DELAWARE RIVERKEEPER NETWORK

Memorandum

To: New Jersey Senate Environment and Energy Committee
From: Tracy Carluccio, Deputy Director
Re: EPA Hydraulic Fracturing Study
Date: February 2, 2013

The U.S. Environmental Protection Agency (EPA) is conducting a national study of hydraulic fracturing ("fracking") for natural gas. There are several components to the study[1] with a scope focused on drinking water impacts. The EPA study is a start but there are many drinking water impacts that should be but are not being studied by EPA that are critical to assessing potential impacts on New Jersey's drinking water.[2]

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[1]According to EPA's Progress Report, Executive Summary, the study includes: water acquisition; chemical mixing at well pads; well injection; flowback and produced water surface spills at well pads; wastewater treatment and waste disposal.

[2] The EPA study only focuses on the intentional use of water in the hydraulic fracturing process itself and does not cover other essential impacts of fracking on drinking water such as:

- well construction
- vertical well development (which also uses chemicals in muds and lubricants and distributes naturally occurring contaminants that are disturbed by fracking such as radioactive elements, heavy metals, and volatile organic compounds)
- human health impacts
- surface installation and resulting erosion and sediment and other pollution inputs from runoff to streams and waterways
- associated infrastructure development such as pipelines and compressors
- deposition of air pollution on water and the land surface
- non-intentional contamination through accidents such as gas well blowouts
- failure of operators to adhere to appropriate environmental standards
- destruction of forests and other natural habitats that filter precipitation to recharge groundwater and base flow of streams
- destruction of stream biota that filter and clean surface water
- seismic activity
- cumulative impacts
- natural and induced fracture mapping and design and forecast for future behavior
- greenhouse gas contribution (methane) and global climate change impacts and interactions (such as water availability)
- existing nonproducing gas wells and their interaction with fracked wells

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However, now the ability of EPA to accomplish even the limited scope of its study is called into question due to industry operators barring the agency from well sites where they need access to gather reliable data before and after fracking occurs. EPA needs to get on to well sites to collect baseline water quality samples, monitor the fracking process, and measure any water quality changes that occur during and after fracking occurs. This is necessary to figure out how fracking can pollute groundwater and how to manage flowback and waste.

EPA reported in its Progress Report issued in December 2012 that "prospective case studies" have not begun as expected since agreements with companies have not been reached to allow access to active wells sites where fracking is planned. The report states, "Prospective case studies involve sites where hydraulic fracturing will be implemented after the research begins, which allows sampling and characterization of the site before, during, and after drilling, injection of the fracturing fluid, flowback, and production. The EPA continues to work with industry partners to design and develop prospective case studies."[3]

Reports by news agencies in recent weeks have explained that both Range Resources and Chesapeake, two of the largest operators, continue to balk at allowing EPA needed access. EPA's Dr. Glenn Paulson reported in January that one of the case studies had to be scrapped and others are still in jeopardy, likely delaying the results of the groundwater impact section of the agency's study. It is possible the larger report may be issued to meet scheduled release dates with the groundwater impact case study released at a later date, or the groundwater impact study may be scrapped altogether. Without this data and analysis, the agency's report will not provide the information needed to evaluate the safety of fracking in regards to the potential pollution of groundwater.

Another consideration regarding EPA's study and the problem of using its release to trigger the end to a fracking moratorium is that some important elements of the impacts of fracking that the EPA study does not cover are being studied by other federal agencies. In addition to EPA, the Department of Energy, the Department of the Interior, the Department of Agriculture, the Department of Defense, the Department of Transportation, the Securities and Exchange Commission, Health and Human Services, the Commerce Department and the State Department are conducting investigations. Several of these studies will produce reports that will help inform states regarding environmental, human health, and community issues, particularly the Departments of Energy, Interior, Transportation and Health and Human Services. Release dates for these studies are staggered, some are just getting underway and some have no deadlines set. Findings from ongoing federal studies are essential to address the safety of fracking, particularly in a densely populated state like New Jersey.

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[3] U.S.E.P.A., Study of the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources, Progress Report, December 2012, page 127.

To tie New Jersey fracking legislation to the EPA study is a mistake and will not offer the comprehensive analysis needed to fully inform the Legislature. New Jersey should not be open to allowing fracking or frack waste or attempting to prematurely develop regulations or other state-initiated efforts. It is clear the federal government believes extensive research is needed on the impacts and extensive resources are being applied by those agencies. A permanent ban in New Jersey will prevent harm and protect drinking water and communities, especially considering the pollution and community degradation that is documented where fracking is now occurring.

The scientific studies and reports that are available today show methane and frack-related pollutants can and have migrated to water sources as a result of fracking, that the process imperils aquifers, and that due to inadequate regulation and extensive violations by drillers and operators, pollution and community impacts are prevalent. The expert analyses that are available today from various academic and scholarly sources make it clear that the technology is not developed yet to safely frack for gas and that methane, a powerful greenhouse gas, is a major contributor to global climate change. The safe way to go is to simply ban fracking in New Jersey to avoid these threats.