The City of New York
Manhattan Community Board 1
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The New York City Committee on Environmental Protection
Public Hearing on

Oversight: Examination and Discussion of
NYC Department of Environmental Protection's Comments, Entitled
"Geophysical Evaluation of Infrastructure Risks of Natural Gas Production on
New York City West of Hudson Water Supply Infrastructure,"
to the NYS Department of Environmental Conservation (DEC)
Regarding DEC's Revised Draft Supplemental Generic Environmental Impact Statement
on the Oil, Gas and Solution Mining Regulatory Program

Testimony by
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Manhattan Community Board 1

Friday, February 17, 2012, 2 p.m.
250 Broadway, 16th Floor Committee Room, New York, NY

Good afternoon, Chairperson James Gennaro. I am Catherine McVay Hughes, Vice Chairperson of Manhattan Community Board One and I am here to testify on behalf of CB1 regarding the Examination and Discussion on the NYC Department of Environmental Protection's Technical Memorandum: Geophysical Evaluation of Infrastructure Risks of Natural Gas Production On New York City West of Hudson (WOH) Water Supply Infrastructure (December 21, 2001)[1] regarding New York State's Department of Environmental Conservation's high-volume hydraulic fracturing (HVHF) Revised Draft Supplemental Generic Environmental Impact Statement (RDSGEIS) on the Oil, Gas and Solution Mining Regulatory Program.

The content of this technical memorandum reviewing the NYCDEP Water Supply Infrastructure Outside the WOH Watershed, Existing Geophysical Data, Microseismicity Associated with HVHF, Potential for Reactivation of a Fault by HVHF Near the WOH Non-Watershed Infrastructure (NWI) and Adequacy of the Tunnel Protections is alarming.

The 2011 NYSDEC ignores NYCDEP's proposed complete ban of drilling within a seven-mile buffer around the water supply infrastructure for 9 million people by proposing a 4,000-foot wide (0.75 mile) zone around the watershed boundary. In addition, the technical report concludes that the NYSDEC does not protect "the water supply infrastructure located at the edge of or outside of the watershed boundary." The subsurface geology underneath and in the vicinity of the infrastructure is much more complex than indicated in the RDSGEIS. In addition, more

[1] http://www.nyc.gov/html/dep/pdf/natural_gas_drilling/hager-richter_technicalmemorandum_20111221_hydrofrac.pdf

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recent analyses indicate that much more extensive faulting has also not been included in the RDSGEIS. Geological mapping done in the 1950's during the construction of the 75 miles of the Delaware System tunnels and aqueducts "records numerous faults, crush zones, slickensided joints, shear zones, and brecciated zones that cross critical infrastructure." The report further raises "the possibility that one or more faults in the vicinity of the WOH NWI is seismically active" and "at least one of which could have been caused by human activity."

The report also states that, "tunnels can be damaged by seismic events with magnitudes less than 4 and that tunnels can be damaged by seismic events on faults located greater than 25 km from the tunnel." Two examples (Blackpool in the UK and Garvin County, OK) "demonstrate the possibility that HVHF treatment of horizontal drill holes in the vicinity of the critical WOH NWI could induce one or more earthquakes that the unreinforced concrete-lined water supply tunnels would not experience otherwise."

More alarming is that the "sole protection in the RDSGEIS is a 1,000-foot buffer zone from the wellhead to the tunnel" and that "permits can be issued for locations anywhere within 1,000 feet of the NY WOH Water Supply Tunnels pending a negative declaration of a site-specific SEQRA review." The report states that "the protection described is not adequate to protect the NYC water supply tunnels."

Our Community Board has passed numerous resolutions regarding hydrofracking in areas that could potentially harm our drinking water. On May 26, 2009, we called on the New York State Department of Environmental Conservation (NYSDEC) to prohibit the use of hydraulic fracturing in the New York City watershed. Our concern then and now was that hydraulic fracturing involves the injection of carcinogenic chemicals into the earth at extreme pressures. The composition of these chemicals is not publicly disclosed, and there has not yet been sufficient public review of the effects these chemicals can have on public drinking water. Without more information, we are greatly concerned that hydraulic fracturing in the New York watershed poses a serious risk of contamination to the drinking water of millions of residents in the greater New York City area.

While we recognize that hydraulic fracturing will be prohibited in the New York City (and Syracuse) watersheds, primary aquifers and state lands, we have many concerns about protecting New York City's drinking water. Our concerns include, but are not limited to:

- Contaminated hydraulic fracturing wastewater
- Wastewater treatment plants currently designed for sanitary waste
- Limited DEC staff resources (including funding and inspectors) and regulatory enforcement
- Specific funding for corrective action
- Identification of source of water to be used during the hydraulic fracturing process
- Vulnerability to earthquakes due to hydraulic fracturing
- Inadequacy of prohibiting surface drilling within 2,000 feet of public drinking water supplies and 1,000 feet of primary aquifers
- Cumulative impacts, including air quality
- Same liability for both domestic and international companies

- Reliability of shale reserve estimates

In addition, the RDSGEIS fails to take into account the recent extreme weather events that resulted in many upstate communities being flooded. With climate change there have been more powerful storms which have increased the frequency of flooding. This flooding makes hydrofracking an even greater environmental risk as drilling pits may overflow and spill their toxic contents into flooded creeks, streams and rivers that feed watersheds. Given these recent events, floodplains maps need to be updated to reflect the current data rather than using historic trends.

The RDSGEIS also fails to take into account the current glut in the natural gas markets. The wellhead price of natural gas has plummeted to $3.35 per thousand cubic feet (November 2011) from a monthly high in June 2008 of $10.79 per thousand cubic feet.[2] According to the U.S. Department of Energy, our country's supply of natural gas is sufficient for years and decades to come. We are currently drilling more gas than we can store, and we therefore see no need to rush into drilling within the boundaries of our watershed.

Also, the wastewater from natural gas drilling operations containing high levels of chloride, toxic metals, petroleum hydrocarbons and radionuclides, is already being used by several upstate municipalities as part of their road and highway maintenance programs on thousands of miles of roads for dust control, winter de-icing or roadbed stabilization. This DEC-sanctioned maintenance practice should be of grave concern to all New Yorkers since this is yet another way that the contaminants from the hydrofracking process may enter the drinking water supply. The RDSGEIS does not clarify how the millions of gallons of wastewater laced with potentially toxic chemicals will be stored and treated.

Community Board 1 passed another resolution in November 2011 calling on the NYSDEC to select the "no action alternative" described in Section 9.1 of the revised environmental impact statement to avoid potential significant adverse impacts identified in the RDSGEIS. In the event that NYSDEC does not select the "no action alternative," our resolution identifies ways in which the RDSGEIS should be revised. These include the need for an enforcement mechanism to ensure compliance with mitigation measures, the need to fund this enforcement mechanism through permits for gas companies rather than tax revenues, and the need to expand the buffer zone surrounding the NYC Watershed to at least 8 miles to mitigate substantial risks. Additionally, our resolution recommended that the RDSGEIS be withdrawn and revised to include:

- A reexamination of the 1992 GEIS, which the RDSGEIS relies on significantly despite the changes that have occurred in the last 20 years.
- A clean-up escrow fund to be financed by fees paid by gas companies to assure that when the inevitable environmental accident occurs, funds other than taxpayer funds are available to pay for the cleanup and remediation of any such accident.
- An emergency notification system should be designed and put into place to address the inevitable environmental accidents.

[2] http://www.eia.gov/dnav/ng/hist/n9190us3m.htm

- A more detailed analysis of hydrofracking waste-water treatment and disposal.
- A publicly accessible website that identifies the chemicals being used on a per-operation basis, including the identification of the specific location where such chemicals are being used.
- A full disclosure of the likely negative impact from gas leasing on the ability of the lessee to mortgage or sell the property subject to the lease.
- A more detailed analysis in Section 6.8 of the RDSGEIS, which addresses socioeconomic issues, to include the potential for worker injury and disease along with mitigation measures.

Water that is clean, safe and affordable is in the interest of every New Yorker. New York City is one of the few world-class cities that do not get water from the nearest river; the city water system is one of mankind's great achievements in civil engineering, turning rainwater and gravity into the very lifeblood of our metropolis. New York State should not seek to close its budget gap in part by leasing mineral rights connected with its public lands in a manner that risks this great achievement and our environment.

We cannot forget that, "Water – by far the most valuable resource on this planet – is treated as if it did not have any value at all. We often do not even know the cost of providing it; the true number is buried under open and hidden subsidies, taxes, and the sunk costs of municipal and regional water and irrigation departments[3]" Therefore, we are concerned that as the hydrofracking decision nears and "the energy companies have been pouring millions of dollars into television advertising, lobbying and campaign contributions" (NY Times, "Millions Spent in Albany Fight to Drill for Gas," by Thomas Kaplan, 11/25/2011), that the quality of our water is not compromised for short term financial gain – and that any water that is used during the fracking process is charged a fee that truly reflects its value.

This proposal under consideration by DEC places an unnecessary and unconscionable risk on New Yorkers, as it only limits drilling to within a thousand feet of tunnels and aqueducts that deliver water to our city, despite the requested minimum eight-mile buffer zone. Recently Delaware Governor Jack Markell announced that Delaware would vote 'no' on the current regulations for hydrofracking in the Delaware River Basin, calling instead for a full study of impacts on the Basin before proceeding. We likewise urge DEC and Governor Cuomo to proceed with extreme caution in the NYC Watershed given the grave risks that have been identified.

Thank you for the opportunity to testify today.

[3] McKinsey Quarterly 2010, Number 1; Special report: "The water imperative," p. 79.