

2/28/2011

Ms. Carol Collier
Delaware River Basin Commission
P.O. Box 7360
West Trenton, New Jersey 08628

*Re: Proposed Regulations of Natural Gas Hydraulic Fracturing and
Associated Activities*

Dear Ms. Collier,

Please find enclosed comments by the Croton Watershed Clean Water Coalition, Inc. (CWCWC) on the proposed regulations of the DRBC regarding drilling for natural gas by hydraulic fracturing (fracking).

CWCWC is a not-for-profit coalition of over 50 groups - community, environmental, housing and religious throughout New York City, Westchester and Putnam Counties. Our purpose is to protect and enhance the uniquely high-quality sources of drinking water both East and West of Hudson. We are concerned that the proposed regulations by the DRBC are not adequate to protect the drinking water sources on which NYC and most of Westchester and parts of Putnam County depend.

We have analyzed the proposed DRBC regulations and include our comments in the attachment. Please note that our comments on specific items in the regulations are in *italics*.

Sincerely,

Marian H. Rose, Ph.D.
Director

**Comments on
NATURAL GAS DEVELOPMENT REGULATIONS
December 9, 2010
Article 7 of Part III - Basin Regulations**

Section 7.1 Purpose, Authority, Scope and Relationship to other Requirements and Rules.

(a) Purpose.

The purpose of this Article is to protect the water resources of the Delaware River Basin during the construction and operation of natural gas development projects. To effectuate this purpose, this Section establishes standards, requirements, conditions and restrictions to prevent, reduce or mitigate depletion and degradation of surface and groundwater resources and to promote sound practices of watershed management including control of runoff and erosion.

The Delaware River Basin supplies over 15 million people with their drinking water. It would be difficult to over-state the vital importance of this source of water and the over-riding necessity to protect and enhance water quality. Hydrofracturing ("fracking"), whether vertical or horizontal, has a highly questionable track record. Unbelievably, there is no prior requirement for water wells within the range of possible pollution by fracking to be tested prior to any fracking, so the burden of proof lies with the owners of those wells. The gas drilling companies have consistently denied responsibility for well pollution although some have provided well-owners with clean water, Dimock, PA. is one such example where Cabot has provided homeowners with clean water.

The above Purpose, in our opinion, is a statement that would allow fracking to pollute surface and groundwater provided the drilling company "reduce or mitigate depletion and degradation of surface and groundwater resources". These requirements are extremely vague and would not prevent pollution of this most valuable

resource. For all practical purposes, it would allow uncontrolled fracking in the Delaware River Basin.

(e) Planning Framework

The Commission concludes that management of natural gas development projects should promote use and development of the Basin's water resources in a sustainable manner and should be conducted pursuant to rules and regulations that avoid pollution of or injury to the water resources of the Basin.

The Commission should do more than "avoid pollution". It should "prohibit pollution" by requiring pre-drill water tests, complete disclosure of all chemicals used and severe penalties for violations.

(4)(i) Water withdrawal requirements that preserve river flows...and ensure adequate assimilative capacity for approved discharges.

Since the drilling companies are not required to reveal the components of their fracking fluids, what finally gets discharged into a stream cannot be fully known.

Neither can the assimilative capacity of a stream that depends, among others, on the components of the discharge. No well drilling permits should be issued until the full range of fracking fluids has been revealed.

(4)(iii) Natural Gas Development Plan requirements that foster protection of water resources through broad scale, rather than limited site-by-site decision making, with due consideration of environmentally sensitive landscapes;

Each site is different and should be evaluated on a site specific basis rather than on a generic basis in addition to the effects of aquifer-scale evaluation.

Section 7.3 Administration

(e) Duration of an Approval

(1)...(3)

Given the massive water withdrawals needed for fracking, the massive underground explosions (up to 15,000 psi) required for opening up the shale fissures, and the wear and tear on the well structures and other equipment, it is our opinion that new approvals should be required after 5 years.

(4)

Rules governing exploratory wells should be the same as those governing production wells, since exploratory (test) wells may be converted to production wells.

(i) Public Notice Procedure

(1) [t]he project sponsor must notify...each adjacent property owner within 2,000 feet of the well pad of such application.

In addition to notification, each property owner should be given access to all materials relevant to the project and be invited to participate in its development. Also, each property owner's well within a distance of one mile from the fracking pad should be tested, prior to the initiation of any fracking, for all ingredients that are components of the fracking fluid.

Section 7.4 Water Sources for Uses Related to Natural Gas Well Development

(b) Preliminary Determinations

(1) Substantial effect. Due to advances in horizontal drilling and hydraulic fracturing technologies, thousands of natural gas development projects are expected to be proposed for the Delaware River Basin...

(2) Rules of Practice and Procedure (RPP) thresholds not applicable. Natural gas well development within the Delaware River Basin will encompass thousands of drilling sites, many of them proximate to headwater streams....

The DRBC must realize that this predicted intense development will ruin remaining forests, streams and farmland in the Delaware River Basin. In particular, forests are well known for being the best providers of clean water (NYC's watershed is 75% forested which is the main reason that the water it provides for 9 million people is still unfiltered). Headwater streams provide flood control and areas for wildlife habitat. The intense use of well pads that will harden those surfaces and contaminate them with discharges from the voluminous truck traffic, for example, will render them useless for agricultural purposes.

(c) Conditions.

(1) Water sources for natural gas projects. Based upon the preliminary determinations set forth in the preceding Section 7.4(b), no water may be used for natural gas well development activities within the Delaware River Basin except from sources that have been approved by the Commission for such uses in accordance with this Section 7.4.

If a municipality objects to having water withdrawn from its streams or aquifers for purposes of fracking, does the Commission have the power to overrule such objections? Municipalities should have the right to control their own water resources and not be

forced to accede to their depletion for purposes outside their borders.

There are additional reasons why municipalities, in particular, and residents of the Delaware River Basin, in general, should have the right to participate and be heard on this question of water withdrawals. One overriding reason is that the heavily contaminated fracking water, both flowback and production sources, is forever lost for any human consumption or use. Water is a vital and finite resource. Residents in the DRB, at the very least, should have a right to determine how they want their water resources to be used.

(d) Approval by Rule of previously approved sources to supply water for natural gas development.

The same remarks apply as in the preceding section. There should be full public participation regarding the use of their water resources.

(g) Use of recovered flowback and production water.

(3) Storage of recovered flowback and production water. The storage of recovered flowback and production water must be in accordance with Section 7.5 (h)(2)(iv).

Because of the difficulties in disposing of flowback/production water (there are no facilities in NYS and PA that can treat such waters; difficulties in finding suitable landfills for the highly radioactive materials that are components of the production water of NYS's Marcellus shale), several companies have now found it more convenient not to recover these highly toxic waters but, in preference, leave them underground. This can be as high as 80% of the original fracking fluid. As tens of millions of gallons of this toxic waste accumulate underground, the obvious question is what will happen over a period of time - one year, five years? Will the

fluid eventually migrate through the fractures created by the fracking process and migrate into the aquifer? Underground storage should only be approved if the drilling company can prove that no fracking fluid will ever reach the aquifer.

Section 7.5 Well pads for Natural Gas Activities

(b) Administration

(4) Setbacks. All natural gas well pad sites must adhere to the following minimum setback requirements:

(vii) Water supply reservoir 500 ft

The setback to reservoirs should be determined by the host state and not by an arbitrary ruling by the Commission. NYC reservoirs that supply 9 million people with unfiltered water clearly need a much larger setback than 500 feet for adequate protection from fracking operations.

(e) Approval by Rule (ABR)

(7) For exploratory and low volume hydraulically fractured well pads a project sponsor must have a state issued approval for well construction and operation.

The regulations for exploratory and low volume hydraulically fractured well pads should be no different than those for production well pads. The former are frequently transformed into production units and should receive the same scrutiny.

(h) Well Pad Requirements

(2) Additional Requirements for All Well Pads involving High Volume Hydraulically Fractured Wells.

(i) Groundwater and Surface Water Monitoring

(A)(1) The pre-alteration report must include an inventory and the mapped locations of any artificial penetrations including groundwater wells within 2,000 feet of the project well pad. The report must also include the results of groundwater sampling and laboratory analysis of a representative number of groundwater wells within 1,000 feet of the well pad.

High volume hydraulic fracturing refers to fracturing that requires more than 80,000 gallons per frack, the maximum amount required for vertical drilling. However, it was vertical drilling that contaminated the wells in Dimock, PA. Consequently, vertical drilling should be included in any reports of groundwater sampling and well monitoring.

We urge that all wells within a minimum distance of one mile of the well pad be tested prior to any fracking. The test must include all chemicals that are proposed to be used by the drilling company. Should well contamination ensue as a result of drilling, the burden of proof should be on the drilling company, not on the victims of contamination.

As new wells get fracked, well testing should continue on an annual basis.

(ii) Hydraulic Fracturing

(A) Prior to the initiation of hydraulic fracturing of the gas well where flowback reuse is not planned, the project sponsor must submit to the Commission's Executive Director written verification that the wastewater treatment and disposal facilities have all applicable approvals from the host state and DRBC, if located in the Delaware River Basin...

The production wastewater from NYS's portion of the Marcellus Shale contains unusually high levels of Radium 228 and Radium 226, both decay products of uranium 238. In particular, Radium 226 is extremely toxic, even fatal, if inhaled or ingested. Special

disposal methods for these toxic by-products should be worked out in detail by the DRBC. So far, it appears that these radioactive wastes are accepted at some landfills, rather than being safely disposed of.

Conclusion

The DRBC is proposing a long and intricate list of regulations that an applicant for well-drilling in the DRB has to comply with. Does the Commission have the manpower to fully investigate each application and then make sure that the various regulations are complied with over the subsequent years? If not, the result will be little or no enforcement of the regulations, and serious degradation of the drinking water for 15 million people.

The DRBC should do a quantitative analysis of the cumulative impact on water quality if all the applications for drilling in the DRB were permitted. What would be the costs of upgrading filtration plants, and what would be the multiple costs to the ratepayers?

As trustee of the Delaware River Basin, the Commission has the right to limit practices under its jurisdiction that could be harmful to water quality and to the health of the 15 million people who depend on that water.

CWCWC urges the DRBC to exercise that right to the fullest, even if it means banning fracking in the Delaware River Basin.