



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029**

MAR 7 2011

The Honorable Michael Krancer, Acting Secretary
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
400 Market Street
Harrisburg, Pennsylvania 17101

Dear Secretary Krancer:

The natural gas industry in Pennsylvania has grown with remarkable speed as the development of the Marcellus Shale proceeds. Natural gas is a key part of our energy independent future, but the rapid expansion of drilling activity in the Commonwealth places a special responsibility on our agencies and the U.S. to ensure that natural gas extraction is done safely and with public health protection as a priority.

The Pennsylvania Department of Environmental Protection (PADEP) has undertaken a number of important steps to strengthen protections. Examples include enhanced regulatory requirements for gas drilling operations; additional effluent standards for new and expanding wastewater treatment facilities that accept wastewater from gas drilling operations; and expanded ambient water quality monitoring to include chemicals that could indicate the presence of incompletely treated drilling wastewater. The U.S. Environmental Protection Agency (EPA) supports these actions and urges you to implement them aggressively.

Nevertheless, several sources of data, including reports required by PADEP, indicate that the wastewater resulting from gas drilling operations (including flowback from hydraulic fracturing and other fluids produced from gas production wells) contains variable and sometimes high concentrations of materials that may present a threat to human health and aquatic environment, including radionuclides, organic chemicals, metals and total dissolved solids. Many of these substances are not completely removed by wastewater treatment facilities, and their discharge may cause or contribute to impaired drinking water quality for downstream users, or harm aquatic life. In addition, high concentrations of these substances may adversely impact the treatment facilities themselves, impairing their ability to remove fecal coliform and other common contaminants in domestic sewage.

I believe it is critical to investigate the presence of these substances in the treated drinking water in affected watersheds and to inform the public as to whether and at what levels radionuclides occur in their water supply. At the same time, it is equally critical to examine the persistence of these substances, including radionuclides, in wastewater effluents and their potential presence in receiving waters. Such knowledge will be the basis for imposing the controls necessary to ensure that public health and the aquatic environment are protected.



The most important near-term step is requiring community water systems (CWSs) near publicly owned treatment works (POTWs) and centralized wastewater treatment (CWT) facilities receiving Marcellus Shale wastewater to conduct sampling immediately for radionuclides. Since, in previous monitoring, radionuclides were not detected or were detected at levels less than one-half of maximum contaminant levels, the CWS have not sampled after the introduction of Marcellus Shale operations. Discharges from these operations could increase radionuclide levels substantially. To ensure public safety, additional sampling is needed. We understand that PADEP is considering requiring such sampling.

We are aware that PADEP has announced results of instream ambient water samples for radionuclides that were below federal drinking water standards for radium. Since concentrations of radionuclides may vary according to the source and volume of wastewater and receiving stream flow, we encourage sampling regimes that will account for such variability. We would like to discuss the sampling design with you. To facilitate these discussions, please provide the Region, as soon as possible, with (i) a list of the community water systems that will be required to conduct expedited monitoring, (ii) sampling parameters and frequency, and (iii) your schedule for initiating and completing these actions. It is my belief that, within 30 days, a sampling plan can be developed and initial samples collected.

Another critical step which we have previously discussed is to reopen the National Pollutant Discharge Elimination System (NPDES) permits of POTWs and centralized waste treatment facilities that are currently accepting gas drilling wastewater for treatment. These permits do not now include critical provisions necessary for effective processing and treatment of wastewaters from drilling operations. Again, it is welcome that you intend to reopen these permits. We encourage you to establish monitoring requirements and effluent limits to ensure protection of drinking water and aquatic life. To coordinate with PADEP productively, I ask that you provide the following information: (i) the identities and locations of all NPDES facilities in Pennsylvania accepting Marcellus Shale wastewater, (ii) a list of the permits you plan to reopen and the parameters you plan to consider for reasonable potential analysis, and (iii) a schedule for completing the permit modifications.

To augment these actions, EPA will be taking additional steps directly using our authorities. In Region III, these include, but are not limited to, issuing Clean Water Act information requests to CWT facilities and POTWs for compliance determinations and evaluation of the adequacy of NPDES permits; using pre-treatment authorities to ensure appropriate record keeping, reporting, and local limits for POTWs accepting this type of wastewater; and conducting inspections at well sites, associated construction activity, and treatment facilities. We welcome your participation in these inspections, and I have instructed my staff to coordinate with yours to commence these inspections as soon as possible.

In parallel, EPA will be sending very soon, a letter to CWT facilities and POTWs in the Marcellus Shale region attaching a set of Q&As providing guidance on all applicable legal requirements. Additionally, under the Safe Drinking Water Act, we will proceed with permit application review and issuance of Class II-D underground injection wells for disposal of fluids associated with gas production; inspection of permitted disposal wells; and enforcement of existing Underground Injection Control permits.



Further, we will be working with PADEP's Harrisburg and Regional offices on several issues related to management of Marcellus Shale wastewater, including reviewing NPDES permits for CWT facilities and POTWs; collecting information to help better characterize discharges of treated gas extraction wastewater; and providing information and training to POTW operators regarding acceptance of gas extraction wastewater at the upcoming 20th Annual Industrial Pretreatment Conference sponsored by Eastern Pennsylvania Water Pollution Control Operators Association, PADEP and EPA.

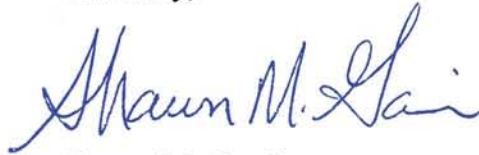
I stand ready to provide EPA's support and to utilize our federal authorities to require drinking water and wastewater monitoring if that becomes necessary. In addition, EPA is prepared to exercise its enforcement authorities as appropriate where our investigations reveal violations of federal law.

Separately, we will be coordinating with you on air pollution and waste impacts, and EPA's ongoing efforts to minimize those impacts.

These matters are indeed challenging. We look forward to working closely with you on the range of environmental issues raised by energy extraction activities to ensure that as these energy resources are developed they are done safely and with public health protection as a priority.

If you have any questions, please do not hesitate to contact me or have your staff contact Dr. Jennie Saxe, EPA's Pennsylvania Liaison, at (215) 814-5806.

Sincerely,



Shawn M. Garvin
Regional Administrator

