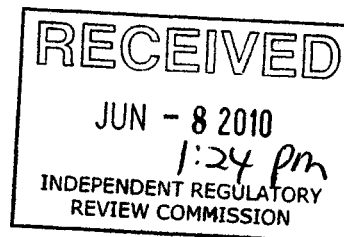




2806

June 9, 2010



Independent Regulatory Review Commission
 333 Market Street
 14th Floor
 Harrisburg, PA 17101

Re: Pennsylvania Environmental Quality Board, Proposed Final Form Amendments to 25 PA Code Chapter 95, Wastewater Treatment Requirements, IRRC No. 2806, Reg. No. 7-446

Dear Commissioners:

I write to you as the President of Keystone Clearwater Solutions, LLC (Keystone Clearwater). Keystone's primary business is the treatment of flowback and produced wastewater generated by the natural gas industry throughout Pennsylvania. We are a "home-grown" Pennsylvania corporation, based in Hershey, and we operate (and employ Pennsylvanians) throughout the Appalachian Basin, serving many exploration and production (E&P) companies that are active in the Marcellus Shale play. Our mobile treatment units employ membrane technology (i.e., nanofiltration) to reduce concentrations of metals, sulfates, carbonates, chlorides, bacteria and total dissolved solids (TDS). Keystone has continuously operated these mobile treatment units since January of this year, enabling our E&P clients to achieve 90% recycling and re-use of their flowback water.

Our company also has permit applications pending with DEP for construction of three stationary industrial wastewater treatment plants (Butler, Moshannon, and Jersey Shore, Pennsylvania). These applications were filed with the DEP as early as May 2008 and they have remained "on-hold" since their filings due to delays related to the DEP's plans to revise its Chapter 93 and Chapter 95 regulations. As a company prepared to make the capital investment needed to meet applicable environmental regulations, this delay has been extremely frustrating, as we have made zero progress in two years toward establishing industrial wastewater treatment facilities, designed to accommodate flowback and produced wastewater that may no longer be suitable for recycling.

With great concern and much chagrin, we have been closely following the progress of DEP's development of their permitting strategy for high TDS wastewaters in the Commonwealth. We have participated in a Subcommittee of the Marcellus Shale Coalition, and have provided comments to the MSC that mirror those that we present directly to the Independent Regulatory Review Commission (IRRC), as set forth herein. I testified on behalf of our company and on behalf of the "natural gas industry" at one of the public hearings held by DEP (EQB) in Williamsport in December 2009. Several representatives of our company have met a number of times with DEP Central Office personnel (e.g., Mr. Aunkst, et. al), presenting a number of comments, and particularly, extensive information

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concerning waste characteristics, treatment technologies, and costs for treatment, all in support of an assimilative solution to the stream discharge of treated, high-TDS wastewaters.

Despite the fact that DEP has published what it refers to as final rule-making, establishing end-of-pipe standards for chlorides and TDS at 250 and 500 mg/L, respectively, and 10 mg/L for barium and strontium, for treated effluent discharges [proposed 95.10 (b) (3)], there remains widespread opposition to the approach that DEP is taking, mainly due to bad science, false attributions, exaggerated projections, a disregard for the normal assimilative capacity of many receiving streams of the Commonwealth, no economic justification, and the fact that existing regulations and guidance documents adequately provide procedures to be employed for permitting and design that adequately address the wastewater treatment of flows that originate from the shale gas industry. At this time, we respectfully request the IRRC's consideration of the following points:

1. Pennsylvania DEP's "Oil and Gas Wastewater Permitting Manual" (Document No. 550-2100-002) comprehensively provides guidance for the design and permitting of oil and gas wastewater treatment systems, all with regard to applicable provisions of The Oil & Gas Act; The Clean Streams Law; The Solid Waste Management Act; and with PA Code Chapter 78, 91, 92, 93, 95, 96, 102, 105, 106, 261, 287, 288, 289, 291, 293 and 299 environmental regulations. The natural gas industry has relied upon this set of laws, regulations and guidance since they have been issued (most recently in 2001 by the Department). To our best knowledge, and to that of the natural gas industry, there has not been a single incident where treatment facilities permitted by the Department, under existing regulations and procedures, have led to a pollution event in the Commonwealth caused by a discharge of wastewater generated in part or in whole by wastewaters that originated from the natural gas industry. Thus, the existing set of laws, regulations and guidance that has been established by the Department is more than adequate to address the treatment and management of wastewater flows originating from the natural gas industry.
2. Pennsylvania DEP's "Oil and Gas Wastewater Permitting Manual" under the authority of the Clean Stream Law states, in particular, on page 13, the following: "*Additional effluent limitations on other parameters (e.g., total dissolved solids, specific conductance, osmotic pressure, heavy metals, organics, etc.) will be imposed as needed to protect the quality of the receiving stream.....*" This provision gives the Department all of the discretion that is needed, on a stream-by-stream, and watershed by watershed basis, to establish appropriate effluent standards and mass loading limits (e.g., wasteload allocations) for individual permits issued by the Department for the discharge of treated wastewater from centralized treatment facilities. It is this approach that has allowed all users and all industries in Pennsylvania to benefit from the natural assimilative capacity of existing streams and rivers, and allows designs to be developed according to conditions that exist on a site-specific basis, in a particular watershed. The Department has recognized and requires use of highly regarded surface water quality models (SWLOAD and PENTOX) to assist with wasteload allocation, used for the purpose of evaluating (and permitting) the mixing of discharges within receiving streams.



3. Many, if not most, centralized wastewater treatment plants are designed to accept waste streams generated from multiple wastewater sources. To have an end-of-pipe water quality criteria (e.g., TDS value of 500 mg/L, etc.) established for wastewater derived solely from the natural gas industry essentially compels there to be constructed single-purpose treatment works, designed solely for the purpose of handling wastewater derived from the natural gas industry. This is completely unrealistic and short-sighted – as it precludes the economic benefits of a plant being built for multiple sources (with differing effluent criteria), with shared treatment components, economies of scale, with multi-source dilution potential, etc., so as to be able to accommodate various waste streams and to thereby be diversified, from a revenue-source perspective. The natural gas industry has a history of being cyclical, and investors really need to have a way to handle multiple waste streams, especially when the months and years come when the industry stops drilling. You can understand the economic advantages of having diversified treatment and a source of diverse waste streams coming to a plant where so much fixed infrastructure is involved. For one thing, it would help to make permanent the jobs attached to these facilities, as well as the tax benefits to the Commonwealth.
4. The Department's justification of the need for the proposed Chapter 95 regulations is not supported by technical and scientific factors. For example, the Department has previously overstated its estimate of the wastewater quantity – by a factor of approximately 10X. The industry is currently recycling approximately 90% of its wastewater, by means of direct re-use, or by means of re-use of water treated at the wellhead, facilitated by mobile treatment systems. This is water that the industry is using and re-using, over and over. There are economic drivers for this – by doing so, the industry avoids the cost for make-up water such as large transportation and transfer costs. Likewise, the Department has cited short-term water quality problems experienced in the Monongahela River and on Dunkard Creek – problems entirely unrelated to the natural gas industry, as a basis for establishing a one-size fits all, end-of-pipe standard, for all watersheds in Pennsylvania, large and small – from streams the size of a trickle to streams that are the size of the Ohio River. The Department's own commissioned Water Resources Advisory Board (WRAB) has opposed the promulgation of the proposed Chapter 95 regulations for reasons of unsound science, and many other factors. This rulemaking should not be allowed to proceed where the technical justification is so poorly founded.
5. The end-of-pipe approach proposed by the Department is in direct conflict with the Department's own 25 PA Code 92.2 (d) rules, entitled, "Technology-based standards" which dictate that where EPA has not promulgated effluent limitation guidelines, then the Department can develop technology-based limitations that are established on the basis of 40 CFR 125.3. That federal regulation specifies the elements and criteria that must be considered when developing technology requirements (e.g., the age of the equipment, the process that has been employed, non water quality environmental impacts, consequential impacts, cost comparisons and cost-benefits of alternatives, and levels of reduction, etc.). In the absence of an approach taken by the Department relative to compliance with 40 CFR 125.3, the proposed rulemaking should be disapproved.

6. The end-of-pipe approach proposed by the Department would result in huge, unnecessary added costs for trucking, treatment, and use of electricity and natural gas – greatly increasing total pollutant loads due to increased energy consumption. These are examples of impacts that have not been addressed by the Department's proposal.
7. Compliance with the proposed regulations will result in incremental costs that are a total waste of money. Quite literally, this would result in the needless expenditure by the industry of tens of millions of dollars per annum.
8. The Department has not considered all of the consequential effects of an implementation of the proposed rules. If these rules are implemented, available technologies, aside from out-of-state, deep well injection, will involve the drying of the liquids and concentrates, producing large quantities of treatment residuals (dried salt cake and industrial sludges) that have no really good outlet (potentially due to heavy metals and radiological concentrations). More than likely, these wastes will go to landfills, thereby shortening the life of existing landfills, and quite likely resulting in triggers of radiological levels that would either eliminate, or greatly limit the quantity of solid waste that could be disposed in the subject landfills. In short, there is a high likelihood that Pennsylvania landfills would not have adequate capacity to handle these new waste streams due to these factors. In short, the Department has not adequately considered the quantities and chemical characteristics of these treatment residuals and has not considered how and where these treatment residuals will be managed. It would not appear that the Department's own Waste Management Program has weighed in on the matter of treatment residuals management.

Thank you for taking the time to consider these comments and for your service to the Commonwealth, its citizens and its businesses, as you evaluate the merits of proposed rules such as the proposed Chapter 95 revisions. Certainly, the Department has the best of intentions with respect to the steps that it is taking to ensure the protection of the water quality of our streams and rivers. And, please be assured that our business is committed to serving the natural gas industry in a manner that maintains 100% compliance with applicable environmental regulations and the protections of the environment accorded to all Pennsylvanians under the Pennsylvania Constitution. Our company's name says it all: Keystone Clearwater – that is our business – producing "clearwater" from wastewater that the industry can re-use or that we can discharge, appropriately, under the provisions of existing standards.

We are committed to working with both the Department and the industry to assure the environmentally sound and sustainable growth of the Marcellus Shale play, for the great benefit of the citizens of the Commonwealth. Fortunately, the regulations and guidance documents that currently exist are more than adequate to enable the Department to meet its public policy and public health and ecological protection duties. As such, there is simply no need for the proposed revisions to Chapter 95. For this reason, we respectfully ask that the IRRC consider an action that seeks the Department's withdrawal of the proposed Chapter 95 revisions, with the Department continuing to rely upon the provisions of existing laws, regulations, and guidance, as cited herein.



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June 9, 2010

Again, thank you for your thorough consideration of these comments.

Sincerely,



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