From: Protecting Our Waters [protectingourwaters@gmail.com]
Sent: Friday, February 12, 2010 12:36 AM
To: EP, RegComments
Subject: Chapter 95 Wastewater Treatment Requirements

Comment on Chapter 95 Wastewater Treatment Requirements
Submitted to the Environmental Quality Board on February 12, 2010

By: Iris Marie Bloom
4808 Windsor Avenue
Philadelphia, PA 19143
(215) 840-6489

1. TDS Standard: DEP's proposed standard of 500 mg/L is still too high to ensure a sustainable environment for fish, aquatic life, and humans. The TDS standard should be 250 mg/L, for two reasons. Fish have been shown to be sensitive to and be adversely impacted by TDS at 250 mg/L. In addition, the background salinity of rivers and streams throughout our region is increasingly compromised by road salt used for de-icing. According to Dr. Sujay Kaushal of Chesapeake Biological Lab, University of Maryland Center for Environmental Science, in a presentation to the AWRA on January 21st in Philadelphia,

"Chloride concentrations are increasing at a rate that threatens the availability of fresh water in the northeastern U.S. Increases in roadways and deicer use are now salinizing fresh waters, degrading habitat for aquatic organisms, and impacting large supplies of drinking water for humans throughout the region. We observed chloride concentrations up to 25% of the concentration of seawater in streams of Maryland, New York, and New Hampshire during winters, and chloride concentrations remaining up to 100 times greater than unimpacted forest streams during summers. Mean annual chloride concentration increased as a function of impervious surface and exceeded tolerance for freshwater life in suburban and urban watersheds. **Our analysis shows that if salinity were to continue to increase at its present rate due to changes in impervious surface coverage and current management practices, many surface waters in the northeastern U.S. would not be potable for human consumption and would be toxic to freshwater life within the next century. "**

Therefore, Proposed Modifications: A) Effluent standard should be 250 mg/L for TDS, chlorides and sulfates; B) TDS effluent standard should be stated as a daily maximum, not a monthly average; C) Where streams are already compromised by salinization, **zero** TDS should be allowed, and D) At a minimum, DEP should adopt statewide the current DRBC standard that discharges should not cause background in-stream concentration of TDS to rise above 133% of background levels.

2. Applicability Thresholds: For clarity, the 2,000 mg/L concentration threshold should be stated as a daily maximum. Also, it should be clearly stated that dilution of the wastewater stream cannot be used to escape the applicability thresholds.

3. New and Existing Sources: Existing sources of large TDS discharges should be immediately covered by the standard. New sources and new discharges at existing sources should be covered immediately by the standard. Industry unable to comply with the new standard should be required to cease discharging high-TDS waste immediately, even if that means ceasing operations. To do otherwise is to violate the right to clean water which is guaranteed in the Pennsylvania Constitution.

4. Contaminants of Concern: At least 85 known hazardous substances, including carcinogens, mutagens, neurotoxins, pesticides, and endocrine disruptors, known to have adverse impacts on 12 categories of human health as well as to cause environmental damage, are present in Marcellus Shale flowback fluids. (Sources: Delaware Riverkeeper Network; Pittsburgh Post-Gazette; The River Reporter, "What's In That Fracking Fluid?" December 8, 2009; The Endocrine Exchange; PA DEP; NYSdsgEIS.)

Every one of these is a contaminant of concern. The appropriate level for any of these substances in our water is zero.

The safe level for radium 226 is 5 picocuries per liter; the Marcellus Shale flowback fluid has 2,000 to 16,000 picocuries of radium 226. Radium causes bone, liver and breast cancer.

DEP has an absolute responsibility to prevent radioactive substances in our rivers and streams, and in our drinking water.

Proposed Modification: DEP must monitor, and set a standard close to zero, for at least the following contaminants: arsenic, benzene, 2-butoxyethanol, radium 226, magnesium, bromides, and other Volatile Organic Chemicals. Bromides pose significant challenges for water purveyors due to the creation of brominated DBPs.

In addition, Whole Effluent Toxicity (WET) testing should be required utilizing both an acute and chronic toxicity standard.

5. Effective Date: DEP should stop issuing any permits for water withdrawals, drilling, or waste treatment for Marcellus Shale drilling until these standards are in place and in effect. DEP should also stop allowing existing or proposed wastewater plants to discharge TDS at levels above these new standards. The effective date should not be extended for any reason. Our water quality, air quality, and public health are not for sale.

6. Monitoring: DEP must institute a clear monitoring system for Marcellus Shale wastewater. The public must be able to find out, with a transparent paper trail:

* how much waste is being generated at each site;
* how that waste is being stored, and by what means it is stored;
* how much waste is being transported, when and to where;
* what methods are being used to treat it;
* what chemicals are released into the air during storage, transfer, and treatment;
* whether Marcellus Shale waste is being used for brine or for road salt, or any kind of road treatment; and if so, quantity, date, and amount;

- how much toxic waste is left underground at each fracked gas well;
- what happens to radioactive waste;
- whether contaminated sludge is applied to fields or buried in the ground;
- whether Marcellus Shale waste is being taken out of state and if so, how much and where it is being taken, and what is the means of disposal.

7. Wastewater re-use: DEP must closely monitor re-use. Miles of plastic pipe transfers waste fluids from site to site, increasing hazardous waste spills harmful to plant, aquatic, animal, and human life. Toxins are also concentrated through re-use and left underground. This is dangerous and could be considered disposal rather than recycling.

8. Permitting fragmentation is a severe problem. No further permits should be issued for Marcellus Shale wastewater treatment unless or until an Environmental Impact Statement has been completed for the state of Pennsylvania. Until then, the permitting process overall is too fragmented to make sense. The permitting system for Marcellus Shale drilling operations, even with more inspectors, is broken. Cumulative impacts, community impacts, the net negative impact on global warming, long-term health impacts, are being ignored. Dr. Michel Boufadel of Temple University's Engineering Department has shown the potential for the toxic stew left underground to migrate slowly upwards over the next 100 - 300 years, leaving future generations to cope

with an underground Superfund site at each well, possibly migrating into groundwater and surface water. If this process was safe, why would the industry need to exempt itself from every major federal environmental law in existence? Please refuse to issue any further permits for water withdrawals, drilling, or wastewater treatment until these new Chapter 95 state regulations are in place, an Environmental Impact Statement has been completed, and all the federal exemptions for the hydraulic fracturing process have been lifted, including the Safe Drinking Water Act, the Clean Air Act, the Clean Water Act, the Superfund Law, community right to know laws, and the Resource Conservation and Recovery Act.