been built to similar standards to accommodate long distance travel. The standardization of construction methods and materials has yielded a highway system that reflects consideration of most of these factors. Local system highways and bridges are generally designed for lower traffic volumes and hence do not reflect state standards or the ability to accommodate heavy truck travel.

The impacts of heavy trucks on bridges will fall most principally on pavement and bridges that are already deficient, or not otherwise built to current standards. Figure 4 shows posted and deficient bridges in Tioga, Chemung and Broome counties. Overall there are 167 State bridges and 147 local bridges that are load posted or otherwise deficient. It is to be expected increased truck volumes stemming from development in the Marcellus will accelerate further deterioration and require the accelerated replacement of state and local pavement and bridges.

Figure 5 depicts State roads with pavement scores of 6 or below. Facilities with pavement scores of 6 warrant consideration of maintenance or reconstruction. As with bridges, increased truck volumes on pavements resulting from development in the Marcellus will accelerate

[5] http://dot.state.ak.us/stwddes/desmaterials/assets/pdf/pvmtdesign/ch6.pdf

further deterioration and accelerate maintenance and/or very expensive and potentially disruptive reconstruction requirements.

For this discussion we are using a planning level assumption that 3 to 5 percent of State bridges will require repair projects added to the capital program each year, as will 5 to 10 percent of local bridges. We're similarly assuming that 3-5 percent of State roads with pavement scores of 6 or lower will require repair projects added to the capital program.

Because local roads are typically built to lower standards than State roads they can expect a sustained significant if not dramatic increase in maintenance and replacement costs from Marcellus Shale development. And, indeed, as demonstrated in Pennsylvania that has occurred and continues to be dramatic. Based on information provided by PennDOT it is possible that somewhere between 200 and 400 miles of local road were improved or reconstructed in 2010 alone. Similar scale impacts are possible in New York.

b. Operational

NYSDOT considers a number of operational variables when determining the need for and type of mitigation to address transportation impacts. These variables include impact on safety (crashes), level-of-service, travel time (delay), conflicts with other travel modes, and impacts to the developed and undeveloped environments.

Evaluating and mitigating the operational impacts of gas development in the Marcellus Shale region presents special problems, however, as large, heavy trucks create unique operational problems. For example, the introduction of large trucks into the traffic stream has a substantially greater impact than a similar volume of smaller vehicles or passenger cars. As the proportion of trucks increases the impacts grow at an even faster rate. Matters are made worse if the road is not already designed to handle heavy trucks.

Short-term impacts may be large but episodic; meaning truck traffic from the development of a string of wells can last for 4-8 months and then disappear, only to reappear 4 to 6 years later when the wells are refracked. Many longer term and regional impacts may occur remotely; that is geographically removed from the "source" of the impact. Streams of trucks from a wide area may converge on a common route such as arterial links to interstates providing access to major waste disposal facilities or large well service companies.

Figure 6 illustrates the problem noted above. It shows Priority Investigation Locations (PILs), areas where there are known accident locations, and high traffic volumes (Vehicle/Capacity rations of 0.8 or greater). The majority of these are on 1-81 and NY Route 17 around Binghamton. These expressways appear to be logical routes for waste trucking from the Marcellus. At some point, an infusion of large numbers of heavy trucks on these highways could create the need for costly capacity and safety improvements. However, the wells themselves, which are the actual sources of the truck traffic, are likely to be widely distributed and remotely located from the problem areas in need of operational mitigation.

An additional consideration in evaluating mitigation requirements for operational impacts relates to the need to consider the impacts of induced development which, as noted earlier, could generate up to 36,000 peak hour trips. Although these trips will be distributed around the Marcellus Region, there is little doubt that communities with major service and staging areas (such as the Town of Horseheads) and housing and commercial venues will see traffic growth whose impacts will necessitate operational improvements. There is, however, no existing regulatory authorization to mitigate the impacts of cumulative development.

Given the wide variety of potential impacts and mitigation costs associated with each type of impact, it is not possible to develop an accurate quantified estimate of mitigation needs. Applying professional judgment comparing the Pennsylvania experience to what could occur in New York, leads us to conclude that Marcellus Region-wide mitigation costs could range from an average of $6-to-15 million per year. The upper estimate assumes that at least two projects in excess of $50 million each will be warranted over the 20-30 year life of the Marcellus Shale gas play.

c. Necessary or Desirable Fixes

There are a variety of other conditions that could inhibit truck routing alternatives by gas developers in the Marcellus. As suggested by experience in Pennsylvania there will be cases where improvement of these conditions will enable the selection of "least cost", "smallest impact" or safest routes. Examples of these include the following:

- Sight distance improvements including the removal of trees and vegetation or the relocation of signs
- Realignment of skewed intersections
- Drainage improvements increasing the stability (and lifetime) of roads
- Increased storage for turning traffic at interchanges and intersections
- Necessary elimination of choke points along north/south state routes accessed from Route 17 that travel through the villages of Owego, Waverly and Endicott

The costs of such improvements can range from $10,000 for minor sight distance improvements, through $150,000 for minor realignments, up to $l-million or more for increased storage at interchanges. The responsibility for such fixes can be assigned and charged to individual or multiple gas developers. NYSDOT should explore potential methods to recoup these costs.

d. Quality of Life

Given existing information there is no direct manner of determining the potential quality-of-life impacts resulting from truck traffic caused by gas development in the Marcellus. However, experience with the Finger Lakes Truck Study provides an example of how increased truck volumes can affect local quality of life and result in a demand for mitigation. This example demonstrates how truck traffic can create substantial public and political controversy and generate intense efforts to address the impacts.

In 2008, NYSDOT examined issues of regional concern in the Finger Lakes area resulting from the impact of the Seneca Meadows Landfill expansion near Waterloo. The expansion was expected to generate an additional 185 large truck trips per day. Many of the large trucks utilized a combination of freeways, conventional two lane state highways and local routes in order to minimize travel time, mileage and/or tolls.

The expected increase in large truck volume through the many villages of the Finger Lakes region was perceived to create numerous adverse impacts including increases in accidents, noise pollution, emissions and wear on infrastructure. These impacts would reduce the quality of life in many communities and would also impact tourism and thus have a negative effect on the area's economy.

In order to mitigate the adverse impacts, NYSDOT proposed an elaborate truck routing regulation, involving seven state highways, in order to keep large trucks on the National Highway System and away from the many communities in the Finger Lakes Region.

Due to the controversy surrounding the proposed regulation, the volume of negative feedback received, and the results of an environmental assessment, it was finally determined the regulation should not be implemented. Other measures were undertaken to mitigate the problem. Seneca Meadows Landfill agreed to include language in all new delivery contracts requiring large trucks to minimize the use of secondary highways. Additionally, NYSDOT restricted oversize hauling permits in the Finger Lakes region, increased truck inspections off the interstates in the region, and agreed to make traffic calming improvements in a number of Finger Lakes communities. A Trucking Industry and Community Relations Task Force was also formed to evaluate and monitor the effect of NYSDOT efforts and to make recommendations on actions to reduce truck traffic impacts in the area.

It is probable that truck traffic stemming from Marcellus development will create similar if not greater local concern as the conditions resulting from such development will be much more severe and widely distributed. Local truck volumes may increase by at least 5-times or more than was generated by expansion of the Seneca Landfill. Truck traffic will pass through sensitive areas on a twenty-four hour basis. Gas development will take place over a much larger geographic area and consequently is likely to affect more communities than was experienced in the Finger Lakes Study. And, these conditions will reoccur periodically as refrackings are initiated.

e. Other Considerations

Gas development in the Marcellus Shale will affect a wide array of programs and functions within NYSDOT. These have largely not been explored in developing this *Discussion Draft* but should be considered in future efforts as they will require additional resources and may well need some expansion of their authority. Examples of these include the following.

Hazardous Materials: The fracants used in gas drilling contain a variety of acids and other materials. Given the potential number of trucks that may be carrying hazardous materials it would appear highly desirable to expand training for first responders from both State and Local agencies and organizations.

Enforcement: Given the potentially dramatic increase in the number of large trucks and their distribution around the Marcellus Shale region a significant expansion in truck inspection needs should be anticipated. This will need close coordination with other organizations such as the State Police.

Permitting: There is likely to be a substantial increase in oversize/overweight permitting requests: e.g. one PennDOT region experienced a 100 percent increase in such permitting. Additional permit staff will be required to handle this requirement.

4. Financial Considerations

a. Background

New York's transportation infrastructure is aging, subject to harsh weather conditions, heavily used and in need of modernization. The number of facilities that will require major investment in rehabilitation or replacement is growing at a rate that outpaces current funding. In 2007, NYSDOT undertook a statewide assessment of its 20 year capital needs and determined that $175 billion (in 2007 dollars) would be needed to fully address all current and expected highway and non-MTA transit needs over this period. To accomplish this would require at least a doubling of NYSDOT's current level of Federal and State funding.

NYSDOT is faced with very difficult funding prospects for the next several years: the current Federal multi-year program bill expired on September 30, 2009 and national fiscal issues may delay Congressional approval of a new bill for several years. Of major concern is the potential insolvency of the Highway Trust Fund which has used gas tax revenues to fund highway and transit improvements since 1956. Similarly, NYS's key highway and bridge transportation fund source, the Dedicated Highway and Bridge Trust Fund (DHBTF) must now rely on substantial transfers from the General Fund. Debt service needs are expected to consume 75% of the DHBTF's revenues in SFY 2012-13. Lastly, the 2005 transportation bond is being phased out with the completion of funded projects.

As the backlog of capital needs increases, more of the state's limited maintenance funding is directed to demand (emergency) maintenance for repairs to keep bridges in service and these

are being programmed at a higher priority than pavement maintenance needs. Despite past investments, New York ranks near the bottom of the 50 states on bridge and pavement conditions. Preservation of the existing infrastructure requires such a large and currently unavailable investment level that little funding can be devoted to projects to expand highway capacity and promote economic development (less than 10% of the current program).

b. Financing Needs to Mitigate the Transportation Impacts of Marcellus Shale Development

The impacts of Marcellus Shale gas development on State transportation financing needs is likely to be profound as illustrated by the rough estimates provided in Table XX. The incremental costs to mitigate Marcellus impacts for the State range from $90-million to $156 million per year. The estimate costs for local roads and bridges range from $121-million to $222-million per year, some of which may well flow from the State Transportation Budget.

The 20-year aggregate costs are not simply multiples of the annual estimates provided in Table XX, they are likely to be substantially less, for two principle reasons. First, the percentage of roads and bridges accelerating into needed repair will decline over time. And second the mileage of local roads requiring maintenance or reconstruction will decline sharply in out-years as development falls and the need for such treatments during refracking periods is also reduced by the construction of higher quality roads during initial development.

The rationale for these estimates is as follows. For the three target counties we are making a planning level assumption that three to five percent of State bridges will require repair projects added to the capital program each year, as will 5 to 10 percent of local bridges. The replacement cost for such bridges are assumed to be the average replacement cost for the set of state and state of local bridges, respectively. Similarly three to five percent of State roads with pavement scores of 6 or lower will require repair projects added to the capital program. The estimated average maintenance and replacement cost is estimated at $512,000 per mile. The costs for Operational and Desirable Fixes are based on professional judgment. They also assume the need for such actions will stem from both truck traffic and much higher volumes of traffic resulting from cumulative development.

There are no authoritative sources detailing local road maintenance and replacement costs stemming from Marcellus development. However, verbal reports from industry representatives indicate costs at the following levels: i) $191-million in road investment by 2 companies in 2010 alone and ii) $411-million to rebuild local roads over a 3 year period. Such costs will depend primarily on the number of well pads built and wells fracked in any year, thus they will small as drilling commences and large when drilling and fracking peaks.

The estimate for costs of implementing an Excess Maintenance Agreement (EMA) program is based on 2 factors. First, the $6-million annual cost estimated by PennDOT. And second, the fact that the mileage of local roads likely to be covered by an EMA program may be 2-to-4 times greater than is treated by PennDOT.

5. Transportation Mitigation

a. Local Road Impacts

i. PA's Experience and Approach

PennDOT owns and maintains approximately 25,000 bridges and 40,000 miles of roads. Secondary roads (what NYSDOT considers local roads and does not have maintenance responsibility for) comprise over half of that mileage. Secondary roadways, typically serving rural areas, do not have sufficient strength to withstand the large amount of trucks and other vehicles needed to drill. Understandably, PennDOT reports the rapid deterioration of secondary roads with damage in the range of minor surface issues to completely undermining the roadway base. Additionally, the sudden increase in heavy truck traffic has caused deterioration of several bridge structures.

PennDOT has instituted a formal process to mitigate the deterioration of existing road and bridge conditions due to heavy truck traffic resulting from well drilling activities and to recover all costs associated with the damage being caused. The Agency's approach to achieve the goal of no net deterioration is based on both internal and external actions.

PennDOT protected the secondary roadways from heavy vehicle damage by posting for 10-ton weight limits. The agency has posted approximately 3,500 miles of road miles in the districts located in the Marcellus shale play at a 10 ton limit. (FIGURE map of posted roads) Proposed users hauling on the posted highways must enter into an excess maintenance agreement (EMA). A security instrument (typically a bond), is offered by the user as a guarantee that the highway will maintained during use and any damage is repaired or reconstruction if necessary. At the present time, 2,437 miles of roadway are bonded for $125 million.

To date there is no direct estimate of the mileage of roads which have been improved, maintained or rebuilt since the inception of the Excess Maintenance effort, but the magnitude of the impacts and requirements are significant, as illustrated by the following:

- According to PennDOT 1,100 miles of bonded roads are estimated to have been damaged, roughly 33% of the posted-road mileage.
- Industry representatives report that 2 companies spent over $190-million in road maintenance or replacement in the Marcellus in 2010. (Over 20 companies are operating in the Marcellus in Pennsylvania.)

To recover the costs associated with needed improvements, PennDOT is conducting a cost recovery analysis to identify items and fees that can be charged to the industry. Increased permit fees, revisions to the Excess Maintenance Agreement, increased bond amounts and industry credits are all being reviewed. To that end, the PennDOT cost summary for one year stands at $6.13M with $4.6 being directly recoverable. (FIGURE TABLE Showing

PennDOT cost breakdown)

PennDOT has also found it necessary to reassign existing agency staff and ask them to handle the additional tasks associated with mitigation. Construction oversight and enforcement of the Excess Maintenance Agreements are additional requirements of the agency staff. Additional staff has been allocated to complete roadway posting, pre-bonding surveys and to monitor and perform road condition surveys. Each posted road is visited every week. At present over 60 full-time staff are assigned exclusively to Marcellus efforts. Yet, the agency reports that "even more staff are needed to effectively handle the required permitting and enhanced tracking and reporting needed to match the Marcellus Shale Industry growth while also ensuring roadway safety and service".

Appendix A contains excerpts from a PennDOT presentation to FHWA providing additional details on its Excess Maintenance Program.

Although built for heavy loads, main traffic routes are still left vulnerable to the increased heavy vehicle traffic as significant increases in truck volume is prematurely deteriorating the roadways and shortening the life cycle of the pavement. Posting main traffic routes is not a desired option for PennDOT as these roadways serve as major travel arteries across the Commonwealth. PennDOT acknowledges that the repairs and cost recovery for this deterioration remains unaddressed.

ii. NYSDOT's Role in Mitigating Local Road Damage

NYSDOT is generally responsible for higher volume highways and bridges that connect municipalities and local governments are generally responsible for lower volume roads that serve their own jurisdiction. Simply put, for local roads, NYSDOT has no role at present beyond providing available data and assistance if requested. The Department lacks both jurisdiction and the resources required to mitigate local roads damaged or destroyed by gas development in the Marcellus Shale region. If NYSDOT is to play a role in mitigation similar to that of PennDOT in Pennsylvania it would appear that that both legislative / policy actions as well as additional resources would be necessary, as shown below. Areas where state legislation and funding increases would be needed are:

- Authorization to apply and enforce local road postings.
- Authorization to enter into local road maintenance agreements with drillers.
- Authorization to bypass State and Federal contracting requirements normally associated with State and private regulatory and/or maintenance requirements.
- Provide $5-to$10-million in Excess Maintenance program start-up costs including staffing. Legislative authorization to charge gas developers fees to support and sustain an Excess Maintenance program and to disburse such fees.

Additionally, regardless of whether road maintenance agreements are implemented by municipalities or by NYSDOT, there are significant data needs that would be required to

facilitate an Excess Maintenance effort. The data elements requested by PennDOT are included in Appendix B, Marcellus Shale Maintenance Guidelines. It would be desirable for the NYSDEC to stipulate these and other data elements be provided by applicants for a gas drilling permit before drilling can proceed.

b. State Road Impacts

i. Ability to Mitigate

As with impacts to local roads NYSDOT essentially lacks the capacity to require mitigation for damage to State roads and for the operational and safety impacts that stem from Marcellus development.
First, there is no direct regulatory link between NYSDOT and individual drillers. The vast majority of trucks used by the drillers will require no special permit from the Department. Similarly, the vast majority of gas wells will take their access from local roads and, thus, there will be no tie to the Department's Highway Work Permit requirements.

Second, even for those sites taking access from State roads, peak hour trip generation will fall well below the 100 peak hour trip threshold stimulating the requirement for a traffic impact statement (TIS) and potential mitigation beyond the site limits. Third, there does not appear to be any statutory authority authorizing the Department to require proportional mitigation for the cumulative impacts of cumulative development against a specific economic sub-sector, in this case the gas drilling industry.

And fourthly, the Department lacks the information and resources necessary to evaluate the individual impacts of 1,000 or more wells per year, define the necessary mitigation, establish the proportional contribution to cumulative problems, and assess and justify the proportional "contribution" to the mitigation of such problems.

ii. Potential Mitigation Strategies

It would appear that there are a number of approaches to mitigating the probable and possible transportation impacts to the State system. Each has distinct advantages and drawbacks, each would require some expansion or clarification of NYSDOT's authority, and each would require mandatory data and information from the gas drilling industry that is not currently provided for in NYSDEC's permitting process. The last element can be resolved largely by stipulating that drillers provide the data and more set out in Appendix B; which is largely the same information as would be required to mitigate impacts to local roads.

One option would be to dedicate some share of the gas tax revenues from gas production to mitigate the transportation and other impacts of such development. The

advantages are that it would be clean and simple. The disadvantages are that segregation of transportation from other impacts are politically improbable and, thus, unlikely as would be the establishment and "dedication" of an appropriate revenue share,

A second option might be to levy a "transportation impact fee" for each well drilled in the Marcellus in New York at the time of permitting. The advantages of this option would be that it is "clear and transparent". The disadvantages are that the impacts and their cost cannot be determined with any degree of certainty, that it would require legislative authorization against a specific and powerful industrial subsector, and that existing State programming and procurement requirements would not allow necessary improvements to be implemented when they are needed. This would require streamlined standards and contract mechanisms to deliver projects in a timely and effective manner.

A third option would be to require the establishment of an "industrial association" specifically charged with mitigation of the cumulative impacts of Marcellus Shale development. The benefits of this option would be that it directs mitigation to the industry, that it is not necessarily limited to transportation impacts, and that it would require that they work out their own "proportional shares". The disadvantages are that NYSDOT would still be required to define necessary mitigation, that mitigation would likely be made after the fact, and that the industry would likely oppose such a broad and undefined requirement.

A fourth option might be to require a transportation mitigation surcharge on gas production in the Marcellus. This has the advantages of divorcing mitigation costs from development costs, thus not impeding development, and simplicity in application. It has the disadvantages of inequity in that "producing wells" alone are not responsible forthe transportation impacts of Marcellus development, that it would be difficult to establish the surcharge, that mitigation would be made after the fact, and that the industry would likely oppose it.

Finally the Department might do nothing, assuming that future increases in its budget will offset the incremental costs of mitigating the transportation impacts of Marcelius development.

Whatever form of mitigation is decided on It will almost certainly be necessary to align it with the NYS Department of Environmental Conservation's permitting process. In addition, this might provide an opportunity to integrate a transportation impact assessment and mitigation process as a condition of the permit. This in turn would facilitate a variety of activities and conditions necessary for effective mitigation, such as:

- The provision of transportation related data and information - number of trucks, size/weight of trucks, number of trips, proposed routes, proposed schedule (by year, month, day-of-week, and time-ofday).
- A requirement that all large trucks will be permitted to help control and monitor actual truck use/impacts.
- Community outreach in communities likely to be impacted by truck.
- A requirement thst all proposed routes to be pre-surveyed for conditions,
- A requirement for "ongoing" monitoring of road conditions and updating of the associated data, as needed.
- The establishment of trigger points for various mitigation activities
- Assess a "transportation mitigation fee" to address transportation impacts.

c. Alternative Mitigation

The transportation of water, fracking materials and liquid wastes appear to account for well over 90-percent of all truck traffic from a gas well over its productive life. Alternatives that could substantially reduce the use of trucks would similarly reduce their impacts. There may be a variety of such alternatives. These would include innovative methods of fracking such as the use of liquefied natural gas which would eliminate the need for water entirely. They would also include water supply systems which reduce the need for trucking, such as the construction of water welSs serving multiple well pads via a piping system. On site treatment and disposition of wastes is another alternative. According to data from Pennsylvania Chesepeake Energy has eliminated the trucking of wastes, presumably through on site treatment or disposition. If this practice were extended to other gas development companies operating in the Marcellus in Pennsylvania it would also substantially reduce trucking requirements.

Appendices

PA ppt

PA data

6/22/2011 3:23 PM

## Sweeney, Mark

**From:** Bruce Ferguson [bafbafbafb@gmail.com]
**Sent:** Friday, August 19, 2011 3:58 PM
**To:** Sweeney, Mark
**Cc:** Cohen, Ethan P.
**Subject:** Comments on MMTF Draft GEIS, Local Road Use and Preservation Law and Agreement for Road Use, Repair and Improvements
**Attachments:** MMTF DRAFT GEIS COMMENTS final.docx

Dear Mr Sweeney:

Please accept the attached comments on the Multi-Municipal Task Force draft GEIS, Local Road Use and Preservation Law and Agreement for Road Use, Repair and Improvements.

Thank you.

Bruce Ferguson
Callicoon Center, NY

Comments by Bruce Ferguson on the Multi-Municipal Task Force Draft Generic Environmental Impact Statement

While I applaud the formation of the Multi Municipal Task Force (MMTF) and its stated mission, I feel it is too soon to attempt to finalize the Draft Generic Environmental Impact Statement (Draft GEIS), and too soon to shut off public comment.

## NEWLY AVAILABLE INFORMATION SHOULD BE CONSIDERED

The final GEIS should be informed by three documents that were not available at the time the Draft was written:

1. *The 2011 Legislative Resolutions of the New York State Association of Towns.* Four of these legislative resolutions have direct bearing on the issues at hand:

    - Resolution One: *Preserve and Strengthen Home Rule*
    - Resolution Twelve: *Preserve and Strengthen Local Government's Role in the Siting of Energy Generation Facilities*
    - Resolution Thirteen: *Preserve Town Land Use Authority in the Natural Gas Exploration and Extraction Approval Process*
    - Resolution Fourteen: *Road Preservation Securities and Road Use Agreements*

    At the very least, the MMTF should consider attaching this document as an appendix to the GEIS and endorsing each of these resolutions.

2. New York State's Department of Environmental Protection *Revised Draft SGEIS on the Oil, Gas and Solution Mining Regulatory Program* http://www.dec.ny.gov/energy/75370.html

    Although the DEC released 1,095 pages of the Draft on July 1st, the portion addressing road use and socioeconomic impacts has not yet

been released. The MMTF should consider this information when it becomes available and, if necessary, revise the Draft GEIS. The public should have an opportunity to comment on a subsequent version of the Draft if it contains significant changes.

3. DRAFT Discussion Paper published by the NYS Department of Transportation (DOT) on June 22, 2011, on the *Transportation Impacts of Potential Marcellus Shale Gas Development*

   This nineteen-page document presents a chilling picture of the effect that traffic associated with shale gas extraction is likely to have on our infrastructure. Among its findings:

   - Overlapping development at a number of wells could easily result in daily truck volumes of 400 or more, and if water supply activities are compressed into a tighter time frame, truck volumes trips could exceed 1,000 per day.

   - It will be necessary to reconstruct hundreds of miles of roads and scores of bridges and undertake safety and operational improvements in many areas.

   - The annual costs to undertake these transportation projects are estimated to range from $90 to $156 million for State roads and from $121 to $222 million for local roads.

   - There is no mechanism in place allowing State and local governments to absorb these additional transportation costs without major impacts to other programs and municipalities in the State.

   - Since horizontal wells will generally require refracking, truck traffic will peak and be sustained for those years in which new wells are being developed at the same time that older wells are being refracked.

   - If development in New York mirrors that seen in other shale gas plays, it will occur over 15– 30 years.

*It should be noted that this document was leaked to an anti-fracking organization, but the DEC subsequently confirmed its authenticity when it claimed that the document should be discounted because it referenced*

*shale gas extraction as envisioned in the DEC's original 2009 Draft SGEIS This assertion is scarcely credible given the fact that the DOT memo was dated June 22, just nine days before the NYS DEC released the major portion of its revised Draft. Moreover, there is no significant difference between the two draft versions of the SGEIS with respect to road use.*

The entire document should be appended to the GEIS.

**THE ISSUE *IS* HIGH-VOLUME HYDRAULIC FRACTURING**

While the proposed road use law cannot target a specific industry, it's obvious that the MMTF came into being simply because shale gas extraction may take place in our area, and the Draft GEIS could do a better job of reflecting that fact. For example, it might be useful to incorporate some of the information about traffic contained in the aforementioned DOT memo in the body of the GEIS.

**ALTERNATIVES:**

Section V of the Draft GEIS, *Alternatives,* states that "the primary alternative to enacting legislation to protect roads from traffic that exceeds normal wear and tear thresholds is not to do so."

There is another alternative—excluding high-impact industrial traffic from certain roads. There are a number of reasons to exclude traffic from certain roads, including narrow width, steep grades, sharp curves, and the proximity of homes to the roadside.

There may be instances where Town residents would welcome having roads widened, repaved, or rerouted, but undoubtedly there are also many instances where such "improvements " would negatively impact the lives of residents. For example, widening, straightening or improving road surfaces might increase traffic on some rural roads and cause vehicles to drive at faster speeds, thereby endangering children, pets, wildlife, farm vehicles, and other vehicles.

The most troublesome type of road "improvement" will undoubtedly be the widening of narrow roads. Many of the older homes in our towns are situated very close to the road, sometimes within feet or inches of the right-

of-way and sometimes actually occupying portions of the rights-of-way that are normally accorded to town roads. In these instances, widening or improving the surface of roads in order to accommodate heavy truck traffic will undoubtedly have a dramatic negative impact on both the quality of life of the residents, and on residential real estate values.

To address these concerns, the inventory of town roads should be expanded to include the designation of roads that, for one reason or another, should not be "improved" to accommodate high-impact industrial traffic. The Draft GEIS recognizes that in some instances this determination is best left to the towns, such as when historical or cultural sites need to be considered. In other instances, such as when topographical features such as inclines and curves must be taken into account, an engineering firm such as Delta may be better able to evaluate whether a road is suitable for heavy industrial traffic.

Barring high-impact industrial activity on roads because of the proximity of houses could, if not properly handled, be a divisive issue. If individual town boards or zoning boards are left to make this determination on a case-by-case basis, communities could be torn apart by claims of favoritism and unequal treatment. For this reason, it would be useful if the MMTF would attempt to promulgate objective guidelines that could be applied on a uniform basis.

## POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION

Section VII appears to concern itself only with the environmental impacts of shale gas extraction that pertain to transportation. For example, the section on "Emissions" considers only emissions from trucks, not the emissions of volatile organic compounds from wellpads and compressor stations. If this GEIS is to take this circumscribed a view of impacts, this should be explicitly stated, so that the reader does not get the false impression that all the environmental impacts of shale gas extraction are being considered.

The GEIS and the related appendices fail to convey a realistic sense of the dangers posed by the chemicals used in hydraulic fracturing. Appendix G includes "Sample Material Safety Data Sheets" for four products that can cause skin and eye irritation and "can enter lungs and cause damage."

Using the Freedom of Information Law, I was able to obtain Material Data Safety Sheets for forty-nine products that have already been used to frack Marcellus wells in New York, and very few of them are as benign as the ones selected for inclusion in the Draft GEIS. Many of them can cause far more severe symptoms such as blindness, central nervous system depression, liver damage, kidney damage, birth defects, and death. I suggest that *all* of the Material Data Safety Sheets be included in Appendix G; they can be found at http://catskillcitizens.org/FOIL_products/index.cfm

Submitted August 19, 2011

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August 16, 2011

Dear Sir:

The following comments pertain to the Sullivan County MMTF Local Road Use and Preservation Law and the DGEIS.

General Comment:
The purpose of the law as stated in Section 1 is to protect the towns from financial burdens caused by damage to town roads by developers of large construction projects. The purpose is not to control or limit gas drilling. Gas drilling is, however, a covered activity as defined in Section 3 of the law and it is referred to in the Program Manual under Initial Developer Contact. In general the DGEIS is an inadequate description of the impacts of concentrated truck traffic of @2000 truck trips (4000 drivebys) required to support one well and the measures needed to mitigate the impact of that type of traffic volume. Since the law will exacerbate these problems the DGEIS should have focused more on gas drilling or industrial activities of a similar intensity in describing the impacts. In many instances the mitigation measures do not seem realistic and simply provide a false sense of security and no actual protections. Only substantive, achievable, practical measures which will be used in these towns should be included in the document.

MAXIMUM TRUCKING
Maximum 20 wells on 1 pad, with 6 frackings over 30 years.
240 million to 1.08 billion gallons of fresh water used per pad.
4,800 to 21,600 tanker trucks hauling fresh water.
2 to 9 fresh water tanker loads per day for 2,520 days of fracking.

33,600 to 151,200 tanker trucks hauling toxic waste.
3,360 to 15,120 days of toxic waste hauling at 10 truckloads per day of removal.
Overall, 38,400 to 172,800 possible tanker truck trips over well pad life.
http://catskillcitizens.org/learnmore/truckloads.pdf

The law is also a one size fits all and does not prohibit certain roads from being used or expanded and industrialized, – it basically opens up all the roads if the gas company's pay. There should be provisions in this law package that remove from consideration roads with steep grades, low shoulders, no shoulders and sharp/hairpin turns as haul routes. Roads that are lined with homes will bear a particular burden on both property value and the resident's rights to peaceful enjoyment and they should also be removed from consideration as haul routes. This measure would prevent countless accidents preventing environmental damage, private property loss, public health issues and will help to preserve community character.

Impact on land:
The Road Use Plan falsely describes Impact on Land as temporary. Shale gas drilling and associated activities will require the roads be widened and changed in nature. These "improvements" are not temporary in nature. The impacts of the shale gas extraction are also not temporary. The duration for drilling and associated activities can last for many years. This in fact is not temporary by any definition, these are long term activities that will impact land, private property and are the foundation for the industrialization on a rural area that thrives on tourism and agriculture. Expanding roads and industrialization are not compatible with existing industries.

Noise:
The Road Use Agreement recognizes truck noise as a right of use. Mitigation suggestions to widen roads will actually decrease setbacks, move the truck traffic and noise closer to residential structures and increase noise to the residents on those roads. Some road should just be placed off limits to heavy industrial truck traffic by virtue of the width of the road and the distance to dwellings in the proposed Law to be adopted. Air brakes should be banned on residential roads. The mitigation suggestion to switch industrial trucks to electric and natural gas powered vehicles is currently unattainable. "The fact that CNG is not sufficiently energy dense to provide

enough range for longhaul trucks. LNG (liquefied natural gas), which is sufficiently energy dense, has been proposed as an alternative source of natural gas fuel but is problematic as it must be kept at –162°C and a national refueling system would have to be established."
http://www.postcarbon.org/reports/PCI-report-nat-gas-future-plain.pdf, David Hughes, Post Carbon Institute Report.

Restrictive daytime hours of operation on residential/rural roads should be made a blanket provision in the Law.

Odor:
The statement on page 14, "the oil and gas industry typically transport water, brine and other materials and equipment" is at best misleading. The statement should be expanded to be more forthcoming about what the "industry" actually transports including but not limited to toxic and hazardous chemicals, radioactive materials, proppants/frack sand, compressors, heavy equipment and rigs.

Emissions:
The impact statement regarding increased emissions must recognize ground level ozone as a tremendous threat to public health.
Ozone – A Public Health Threat- American Lung Association, http://www.lungusa.org/about-us/our-impact/top-stories/cleaner-air-in-the-balance.html
"Ozone actually burns the airways and lungs, causing inflammation," said Dr. Norman H. Edelman, chief medical officer of the American Lung Association. "In healthy people, this inflammation can cause difficulty breathing, coughing, wheezing and chest pain."

"People with respiratory problems, such as asthma or chronic obstructive pulmonary disease (COPD) are at greater risk because they can't handle the burden of additional inflammation in their already inflamed lungs," Edelman said. "For them, exposure to too much ozone can mean a trip to the hospital and can even be life threatening. People with heart disease are also at increased risk of dying from breathing ozone"

NYS DOT –Transportation Impacts Document-
http://catskillcitizens.org/learnmore/Transportation-Impacts-Paper-LEAKED%5b1%5d.pdf

Also attached to the email version of this letter. P.12
"In 2008, NYSDOT examined issues of regional concern in the Finger Lakes area resulting from the impact of the Seneca Meadows Landfill expansion near Waterloo. The expansion was expected to generate an additional 185 large truck trips per day. Many of the large trucks utilized a combination of freeways, conventional two lane state highways and local routes in order to minimize travel time, mileage and/or tolls.
The expected increase in large truck volume through the many villages of the Finger Lakes region was perceived to create numerous adverse impacts including increases in accidents, noise pollution, emissions and wear on infrastructure. These impacts would reduce the quality of life in many communities and would also impact tourism and thus have a negative effect on the area's economy."....
"It is probable that truck traffic stemming from Marcellus development will create similar if not greater local concern as the conditions resulting from such development will be much more severe and widely distributed. Local truck volumes may increase by at least 5-times or more than was generated by expansion of the Seneca Landfill. Truck traffic will pass through sensitive areas on a twenty-four hour basis. Gas development will take place over a much larger geographic area and consequently is likely to affect more communities than was experienced in the Finger Lakes Study. And, these conditions will reoccur periodically as refrackings are initiated."

In an interview with National Public Radio's Michele Norris at the Aspen Ideas Festival, Lisa Jackson, head of the EPA said her agency is acting to control air quality in areas that are facing new impacts.
"You are going to have huge smog problems where you never had them before," she said. "These are rural areas. ... There is a lot of activity around those wells and that has an impact on air quality — and we know it already. The EPA will soon be coming out with regulations to deal with the air quality around natural gas production." (see Aspen Daily News Online 6/28/2011)

http://www.npr.org/2011/06/21/137197991/air-quality-concerns-threaten-natural-gas-image

"The air pollution impacts of the Marcellus shale formation are not just local, he (Carnegie Mellon University professor Allen Robinson) says "As companies race to produce gas from the enormous formation, they're

operating thousands of new pollution sources. Compressor stations, drill rigs, processing plants, pipelines, diesel trucks and other equipment already leak pollution across large stretches of West Virginia and Pennsylvania"

The emission from truck traffic should not be separated from the whole of impacts of emissions for the industry. Looking at traffic at one well is a disservice to the community, NY State and the population in its entirety. Emissions must be analyzed cumulatively. Proposed mitigation measures in the DGEIS are not adequate for the amount of anticipated truck traffic, (2000 diesel truck trips per fracture per well) for industrial shale gas development.

Regarding mitigation measures the DGEIS on page 16 states "A policy requiring emission certificates may be implemented as part of the RUA Process by municipal permitting officials as a condition of the permit." If mitigation measures are to actually be effective this should be in the law. However as with increased enforcement and a signage program (proposed and inadequate mitigation measures) there are costs involved and it is not at all clear how towns will finance these activities. In any case the proposed mitigation measures are woefully inadequate in the face of the volume and scale of truck volume related to shale gas drilling.

Dust:
Significant increase is anticipated with concentrated truck traffic on gravel roads. Suggested mitigation includes use of captured well water, ground water flow back, production brine from drilling operations. It is noted that "frack fluid is typically not permitted due to presence of chemicals etc." therefore there is no reason to include any of these mitigation measures and they should be removed from the document in their entirety. Alluding to spreading brine or well flowback products on roads leaves open an invitation that should never be issued. The only locally available drilling r/t fluid will be fracking fluid and that is prohibited and there are sufficient questions regarding other types of drilling fluid to render their use in this manner highly suspect. The amount of fugitive dust created by high volume diesel truck traffic on gravel roads is probably not controllable by any mitigation measures.

Public Health:
There are numerous well documented cases of public health impacts associated with activities surrounding shale gas extraction. The impacts

include those from high impact industrial truck traffic, including but not limited to traffic accidents, toxic/hazardous chemical and "industrial" "medical" "hazardous" waste spills that can result in ground water contamination, delay of medical emergency services due to increased road use and dust, air and noise pollution. Full disclosures of these impacts are warranted in the DGEIS. If the MMTF is passing off road usage law to individual towns and towns share emergency responders this will most likely result in increased responder time. Again, one more reason why some roads, by virtue of width, grade and curve should be taken out of consideration as haul routes for industrial truck traffic.

Considering the current DEC classification of Oil and Gas industry produced waste as "industrial" and the proposed classification in the new Draft SGEIS as "medical", it would be prudent to recognize the waste from oil and gas development for the actual chemical components of the waste and treat is as such. Even if it's not possible to legally reclassify the waste, there is nothing to prevent the MMTF from treating all oil and gas waste with the same caution that one would treat hazardous waste with in the confines of our Towns. All trucks leaving drilling sites should be properly identified, inspected, tracked and metered.

Character of Community:
The DGEIS identifies increased costs to the towns but not in their totality. The increase in transient population will put major strain our emergency service providers and social service agencies. Increased traffic and changing our rural roads to accommodate a transient industry will forever alter our infrastructure. Most Town Comprehensive Plans acknowledge the importance of our "rural character" industrialization of our roads is not in keeping with the MMTF towns Comprehensive Plans.

Vibration:
The DGEIS description minimizes any impact; describes it more as an annoyance then a health and safety concern. An activity that may interfere

w/ sleep, impair concentration and ability to perform fine motor tasks is a health and safety concern. Many of the mitigation measures are unrealistic in our rural communities, e.g., increasing distance between roads and houses is a ridiculous proposal when mitigation measures for other concerns are to widen roads.

Aesthetic Resource:
Western Sullivan County is dependent of two main economic drivers, Tourism (including second home owners) and agriculture. High impact industrial traffic is incompatible with both of those industries. Our tourism is based on our small shops, open art studios, lodging facilities, second home market (approximately 30% of residents) and small town and rural/agricultural character. Tourism and agriculture are not mutually exclusive but completely codependent. If our small country roads are widened and industrialized it will drive tourism out and permanently change the aesthetic beauty and rural nature of our area. Again some roads should be taken out of consideration for high impact industrial traffic by nature of the impact that they will cause on our existing economy.

Litigation:
Town plan implementation will be a burden on the towns and will be passed on to the individual taxpayer. The measure for compensation for road damage will with little doubt result in litigation between the towns and the companies. How will the towns know and prove which company is responsible for what damage when more than one company may be sharing the roads? How will the towns be able to litigate when corporate headquarters of the gas companies may be out of state and they may be forced to litigate outside of local courts? Initiating even modest litigation is beyond the budget for many of the MMTF affiliated towns. What financial safeguards will be put in place to assure the Towns can afford to defend their rights and seek remedies for damages?

LOCAL ROAD USE AND PRESERVATION LAW P.2
Recommended Change
Concentrated Traffic, Definition seems too vague and ambiguous and will be easily subject to multiple interpretations to serve any useful purpose and should be tightened up with actual weight and frequency descriptions spelled

out in the definition.
Ex. High-Frequency, High-Impact Truck Traffic: Traffic to and from a project site that generates more than Ten (10) truck trips per 24 hour period.

For purposes of this law, a truck trip is a trip to or from the project site involving a truck with a gross weight of five (5) or more tons (truck and load combined). A single truck makes two truck trips if it meets the weight limit traveling to the project site and meets the weight limit traveling from the project site.

Conclusions:

The purpose of the Local Road Use and Preservation Law is commendable. A law is needed to protect our towns. However the law should be expanded to cover not just the financial burdens of road repair caused by heavy industrial activity but also to insure that such activity does not destroy the core characteristics of the community and Town. The law should insure that the proposed industrialization does not negatively impact the environment, existing economies and the health and welfare of the residents.

The DGEIS does not provide an accurate description of the impacts of the Road Use Program. The Road Use Program in permitting and facilitating the altering of roads for the benefit of a high intensity industrial activity will increase high volume high weight truck traffic in our towns and by designating haul routes and will concentrate this traffic in certain areas. The residents will bear the burden on their health, property values, right to peaceful enjoyment of their property. The taxpayer will bear the financial burden; the environment will bear the greatest cost of all.

A recently leaked NYS DOT memo assessing the transportation impacts of shale gas development described the overlap and sequencing of activities at wells served by common routes. Constructing, drilling, fracking and trucking wastes will go on sequentially at different well sites providing an endless stream of truck traffic for many years. With overlapping and sequencing the DOT estimated that truck volumes could exceed 1000 per day for a period greater than 6-8 months.

The impact of these effects must be accurately identified and realistic and viable mitigations described. An accurate DGEIS would make it clear that adequate mitigation is not possible in some instances and towns could therefore make other choices. Towns do not have to permit altering of roads to provide sufficient capacity for high intensity industrial activity. The ECL 23-0303(2) provides that the State's oil, gas and solution mining regulatory program "shall not supersede local government jurisdiction over local roads". There are many roads that should immediately be taken out of consideration as haul routes by virtue of grade, lack of adequate shoulders, road width and proximity to structures and angles of curves. The Road Use Program should also contain provisions for prohibiting high volume high weight truck traffic on roads where adequate mitigation of the impact is simply impossible.

Sincerely,

Jill Wiener