



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SECRETARY

April 6, 2011

Mr. Shawn M. Garvin  
Regional Administrator  
U.S. EPA Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

Dear Regional Administrator Garvin:

I write in response to your March 7, 2011, letter concerning wastewater issues related to drilling for natural gas in the Marcellus Shale formation. Rest assured that well before receiving your letter, the Pennsylvania Department of Environmental Protection (DEP) has been focusing on issues relating to natural gas drilling, and prioritizes protecting the environment and public health and safety above all else.

We are guided by sound science and the facts. In that regard, we continue to agree with Steve Heare, head of EPA's Drinking Water Protection Division, when he stated, "I have no information that states aren't doing a good job already [regulating fracking]." Again, based on current data and facts here in Pennsylvania, any backtracking from that statement would be, in my opinion, unjustified. DEP has been and continues to aggressively refine its regulations, guidance, and policies addressing oil and gas drilling, associated waste management, treatment, and disposal, as well as increasing its field presence in the areas of inspections and enforcement.

Unfortunately, your letter, along with the recent New York Times articles, overlooks DEP's strong and ongoing efforts to protect the environment and public health. More specifically, the radionuclides and other pollutants of concern (barium and strontium) that were highlighted in your letter had all been previously identified by DEP and targeted in regulation, guidance, the National Pollutant Discharge Elimination System (NPDES) permitting process, instream sampling, and public drinking water sampling.

Also, your letter arrived the same day we announced the results of our in-stream water quality monitoring for radioactive material in seven of the commonwealth's rivers. All samples showed levels at or below the normal naturally occurring background levels of gross alpha and gross beta radiation. Those tests were conducted in November and December of 2010 at stations downstream of wastewater treatment plants that accept flowback and production water from Marcellus Shale drilling. These sampling stations were installed last fall specifically for the purpose of monitoring stream quality for potential impacts from unconventional gas drilling operations. The raw water river samples were collected above public water suppliers' intakes where the water receives further treatment.

The seven river testing stations are located at the Monongahela at Charleroi in Washington County; South Fork Ten Mile Creek in Greene County; Conemaugh in Indiana County; Allegheny at Kennerdell in Venango County; Beaver in Beaver County; Tioga in Tioga County; and the West Branch of the Susquehanna in Lycoming County. These stations were chosen because of their proximity to public water supply (PWS) intakes and at the time, were located downstream of facilities permitted to or proposing to discharge oil and gas wastewater. Future monitoring will include monthly sampling at the Monongahela; South Fork Ten Mile; Allegheny; and Beaver sites.

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and every other month at the remaining three sites. Moreover, gross alpha and gross beta testing was added to a second water quality network station on the Monongahela, in March 2011. This site is further downstream in Allegheny County. All of the results will be frequently evaluated and available to the public via EPA's Modernized STORET database.

I want to bring to your attention certain other proactive steps that were pending prior to your letter. First, we have taken measures under Pennsylvania's regulations to have additional monitoring of finished water at 14 public water supplies with surface water intakes downstream from wastewater treatment facilities that accept Marcellus wastewater. On March 11, 2011, under Pennsylvania regulation 25 *PA Code* §109.302, we directed a letter to public water suppliers that have surface water intakes located downstream of one or more facilities that are accepting Marcellus wastewater to immediately conduct testing of radionuclides (i.e., radioactivity) and other parameters including Total Dissolved Solids (TDS), pH, alkalinity, chloride, sulfate and bromide. A copy of that letter and the list of recipients is enclosed.

Second, on March 18, 2011, under Pennsylvania regulation 25 *Pa Code* §92a.61(g), letters were sent to 25 Publicly Owned Treatment Works (POTWs) and Centralized Waste Treatment (CWT) facilities that currently accept this wastewater calling for immediate twice monthly effluent monitoring for radionuclides and other parameters including TDS, pH, alkalinity, chloride, sulfate, bromide, gross alpha, radium 226 & 228, and uranium. A copy of that letter and the list of recipients is enclosed.

In addition, over the past 3 years we have taken the actions necessary to protect the environment and public health without stifling the growth of the natural gas industry. During this time, we have consistently involved our EPA counterparts at Region III in decision-making through frequent communications, particularly our requests of interpretations concerning various federal regulations, as well as issues concerning the EPA pretreatment and underground injection control programs, both of which continue to be under federal jurisdiction in Pennsylvania. As per your invitation, we will consider participating in your efforts as the need arises.

In response to your specific requests for information and suggested actions:

*You requested the identities and locations of all NPDES facilities in Pennsylvania accepting Marcellus Shale wastewater.*

We have shared the list of facilities treating wastewater from drilling activities and discharging pursuant to NPDES permits with your agency since we began tracking this wastewater. We provided the updated list on March 3, 2011. I have enclosed a copy of this list for your convenience.

*You requested a list of permits that we plan to reopen and the parameters we plan to consider for reasonable potential analysis, and a schedule for completing the permit modifications.*

The monitoring data collected for permits of these types of facilities will be scrutinized prior to their renewal and where routine monitoring of the substances of concern is warranted, such requirements will be added to these permits. As stated above, those substances are: TDS, pH, alkalinity, chloride, sulfate, bromide, gross alpha, radium 226 & 228, and uranium. Where reasonable potential analysis indicates the need for effluent limitation, such limitations will be included in the permits.

Further, the radiological parameters gross alpha and beta are now collected at seven Water Quality Network (WQN) stations in areas most likely to be impacted by Marcellus Shale generated wastewater treatment and disposal and near drinking water intakes. An expansion in the number of WQN sites will be requested in the upcoming state budget and federal grant.

*You requested a list of the community water systems that were required to conduct expedited monitoring, the sampling parameters and frequency and a schedule for initiating and completing these actions.*

As stated above, the list of systems is enclosed. These systems were directed by letter on March 11, 2011, to test for radionuclides (i.e., gross alpha and gross beta radiation) and other parameters including TDS, pH, alkalinity, chloride, sulfate and bromide within 30 days of receipt of the letter.

We have also planned for additional sampling this year for more than 40 surface drinking water intakes. Samples will be collected eight times over a course of several months for Marcellus Shale wastewater parameters including radionuclide. A revised 604(b) work plan is awaiting EPA approval. The plan includes two limited-term staff who will canvass the state sampling Marcellus Shale generated wastewater treatment discharges and receiving waters for radionuclide and other related substances. Once approved by EPA, a well conceived sampling plan designed to target critical areas where and when problems are likely to occur will be developed before staff take their first sample.

In closing, I want to thank you for your input and continued willingness to partner with DEP. In an effort to keep each other informed of our ongoing mutual efforts to protect the citizens of the commonwealth and the environment, I suggest that we meet quarterly and share our agency-wide priorities, environmental surveillance plans, and regulatory updates. My office will contact you shortly with a series of potential meeting dates. In the meantime, do not hesitate to contact me or my staff at Kelly Heffner, Acting Deputy Secretary, by e-mail at [kheffner@state.pa.us](mailto:kheffner@state.pa.us) or by telephone at 717.783.4693.

Sincerely,



Michael L. Krancer  
Acting Secretary

Enclosures