



**Testimony of:
Katherine Hudson, Watershed Program Director, Riverkeeper, Inc.**

**New York City Council
Committee on Environmental Protection**

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.

February 17, 2012

Thank you to the New York City Council Committee on Environmental Protection for the opportunity to testify concerning the threats to New York City's (NYC) drinking water supply posed by the New York State Department of Environmental Conservation's (DEC) proposal, embodied in its 2011 revised draft Supplemental Generic Environmental Impact Statement (SGEIS) and draft regulations, to move forward with shale gas extraction by means of high-volume hydraulic fracturing (HVHF or hydrofracking) in New York.

Riverkeeper is a member-supported watchdog organization whose mission includes safeguarding the environmental, recreational and commercial integrity of the Watershed that provides NYC its drinking water. Riverkeeper is actively involved in advocacy and public education surrounding the issue of shale gas extraction via hydrofracking, in particular because of its potential impacts on New York's water supply.

As you know, the comment period has closed on the SGEIS, and DEC is currently reviewing more than 60,000 comments, an unprecedented number. Riverkeeper submitted detailed technical and legal comments, many of which specifically address the threats to NYC's Watershed and water supply. DEP likewise submitted comments, some of which propose added protections to DEC's regulatory scheme. We commend DEP for the strong recommendations it has made, but we remain concerned that they do not go far enough and fail to fully address some significant threats to the water supply.

Despite the volume of comments, DEC has, within the last few days, announced that it plans to finalize the SGEIS by this spring. It is therefore crucial for the City Council, for DEP and for us all to continue to urge DEC now to make significant changes to the SGEIS and regulations so that the FGEIS will be sufficiently protective of the NYC Watershed and drinking water supply.

I. DEP’s Revised Recommendations Fail to Fully Mitigate the Risks of Hydrofracking to NYC’s Drinking Water and Filtration Avoidance Determination

The Catskill/Delaware portions of the NYC Watershed provide pristine drinking water to nine million New Yorkers – almost half of the state’s population. This Watershed is one of only five urban systems in America for which the U.S. Environmental Protection Agency (EPA) has granted a filtration avoidance determination (FAD) under the Safe Drinking Water Act because of its high quality source water. Avoiding filtration saves NYC billions of dollars in capital expenditures and millions of dollars in operations and maintenance costs each year.

NYC’s FAD is currently undergoing mid-term review by the Department of Health (DOH), which has been granted primacy from EPA to oversee the FAD. An unacceptable level of risk posed by HVHF could lead DOH and EPA to withdraw the City’s filtration waiver. In its 2011 comments to DEC, DEP identifies just such a risk: “[e]ven with a robust regulatory program in place, and a diligent HVHF operator, failures due to human error or natural disaster are inevitable.”¹

As a part of its deliberations over what comments and recommendations to make to DEC on the 2011 SGEIS and draft regulations, DEP should have consulted with DOH and EPA concerning what risks associated with DEC’s proposal might pose a threat to its filtration waiver. Based on DEP’s 2011 comments, it does not appear that that consultation took place, or if it did, that it informed DEP’s recommendations. Instead, it appears that DEP based its revised recommendations on an attempt to balance providing adequate protection with attempting to not unduly limit the potential for drilling in the vicinity of the Watershed and its infrastructure. Based on that balancing, even though it concluded that a uniform width buffer would be “a reasonable approach,” DEP decided to narrow the seven-mile buffer around its infrastructure to two miles for all but two of its aqueducts and tunnels, because “DEP’s water supply system has the flexibility to withstand an outage of these tunnels.”²

Why should the agency charged with the responsibility for protecting the invaluable resource of NYC’s drinking water for nine million people choose to put it at risk in order to not unduly restrict drilling by a few oil and gas companies, particularly as DEP admits that there is a “lack of detailed subsurface information and research on the potential impacts on this type of infrastructure”?³ Instead, it would seem that DEP’s responsibility to protect, as well as to avoid undue risk that might threaten the FAD, would mandate a precautionary rather than a balancing approach. Such a precautionary approach would provide a firm basis for its seven-mile, uniform width buffer until more information was available that would prove that a smaller buffer would be sufficiently safe.

¹ Letter from Carter Strickland, Commissioner, DEP to Joseph Martens, Commissioner, DEC, Jan. 11, 2012 (DEP’s 2012 Comments) at 3, *available at* http://www.nyc.gov/html/dep/pdf/natural_gas_drilling/nycdep_comments_on_rdsgeis_for_hvhf_20120111.pdf.

² *Id.* at 11-12.

³ *Id.* at 11.

Riverkeeper urges DEP to revisit its recommendations, taking a precautionary approach. To adequately protect NYC's drinking water supply, DEP should not back off its original recommendation of a seven-mile buffer. DEP's willingness to take on a certain level of risk in the absence of critical information, its attempt to balance maximizing the potential for drilling against adequate protection, and its effort to justify the sacrifice of non-terminal tunnels as "an acceptable level of risk"⁴ potentially threatens the City's filtration waiver. By modifying its previous, well-founded recommendations, DEP is shirking its duty to its customers to serve the interests of the gas industry.

II. Potential Dangers Hydrofracking Poses to the NYC Drinking Water Supply Watershed that DEP's Revised Recommendations Fail to Adequately Address.

This testimony is focused on five fundamental flaws in the SGEIS and regulations that pose a major threat to the NYC Watershed and DEP's response to those flaws, specifically DEC's failure to ban: (1) horizontal drilling and hydrofracking underneath the Watershed; (2) hydrofracking in the Watershed involving less than 300,000 gallons of water (deemed by DEC to be low-volume hydraulic fracturing); (3) hydrofracking adjacent to Watershed infrastructure; (4) water withdrawals within the Watershed; and (5) pipelines and other gas-related infrastructure within the Watershed. We have appended to this testimony Riverkeeper's individual comments on the SGEIS, which focus specifically, and in greater detail, on these and other potential threats to the NYC Watershed.

1. DEC allows high-volume hydrofracking underneath the Watershed.

The proposed draft HVHF regulations ban only "HVHF on the ground surface" within 4,000 feet of the NYC Watershed.⁵ However, horizontal drilling can extend over a mile (5,280 feet) underground thus leaving the Watershed and critical Watershed infrastructure vulnerable to the dangers of methane migration, hydrofracking fluid contamination, and seismic events, among others. The only change to DEC's surface drilling ban that DEP proposed was to recommend a heightened review whenever a horizontal well-bore comes within the 4,000 foot buffer proposed by DEC around any part of a dam.⁶ In that case, DEP requests a site-specific review to be conducted and City review and approval of any permit.⁷ Riverkeeper urges instead that both DEP and the City Council advocate for a true HVHF ban in and within 4000 feet of the Watershed, measured from the end of the closest horizontal well bore to prevent hydrofracking in and underneath the Watershed and its fragile infrastructure.

2. DEC allows low-volume hydrofracking within the Watershed.

DEC's proposed regulations allow what DEC arbitrarily deems "low-volume" hydrofracking (utilizing less than 300,000 gallons of water) within the Watershed. Given that low-volume hydrofracking uses the same chemicals and processes as high-volume hydrofracking, it poses the similar risks to the water supply. DEP notes in its 2012 comments

⁴ *Id.* at 11.

⁵ See 33 N.Y. State Reg. 39, at 17 (Sep. 28, 2011) (to be codified at 6. N.Y.C.R.R. § 750-3.3(b)(1)).

⁶ DEP's 2012 Comments at 5.

⁷ *Id.*

that high-volume hydrofracking near the Watershed could inadvertently provide incentive for low-volume hydraulic fracturing within the Watershed.⁸ Pipelines and other auxiliary facilities constructed within and around the Watershed to facilitate high-volume hydrofracking can also facilitate low-volume wells, making natural gas production within the Watershed financially feasible. In response to this concern, DEP only requests that DEC make a commitment to “consider whether further environmental review is necessary” in the event that there is any indication that LVHF may take place in the Watershed “beyond an occasional isolated instance.”⁹ To prevent contamination, Riverkeeper urges the City Council to advocate instead for a ban on all hydrofracking, regardless of the volume used, within or near the Watershed.

3. DEC allows drilling adjacent to NYC water supply infrastructure.

Much of NYC’s water supply infrastructure (the aqueducts, tunnels, and dams that deliver the water) is located west-of-the-Hudson, directly atop the Marcellus Shale, and falls outside of the boundaries of the Watershed. Despite the well-known susceptibility of this aging and already leaking infrastructure, DEC has proposed virtually no protection. There are at least two major risks from drilling on or around water supply infrastructure: (1) the threat that seismicity from drilling activities could jeopardize the stability of the tunnels themselves; and (2) the threat that hydrofracking fluids or other contaminants could migrate from drilling sites into the tunnels via small cracks or fissures in the tunnel walls – potentially contaminating NYC’s drinking water.

DEC calls for only a site-specific review for any well pad proposed within a 1,000-foot wide corridor surrounding a water tunnel or aqueduct, which would allow gas drillers to obtain a permit to drill directly adjacent to and underneath those tunnels and aqueducts.¹⁰ In its 2009 comments, DEP requested a seven-mile buffer around all Watershed infrastructure.¹¹ In its 2012 comments, however, DEP compromised its earlier recommendation and proposed a hybrid approach “to mitigate the significant adverse consequences that could arise from HVHF near deep rock tunnels and other infrastructure.”¹² It has recommended three levels of protection: (i) a seven-mile buffer around the Delaware and Catskill Aqueducts, which carry water from terminal reservoirs; (ii) a two-mile buffer on non-terminal reservoir tunnels; (iii) and an “infrastructure enhanced protection zone” that will cover the area between two to seven-miles on either side of the non-terminal reservoir tunnels.¹³ In this “enhanced protection zone,” DEP proposes that a site-specific review and the City’s approval be required and that when drilling is permitted within that zone, additional permit conditions should be included “to provide the City

⁸ *Id.* at 4.

⁹ *Id.* at 4.

¹⁰ RDSGEIS at 7-68.

¹¹ DEP, New York City Comments on: Draft Supplemental Generic Environmental Impact Statement (dSGEIS) on the Oil, Gas and Solution Mining Regulatory Program – Well Permit Issuance for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs (DEP’s 2009 Comments) at 38 (2009), *available at* http://www.nyc.gov/html/dep/pdf/natural_gas_drilling/nycdep_comments_final_12-22-09.pdf.

¹² DEP’s 2012 Comments at 2.

¹³ *Id.* at 2, 12.

and DEC the ability to make informed site-specific determinations about the safety of allowing a particular well to be drilled within this distance, rather than relying on a blanket prohibition.”¹⁴

DEP noted in its comments that the close proximity of drilling could cause catastrophic damage to infrastructure due to “direct penetration, differential pressures, seismic activity, and impacts from migration of fluids and/or gas.”¹⁵ DEP admits in its comments that there are no examples of “deep rock tunnels in other areas of the country (or world) where HVHF is occurring” and there is no current science adequate to determine the necessary buffers around the infrastructure.¹⁶ Despite this, DEP indefensibly backs off the seven-mile buffer zone it previously recommended, while at the same time admitting that it does not have “the expertise or staffing to review the tremendous quantities of technical data” that will be included in well applications and asserting that NYC and upstate water ratepayers should not bear the expense.¹⁷ New York State should not become the testing ground for hydrofracking near our infrastructure. Our water is too important. Riverkeeper continues to advocate for the seven-mile buffer that DEP originally called for, in all areas, to protect critical Watershed infrastructure and prevent catastrophic harm, and for maintaining that buffer until more data is collected and additional studies are completed that demonstrate that a smaller buffer would provide sufficient protection.

4. DEP’s 2009 Comments Concerning Water Withdrawals from the Watershed Remain Valid

The RDSGEIS estimates that HVHF will result in a “peak *annual* fresh water usage for high-volume hydraulic fracturing of 9 billion gallons,” or over 24 MGD on average.¹⁸ Yet the RDSGEIS does not estimate the volume of water to be withdrawn from the NYC Watershed, nor does it consider the effects that such withdrawals could have on the drinking water of over 9 million people.¹⁹ The RDSGEIS proposes, as the only mitigation measure, its draft water withdrawal regulations,²⁰ but these regulations are inadequate to protect the NYC Watershed. DEC’s water withdrawal regulations allow water withdrawal from the NYC Watershed for use in hydrofracking anywhere within or outside of the state.²¹ Impacts of such withdrawals could reduce inflow to NYC reservoirs, reduce available supplies, and decrease the probability of refilling reservoirs prior to drawdown. These withdrawals could also strain reservoirs that are required to release water to meet minimum flow requirements to protect downstream users, aquatic habitat and biota.²²

DEP advocated in 2009 for DEC to implement a system that requires gas drillers to obtain permits that “include appropriate monitoring, enforcement, and control mechanisms such as curtailment of withdrawals during low flow conditions or if withdrawals adversely impact

¹⁴ *Id.* at 12.

¹⁵ *Id.* at 5.

¹⁶ *Id.* at 4.

¹⁷ *Id.* at 12 n. 23.

¹⁸ RSDGEIS at 6-10 (emphasis in original).

¹⁹ *Id.*

²⁰ RDSGEIS at 7-2 to -4; Water Withdrawal Permit, Reporting and Registration Program, 33 N.Y. State Reg. 47, at 8 (Nov. 23, 2011) (to be codified at 6. N.Y.C.R.R. § 601, 621).

²¹ 33 N.Y. State Reg. 47, at 8 (Nov. 23, 2011) (to be codified at 6. N.Y.C.R.R. § 601, 621).

²² *Id.*

existing uses,” among other mechanisms.²³ Riverkeeper is likewise opposed to allowing hydrofracking withdrawals from the NYC Watershed, and other drinking watersheds, that could potentially affect critical drinking water supplies.

5. DEP Failed to Address the Potential for Impacts from Construction of Pipelines and Other Gas Infrastructure in the Watershed

Pipeline and compressor station development is of particular concern because it is not banned within the NYC Watershed and the impacts of construction activities alone associated with building pipelines and facilities (such as stormwater runoff as well as contamination from accidents) may be significant. Riverkeeper urges the City Council to advocate for a ban on all ancillary facilities within the Watershed.

III. Conclusion

We reiterate that protecting the NYC Watershed from hydrofracking is vital; merely the threat of contamination could cause EPA and DOH to annul the FAD, costing the city, and in turn the NYC ratepayers, billions of dollars. We urge the City Council to join us in advocating for full protection of the NYC Watershed, by urging DEC to prohibit any hydrofracking in or underneath this area or within seven miles of its infrastructure.

Riverkeeper thanks the City Council Committee on the Environment for the opportunity to participate in today’s hearing and for the important role that the Committee and the City Council continue to play on the issue of hydrofracking in New York State. We look forward to continuing to work with the City Council on this area of significant environmental concern.

Contact:

Katherine Hudson, Riverkeeper, Inc., 914-422-4410, khudson@riverkeeper.org

²³ DEP’s 2009 Comments at 17.