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Statement of Walter L. T. Hang

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Regarding Suggestions for the Design of The Environmental Protection Agency's (EPA)

National Hydraulic Fracturing Research Study

Binghamton, NY

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Greetings:

My name is Walter Hang. I am the President of Toxics Targeting, Inc., an environmental database firm based in Ithaca, NY that has compiled local, state and federal government information for more than 550,000 known and potential toxic sites in New York, including all active natural gas and oil extraction wells. Thank you for the opportunity to provide input to EPA regarding the design of its National Hydraulic Fracturing Research Study.

Introduction

High-volume "slickwater" hydrofracking has been proposed to recover Marcellus Shale gas on an unprecedented scale in New York. As you undoubtedly know, a *de facto* moratorium on horizontal hydrofracturing in Marcellus Shale has been imposed pending New York State Department of Environmental Conservation's (DEC) adoption of a Final Supplemental Generic Environmental Impact Statement (SGEIS) to safeguard the environmental and public health from that practice.

Natural gas firms and DEC have declared "No known instances of groundwater contamination have occurred from previous horizontal drilling or hydraulic fracturing projects in New York State." That misleading statement can only be rationalized by ignoring widely-available government data that I brought

to light during the last year or by defining hydrofracking hazards in a self-serving see-no-evil, hear-no-evil, speak-no-evil manner.

That is why I commend your agency for declaring: "EPA is examining the entire HF [Hydraulic Fracturing; not in the original] process – from obtaining the water necessary for fracturing fluids to operations to disposal of wastes – to assess potential impacts on water resources." I trust the unprecedented wide scope of EPA's analysis will set the public record straight on hydrofracking

Approximately 75% of the land area overlying New York's Marcellus Shale involves major sources of public water supply. If those ground and surface waters become polluted by hydrofracking, the drinking water for more than eight million New Yorkers could be irreparably harmed. Based on New York's past experience, there is every reason to conclude that will occur barring concerted EPA action.

Any hydrofracking hazards that occur in New York would likely be a harbinger of things to come elsewhere in the nation. That is why New York's experiences must be integral to EPA's study.

Detailed Natural Gas Hazard Data Provided for Your Review

Against that background, I urge EPA to review natural gas hazard data I compiled from DEC as well as health departments in Chautauqua, Cattaraugus and Allegany counties, the areas where natural gas extraction has primarily occurred in New York. Those data document hundreds of fires, explosions, massive wastewater spills, polluted water wells and homes evacuated due to inadequately regulated gas extraction activities.

Please note that many of those groundwater, surface water and drinking water pollution problems were never cleaned up.

See: http://www.toxicstargeting.com/MarcellusShale/drilling_spills_profiles
http://www.toxicstargeting.com/MarcellusShale/documents/chautauqua_cattaraugus_county

Also review the interviews and extensive documents I posted regarding families in New York that reported their well water being impacted by hydrofracking. These include a family in South Geneva, NY that was compensated by Chesapeake Appalachia and the Eddy family in Andover, NY that has refused to accept meager offers of compensation from U. S. Energy. Those problems have never been investigated in any meaningful way and warrant EPA's attention.

See: http://www.toxicstargeting.com/MarcellusShale/videos/andover_independence_ny
http://www.toxicstargeting.com/MarcellusShale/videos/water_well_reportedly_impacted_by_fracking
http://www.toxicstargeting.com/MarcellusShale/documents/allegany_us_energy_pdfs

Natural Gas Wastewater Concerns

The key issue I ask EPA to address is what to do with the large volumes of contaminated flowback wastewater generated by hydrofracking. This issue has received woefully inadequate attention by New York authorities and warrants EPA's most rigorous investigation.

DEC's draft SGEIS estimates that hydrofracking a single Marcellus Shale horizontal well would require between 2.4 to 7.8 million gallons of water. DEC reports that flowback wastewater recovery rates in Pennsylvania's northern tier vary from nine to 35% of the fracturing fluid pumped into an individual well. As a result, DEC estimates flowback wastewater volumes ranging from 216,000 to 2.7 million gallons per well.

Flowback wastewater contains high concentrations of "total dissolved solids" (TDS) as well as toxic organic chemicals, heavy metals and Naturally Occurring Radioactive Materials (NORM). Yet, this wastewater has traditionally been allowed to be discharged into Publicly Owned Treatment Works (POTWs) and underground injection wells or spread on land to control dust and melt ice and snow.

POTW's in New York typically employ activate sludge and trickling filter technology. They are only capable of handling sanitary wastewater and lack the capacity to remove or break down TDS, which passes through into receiving bodies of water. Toxic organic chemicals and heavy metals would similarly "pass through" or become concentrated in sludge. Those contaminants and NORM also could threaten worker health, particularly in confined spaces.

More than 20 million gallons of natural gas flowback wastewater was dumped into Central New York POTWs since 2008 without fulfilling applicable "headworks analysis" and pretreatment requirements. Local pretreatment ordinances were exceeded up to 19-fold for phenol and nearly ten-fold for Chemical Oxygen Demand. I have provided some of my documentation to Virginia Wong, EPA Region 2's Pretreatment Coordinator. More data are forthcoming.

See: http://toxicstargeting.com/sites/default/files/pdfs/100205_pulteney_excerpt-3.pdf

I urge EPA to characterize flowback wastewater on a comprehensive basis. I also request EPA to investigate the inadequacies of highly variable flowback wastewater pretreatment requirements. Finally, I urge EPA to halt flowback wastewater contributions to POTWs in New York and other states pending adoption of comprehensive categorical effluent limitations and pretreatment restrictions.

Great emphasis has been placed on "recycling" flowback wastewater. I believe this proposed practice warrants EPA's attention. DEC has adopted stringent GA (groundwater that supplies drinking water) effluent limitations to safeguard groundwater quality, but has yet to impose those GA limitations on flowback wastewater discharges. Given flowback wastewater's meager recovery rates, I believe hydrofracking constitutes deep well injection and warrants GA effluent limitations as well as other regulatory restrictions associated with underground injection control. It is my understanding that EPA has adopted this public policy in Alabama. I urge EPA to impose that policy nationwide.

Conclusion

DEC was required to update its 1992 Oil, Gas and Solution Mining Generic Environmental Impact Statement (GEIS) prior to issuing new horizontal drilling permits. The goal of that SGEIS reportedly was "to ensure that all environmental impacts from drilling are addressed."

DEC's draft SGEIS has received withering criticism. More than 10,000 citizens, elected officials, business leaders and environmental groups have signed a coalition letter requesting Governor David Paterson to withdraw DEC's proposal in order to rectify its fundamental shortcomings.

See: http://www.toxicstargeting.com/MarcellusShale/coalition_letter

Many of the coalition letter's concerns are echoed in EPA's landmark 12/30/09 letter to DEC:

"...greater emphasis needs to be placed on the potential health impacts that may be associated with gas drilling and hydrofracturing. EPA suggests that New York State Department of Health (DOH) join NYSDEC as a co-lead on the SEQRA [State Environmental Quality Review Act] document."

"EPA is concerned that over the past 17 years since the 1992 GEIS was written, the "existing" environment and conditions in New York State have changed sufficiently that using the information from

that report as a baseline for the dSGEIS will not take into account the cumulative impacts from habitat fragmentation, population increase, and climate change that may have occurred during that time.”

“While protecting the New York City watershed is important because of the millions of New Yorkers who rely on this drinking water supply, we also have concerns about water quality impacts throughout the state. Just because fewer people rely on upstate water sources does not imply that these supplies are not also worthy of protection.”

“...we have concerns regarding potential impacts to human health and the environment that we believe warrant further scientific and regulatory analysis. Of particular concern to EPA are issues involving water supply, water quality, wastewater treatment operations, local and regional air quality, management of naturally occurring radioactive materials disturbed during drilling, cumulative environmental impacts, and the New York City watershed. EPA recommends that these concerns be addressed and essential environmental protection measures established prior to the completion of the SEQRA process [emphasis added].”

See: http://www.toxicstargeting.com/MarcellusShale/documents/epa_letter

I believe it is imperative for EPA to enforce its “serious reservations” about Marcellus Shale Horizontal Hydrofracking in New York. I respectfully request EPA to require DEC to withdraw its draft SGEIS in order to address the shortcomings specified by EPA. It is essential that EPA take action to prevent hydrofracking hazards from developing in New York State.

Finally, EPA does not issue natural gas hydrofracking permits and is barred from regulating natural gas activities pursuant to multiple federal statutes. That is why I believe EPA must require state environmental authorities that have been granted primacy for managing wastewater regulatory programs to address the hydrofracking hazards I have documented herein. It is imperative for EPA to make sure those agencies safeguard public health and the environment from hydrofracking hazards.

I trust you will find my comments to be self-explanatory, but please do not hesitate to contact me if I can answer any of your questions or otherwise assist you, within reason, in any other way.

Best of luck with your study and thank you very much for your public service.