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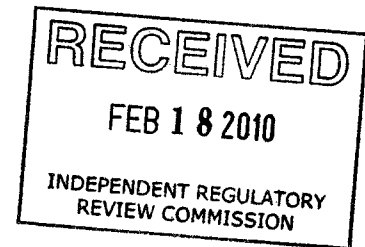
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February 12, 2010

Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477



Dear Members of the Environmental Quality Board:

On behalf of the undersigned organizations, we are writing to express our joint comments on DEP's proposed revisions to Chapter 95, Wastewater Treatment Requirements. Our organizations represent a combined membership of hundred of thousands of Pennsylvanians from across the state who are deeply concerned with the protection of our water resources, our health, and our communities.

1. Overview and Effective Date of the Regulation

Overall, we welcome DEP's proposed rulemaking as a minimum necessary to help protect our rivers and streams from the increasing threat from oil and gas wastewater produced by Marcellus Shale drilling operations. We believe the proposed regulation is an important regulatory means to address total dissolved solids (TDS) and to prevent impairment of surface water prior to having to utilize a total maximum daily load (TMDL) process after rivers have become overburdened with pollution.

With 2,600 Marcellus drilling permits already granted, and with the state projecting to grant over 5,000 more in 2010, it is imperative that these wastewater regulations are enacted as soon as possible. DEP should put a hold on the issuance of any new Marcellus drilling permits until these proposed regulations are in place unless a drilling operator can certify that the wastewater generated will never be discharged into a body of surface water.

With streams in significant parts of the state unable to handle additional new loads of total dissolved solids (TDS), and with drinking water standards for TDS having already been exceeded on multiple occasions for hundreds of thousands of Pennsylvanians, DEP should ensure that these regulations are in place at least by the proposed effective date of January 1, 2011.

2. New and Existing Sources

It is important that all significant sources of TDS are covered by the proposed standard in order to ensure that watersheds can maintain both aquatic life and potable water uses. All new sources and new discharges at existing sources should be covered by the proposed standard. In addition, existing large sources of TDS should be required to meet the new discharge standard as their NPDES discharge permits come up for renewal on the five year cycle. Numerous municipal sewage plants around the state are currently taking oil and gas wastewater, however, in general they are failing to treat contaminants in the wastewater and are simply diluting the discharge by combining their waste streams. Only by addressing all significant sources of TDS will the health of both our rivers and our

drinking water be maintained.

Further, we are greatly concerned that DEP's interim permitting strategy for high TDS wastewater discharges is allowing significant discharges prior to the finalization of these regulations, at concentrations and amounts far in excess of what would be allowed under the proposed discharge standard. DEP should not permit new significant sources of TDS that discharge to surface water without meeting the proposed standards in this regulation.

3. Applicability Thresholds

The proposed definition of large TDS sources, in terms of both loading and concentration, seems appropriate and will likely capture most significant TDS sources. 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.

4. TDS Standard

DEP's proposal of 500 mg/L for Total Dissolved Solids (TDS) and 250 mg/L each for Sulfates and Chlorides will go a long way towards ensuring that federal drinking water standards are met across the state for TDS. DEP should not weaken their proposed discharge standard for TDS. It is critical that any TDS wastewater effluent standard in addition be protective of aquatic life. Because potable water use is a standard only applied at the intake, regulation at the point of discharge is especially essential for assuring aquatic life protections in all stream segments.

In order to assure these protections, the standard should be stated as a daily maximum, not a monthly average. Large swings in contaminant loads are common in oil and gas wastewater streams. In addition, there should be a minimum requirement that all discharges not cause background in-stream concentrations of TDS to rise above 133% of background levels, as is currently required by the Delaware River Basin Commission (DRBC). DEP should strive, as much as possible, to ensure that protective standards are uniform across the state.

5. Additional Contaminants of Concern

There are a number of frequently found contaminants in effluent from Marcellus wastewater that DEP has not proposed standards for in these revisions. Due to the highly toxic nature of some of these contaminants to both human health and the environment, we would urge that additional contaminants should have discharge standards under this regulation. These should include:

- **Bromides.** DEP has cited the threat to drinking water systems from brominated disinfection by products (DBPs) several times in relation to Marcellus wastewater discharges, which is generally the only significant source of bromide discharges in the state. Due to the documented cancer risk, and to the difficulties drinking water systems will have in handling bromide increases in their source water, a discharge standard should be developed. Two drinking water systems, one in Washington County and one in Allegheny County, recently listed violations of the total trihalomethanes (THM) standard, and several major systems in southwestern Pennsylvania are close to violating this standard.
- **Arsenic.** As a known carcinogen, arsenic is often a component of TDS and is often found in Marcellus wastewater. As a dissolved metal, arsenic is not removed by most drinking water systems. In addition to having a discharge standard for arsenic, DEP should examine whether other toxic heavy metals should be included due to their frequent occurrence in Marcellus wastewater streams.
- **Benzene.** Also a known carcinogen, benzene and other hazardous volatile organic compounds (VOCs) should be considered for discharge standards. DEP should consider hydrocarbons that frequently are found in the Marcellus formation, in addition to hazardous chemicals most

- commonly used in the hydrofracturing process itself.
- **Radium.** While DEP has included some radioactive contaminants in the proposed discharge standards, radium compounds should also be included due to their frequent occurrence in Marcellus wastewater. DEP should consider other components of naturally occurring radioactive material (NORM) in addition to radium.

If DEP is not confident that these contaminants are a regular constituent of Marcellus wastewater due to limited sampling data, we would urge the Department to conduct more in depth sampling of wastewater being generated throughout the Marcellus formation in Pennsylvania as a way to better determine the proper contaminants of concern.

DEP should also consider adding a whole effluent toxicity (WET) testing standard to the discharge standard. Both TDS and wastewater from Marcellus drilling operations contain complex mixtures of contaminants. The varying types and concentrations of these contaminant mixtures requires additional testing to evaluate the toxic nature of the specific effluent in order to protect both aquatic species and human health. Both an acute and chronic WET test standard should be utilized.

6. Monitoring of Wastewater

There is not clear regulation requiring a "cradle to grave" monitoring system for wastewater generated by Marcellus drilling operations. Waste characterization also needs to be improved in order to ensure that the proper contaminants of concern are regulated. In addition, better waste characterization would assist in determining how to regulate the transfer to other media (air, solid waste) as is likely under this regulation.

DEP should require a tracking system from the well sites where wastewater is generated to where it is disposed of, including all intermediary locations. Analysis of wastewater contaminant load must be available for wastewater plant operators prior to acceptance of wastewater for treatment and discharge.

Finally, it should be clarified in the proposed regulation how TDS will be measured and reported under this regulation. We would urge the DEP not to allow the use of surrogate measures such as conductivity, as the correlation between conductivity to TDS can vary with the mixture of contaminants in the effluent.

7. Wastewater Reuse

Companies involved in Marcellus drilling operations have reported publicly that they are engaged in various aspects of reuse of wastewater from well sites, including undertaking partial treatment of the wastewater and subsequently using this wastewater as a replacement for fresh water in hydro fracturing operations.

While there is potential that this kind of wastewater reuse could provide environmental benefit, there is currently no agency oversight of these operations. Industry does not appear to be informing the DEP of the amount of wastewater being reused, what treatment standards are being applied, or what the quality of the resulting water used in fracturing operations is.

Because only a portion of the water used in fracturing a well is returned as wastewater, it seems highly likely that essentially some of the wastewater is being disposed in gas wells. DEP should analyze to what extent this is true, what regulations should apply to this waste disposal, and if there are regulatory gaps that should be addressed. Residents living in close proximity to gas wells are highly concerned about the possibility of Marcellus wells being used for various kinds of waste disposal. DEP should analyze to what extent industry wastewater reuse practices pose a risk to the environment or human health.

Water resources in Pennsylvania not only support our health and the overall environment's health, but provide a critical backbone to the economy of our state. Clean water is necessary for our tourism industry, the second largest in the state after agriculture. Public water supply is critical to not just the survival, but the development of many communities. Property values themselves are clearly dependent on the availability of affordable potable water. It is clearly less expensive to put controls on pollution sources, compared to allowing untreated discharges that all drinking water systems then must treat in their finished product. Many industrial uses of water are hindered or rendered more expensive through poor water quality.

We would like to thank the EQB for the opportunity to comment on these proposed regulations, and we look forward to hearing both EQB's and DEP's response. These are critical regulations that we hope will be finalized in the near future.

Sincerely,

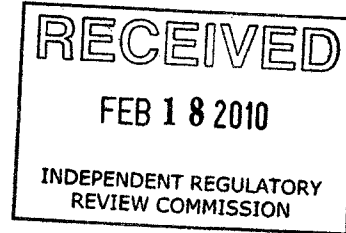
A handwritten signature in black ink, appearing to read "D. Leach", with a stylized flourish at the end.

Daylin Leach
State Senator

From: Sarah Charles [SCHARLES@pasenate.com]
Sent: Friday, February 12, 2010 4:50 PM
To: EP, RegComments
Subject: Letter of Support
Attachments: LetterofSupport.PDF

Please see attachment.

Best,
Sarah



Sarah A. Charles
District Director
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