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April 7, 2011

Paula Schmitt, Commission Secretary
Delaware River Basin Commission
25 State Police Drive
PO Box 7360
West Trenton, NJ 08628

Re: Delaware River Basin Commission's Draft Natural Gas Extraction
Regulations

Dear Ms. Schmitt:

The City of New York is very concerned with the prospect of natural gas drilling in the New York City (City) water supply watershed, much of which feeds the headwaters of the Delaware River. The City water supply provides high quality drinking water to nearly half the population of the State of New York – over eight million people in the City and one million people in upstate counties. The City has invested more than \$1.5 billion in watershed protection programs that support sustainable farming, environmentally sensitive economic development, and local economic opportunity. These investments protect water quality for the 15 million people who rely on the Delaware River watershed for clean drinking water. The Delaware River is a shared resource and changes in its watershed's environment affect us all.

Overall, the draft regulations are a step in the right direction toward protecting the Delaware River from the potential impacts of gas drilling. They seek to strike a balance between deferring to state jurisdictions while still ensuring sufficient protection to the Delaware River and downstream stakeholders. However, the City continues to believe that it is premature for the Delaware River Basin Commission (DRBC) to adopt these regulations. Prior to issuing any regulations, DRBC should conduct a rigorous analysis of the potential cumulative impacts natural gas development could have on water quantity and water quality in the Delaware Basin. Second, in addition, DRBC should wait until the U.S. Environmental Protection Agency (EPA) completes its ongoing study of hydraulic fracturing's potential impacts on water quality. Only once those two critical analyses are complete can it be determined whether DRBC's proposed regulations will sufficiently protect the Delaware River.

The Department of Environmental Protection's (DEP) own study determined that, based on the best available science and the current state of technology, hydrofracking cannot safely be conducted in the New York City Watershed. Decisions about drilling within the shared Delaware River Basin should be made on the same strong scientific foundation. Given what is at stake and the estimates of natural gas wells in the Delaware River Basin numbering in the

tens of thousands, we urge DRBC to wait for the completion of both a DRBC and EPA studies to inform the natural gas regulations.

Cumulative Impact Assessment

A cumulative impact assessment for the Delaware Basin is essential to developing a full understanding of the impacts of natural gas drilling. Such an assessment must include a depletive use budget for the basin as recommended in Section V, Depletive Water Use Budget, Recommendation 13, of the 1982 Good Faith Agreement. Depletive water use has a direct bearing on the basin's future development, its water quality, water quantity, ecological health, salinity intrusion, and drought management. This information is also critical for managing the effects of climate change.

Performing a cumulative impact assessment before adopting regulations is particularly important because the regulations do not provide for such an assessment to be prepared in connection with individual approvals. The City is particularly concerned about the cumulative impacts of consumptive uses in the basin. As Section 7.4(b)(2) of the draft regulations states, "*... the water uses associated with natural gas development are almost entirely consumptive in nature.*" The draft regulations would nonetheless allow Approval by Rule (ABR) to exploit previously approved water sources for supply of natural gas development. This is not consistent with the principles embodied in the regulations as a whole because it implies that consumptive use of water for natural gas development is similar to, and will have the same impacts as, whatever use had previously been approved. Particularly if a previously approved water source is not consumptive, allowing it to be utilized for natural gas development, which is consumptive, would represent a significant change from the original approval warranting thorough review. While we have concerns about ABR provisions, however, the City greatly appreciates DRBC's recognition that the ABR process should not be allowed within the City watershed.

Additionally, Section 7.4(e)(1)(i) of the draft regulations states that "*A new water source located within the physical boundaries of an approved NGDP [Natural Gas Development Plan] may be approved for uses within the NGDP by means of an ABR.*" A new withdrawal for natural gas development will have the same substantial effect, as indicated in the Preliminary Determination in section 7.4(b), regardless of whether it is within the boundaries of an approved natural gas development plan, and thus should only be approved by docket as other new water sources for natural gas development.

In order to address potential cumulative impacts associated with consumptive withdrawals, DRBC should develop river flow conditions under which withdrawals or wastewater discharges would be temporarily halted. For example, DRBC should mandate, as a condition of approval, that gas drilling companies take water only during times when the City is not required to make releases as directed by the Delaware River Master to meet the Montague flow objective. Consumptive withdrawals with low by-pass requirements will adversely impact downstream conditions, especially during periods of low flow, requiring increased compensating releases by the City to meet the Montague flow objective. A similar mandate can be placed on the Trenton flow objective in order to prevent natural gas withdrawals or wastewater discharges from adversely impacting existing uses in the lower Delaware Basin. Wastewater treatment

plants discharging high salinity wastewaters from natural gas development should also be curtailed when the salt front nears the Philadelphia intake at Torresdale. A comprehensive basin-wide analysis would provide the data necessary to set appropriate restrictions on natural gas withdrawals and adequately protective pass-by flows.

EPA Drinking Water Study

Given that the Delaware River Basin is a critical source of drinking water for some 15 million people, and given the many open questions concerning the impact of hydrofracking on drinking water, we urge DRBC to wait to issue regulations until the EPA study is complete, and DRBC can evaluate whether EPA's findings dictate additional restrictions that should be imposed within such an important drinking water source. The City's own risk assessment identified substantial risks to water quality and water supply infrastructure associated with natural gas production in our watershed and in the vicinity of our water supply infrastructure. Accordingly, DRBC, as a steward of drinking water for such a substantial population, should approach this issue cautiously, and should wait to make decisions until it has the benefit of better information.

Other Concerns

Stormwater Controls. The required Natural Gas Development Plans will be valuable planning tools and will allow for more comprehensive reviews of natural gas development in the basin. We respectfully request, however, that the Non-point Source Pollution Control Plans (NPSPCP) be required to be submitted to the City in addition to New York State if the project is within the City watershed. The City has watershed rules and regulations governing stormwater that are based on New York State's regulatory program but which, in some situations, are more stringent. For the same reasons that the City has determined that rigorous stormwater controls are necessary to protect water quality, DRBC should add post-construction requirements covering items such as continuing maintenance of access roads or structural integrity of the well casing.

Reporting on Subsurface Conditions. Unusual subsurface conditions, if not properly mitigated, could result in migration of contaminants or gases away from the well bore. We recommend that conditions be added to the draft regulations requiring natural gas operators to submit a written report to the Commission in the event that any unexpected subsurface condition is encountered during drilling (e.g. blowout, borehole kick, lost circulation material, shallow methane or brine, etc.). The report should describe the event encountered and remedial action taken.

Spill Control Plans. The draft regulations do not mention the need for a spill control plan for natural gas development sites. Given the potential for spills and accidental releases from natural gas development utilizing hydraulic fracturing, DRBC regulations should require that a comprehensive spill control plan be submitted to the Commission for review as a condition of project approval. The spill control plan should be reviewed and updated annually to ensure it contains the most recent contact information for officials and first responders.

Setbacks from Water Supply Infrastructure. The setbacks provided for surface water intake (500 ft) and water supply reservoir (500 ft) are not sufficiently protective of water resources even given the prohibition of siting a well pad in the 100-year floodplain. The City urges DRBC to

reconsider these distances and also to specify how the setback will be measured. Horizontal drilling adds a new complication to traditional regulatory setbacks. If the setback is measured from the well pad, then horizontal drilling may occur directly *beneath* the intake or reservoir. Instead we recommend that the setback be measured from the end of the nearest horizontal drill leg to the resource in question.

Invasive Species. The draft regulation indicates that an invasive species control plan is only required if determined by the Commission. Given the fact that natural gas development will be distributed throughout the Delaware Basin and surrounding regions, and that trucks and equipment will be moved frequently, it is recommended that invasive species control plans be required for all natural gas development projects.

Duration of Approvals. Given the rapid pace of natural gas development in this region and the constantly evolving technology, the duration of withdrawal approvals for natural gas extraction purposes must be reevaluated. Approvals lasting ten years may not give DRBC or other stakeholders an adequate opportunity to evaluate potential impacts in the context of current environmental conditions, recent technological advances or improved scientific understanding. The City therefore recommends that no withdrawal approval, whether through an original docket or through ABR, allow withdrawals for natural gas extraction purposes for longer than five years.

We commend DRBC for taking on the critical task of developing natural gas regulations and balancing a wide range of stakeholder needs. If you have any questions or comments, or if we can be of any further assistance in this matter, please feel free to contact me directly at (845) 340-7800, or prush@dep.nyc.gov.

Sincerely,



Paul V. Rush, P.E.
Deputy Commissioner

c: James Tierney, Assistant Commissioner, NYS DEC