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March 30,2018

Delaware River Basin Commissioners
Delaware River Basin Commission
25 Cosey Road
P.O. Box 7360
West Trenton, NJ 08628-0360
<http://dockets.drbc.commentinput.com/>

RE: Administrative Manual and Special Regulations Regarding Natural Gas Development Activities;
Additional Clarifying Amendments

Commissioners:

The Responsible Drilling Alliance (hereafter referred to as RDA), a 501(c)(3) education and advocacy coalition based in Lycoming County on the west branch of the Susquehanna River, appreciates the opportunity to submit the following comments on the Commission's revised hydraulic fracturing regulations.

As high volume hydraulic fracturing (HVHF) of shale gas wells began in our region in 2007, we at RDA have had 11 years to live with the consequences of shale gas development. Never given the opportunity for comment and public debate prior to the onset of the development in the Susquehanna River Basin, we applaud the DRBC for the thoughtful and measured way you have gone about this process and offer our firm support for the prohibition of high volume hydraulic fracturing in shale and other rock formations within the Delaware River Basin.

The transformation of two-thirds of Lycoming County's once-80%-forested acreage overlying the Marcellus and other gas bearing formations into a dispersed industrial zone is the loss that we at RDA most grieve.

Our home county is particularly instructive on issues surrounding forest fragmentation, flooding threats from the additional volume of impervious surfaces that were previously forested, and the constant onslaught of accidents, human error, deliberate illegal actions and equipment failure that come with this development with statistical regularity. This list of challenges repeatedly degrades

our present-day considerable water resources, and also carries an unknown risk of potential long-term consequences to come. In addition, the present situation impacts the quality of life for so many who are not benefiting economically. Many residents have seen a diminution of property values along with an onslaught of problems with noise, traffic, peace of mind, and the enjoyment of their property.

The free-flowing Delaware River is important to us in no small part due to much of your work. The Special Protection Waters anti-degradation regulations are something we envy and many of us enjoy. It makes no sense to allow shale gas development in all 3 of the major river basins in the Commonwealth. We are grateful for your vigilance and foresight in holding off a development that would only benefit a few and is in no way necessary for natural gas supply, production, market efficiency or national security. Nor will any of those “justifications” prove necessary for a long time to come, perhaps never.

The uncertainty we live with regarding the long-term effects of such concentrated underground disturbance and the pervasiveness of the full build-out of the above ground facilities and appurtenances for shale gas extraction and distribution cannot be stressed enough, let alone the long-term issues around both solid and liquid gas industry waste. We appreciated the language in the draft that acknowledges the issues we are already seeing, particularly:

...off-site facilities such as gathering lines involve additional disturbances. These landscape changes will reduce forested areas and potentially vegetated buffers, increase non-point source pollution, diminish groundwater infiltration, and risk adversely affecting water quality and quantity in surface and groundwater.

As Lycoming County was particularly targeted with leasing of Commonwealth of Pennsylvania tracts early on in the development, landscape changes are especially evident in a number of developed tracts in the Tiadaghton State Forest and two in the western Loyalsock State Forest tracts. Best comprehended from above, these areas, plus other “sweet spots” of concentrated development in the county, give a much better idea of the end game. This industrialization is not yet as evident when looking at a county-wide view, as much of the development at this time is more dispersed over less productive areas, mainly in order to tie up leases. As sweet-spot productivity diminishes and NG usage and prices rise, the number of lesser productive wells that may be drilled in order to fulfill contract obligations and meet export demands bodes even worse for our region.

Huge impoundment ponds, metering stations, compressor stations, pig launchers; the industry’s self-described “spaghetti pattern” of gathering lines, permanent underground and temporary on the ground “water” distribution lines; on-site well pad partial flowback treatment operations, gas processing via dehydrators and separators and methanol injection ports; staging areas; and the huge appetite for well field service facilities throughout the county, all are evidence of additional disturbances. It is also critical to note the fleeting nature of the economic activities that come with great hype and prove to disappear quickly, leaving a degraded forest, numerous messes cleaned up on the surface and long-term uncertainties below. History teaches that boom/bust is not a theory, it is a very real phenomenon common to fossil fuel extraction

A recent example of degradation and the challenges posed by gas extraction occurred in the fall of 2017. On November 13th, a transfer of partially treated flowback on a well pad “overtopped” a receiving tank. The operator, the repeatedly incompetent (an adjective earned via the number of previous violations) Inflection Energy, “spilled” an estimated 63,000 gallons of flowback onto the pad, which subsequently ran off into a nearby small stream. Pronouncements were made by the PA DEP that “no public water supplies were affected”. This was laughable news, as the nearest intake for a public water supply is at least 8 miles away. As the PA DEP does not regulate private water wells, where does such an irrelevant response leave an entire neighborhood of residents living close to the spill, all of whom are on private well water? Who has a clear understanding of Pennsylvania’s hydrology, let alone the migration of undisclosed chemicals and compounds? Uncertainties abound.

As we understand it, *Section 440.5 Produced Water*, while laudably discouraging the importation of toxic fracking wastewater into the Basin for purposes of storage, treatment, disposal and/or discharge, does not prohibit it. RDA believes the importation of gas industry waste or recyclable fluids for any purpose into the basin should be strictly prohibited. Allowing these fluids into the basin would not only be imprudent, but would also negate the benefit of having an HVHF-free Delaware River basin for purposes of comparative research. The transportation of these fluids has proven problematic over and over again in our region. We have seen numerous on-road accidents resulting in valves sheered off, spilling entire contents of tanks on the ground or in waterways. Tank releases on well pads are well documented. Waste fluids come in for treatment and both solid waste and higher concentrations of toxic liquids need to go back out for disposal in approved facilities.

With HVHF in the Delaware basin, more landfills for radioactive solid waste, in the Delaware River basin, or other locations, will need to be approved and eventually leave future generations with clean up. Either injection well sites must be approved in the region, or concentrated liquid wastes will need to go back out of the basin to become some other region’s future problem. What happens if other states such as Ohio decide they no longer want toxic fluids piped through aquifers and stored under the water wells and homes of their citizens?

As we understand it, *Section 440.4, Exportation of water for hydraulic fracturing*, discourages, but allows, the exportation of water from the Basin to support hydraulic fracturing elsewhere. Again RDA supports a companion ban of this activity. First, it opens up the basin to significant tank truck traffic with tanks that can alternately be used for “fresh” water of varying specifics (partially treated flowback for one), or for hauling untreated flowback in areas where that activity is approved. Secondly, there is no practical end to the amount of water the gas industry needs to drill and hydraulically fracture horizontal gas wells. Once they are in the basin and authorized for this permitted activity, watch out.

In addition, it appears to RDA the proposed regulations do not apply to interstate pipelines or compressor stations. This may be a practical limitation the Commission does not see a way around. However, RDA would like to note, as rationale for opposing these NG appurtenances, that it appears there is not compliance throughout the basin with a federal statutory requirement under the 1994 Pipeline Safety Act to conduct risk assessment, public awareness programs and emergency planning

training for all new and existing pipelines.

Finally, we find it absurd that gas industry PR representatives and local PA politicians representing large landowners' primary objection to the prohibition on HVHF in the basin is a "takings" argument. Besides the established fact that it is within the Commission's right to prohibit harmful activities, there is no taking occurring. The gas is still under the surface holdings. The gas still belongs to the landowners. It is a specific, and proven-to-be-problematic extraction technique that is prohibited.

Stay the course; we appreciate your efforts to do so.

Thank You,

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