From: noreply@smartcomment.com
Subject: Proposed Draft Regulations Addressing Hydraulic Fracturing and Additional Clarifying Amendments comment
Date: March 28, 2018 at 9:28:17 PM EDT
To: dcs@DamascusCitizens.org

Thank you for your comments on the Proposed Draft Regulations Addressing Hydraulic Fracturing and Additional Clarifying Amendments. Your comments have been received.

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Proposed Draft Regulations Addressing Hydraulic Fracturing and Additional Clarifying Amendments

Oil gas drilling BRINE and CWT wastes and radioactivity that is not removed by the CWT

Upload of Volz Congressional testimony and Vengosh, Jackson followup and DCS 2011 Rubin report on the use (actually disposal) of drilling wastes on roads. AND Radioactivity in stream sediment paper, media and the papers published in 2012 and 2018.

The Volz and the Vengosh,Jackson papers both prove the existence of high concentration plumes of toxic materials from discharge from a Centralized Waste Treatment plant that was taking in liquid Marcellus drilling wastes for "treatment." The existence of elevated concentration plumes and the minimal nature of relatively unsupervised 'treatment' are both reasons why wastes from oil and gas drilling should not be allowed to be imported into the Delaware River Basin.

The plumes will impact fisheries, wildlife, humans swimming in the River and anyone or any community whose drinking water uptake is touched by a plume. There is not wholesale instantaneous mixing and 'dilution is the solution' does not apply for highly toxic or endocrine disrupting chemicals.

The DRBC should not allow import of these wastes nor import of the outputs from facilities treating these wastes.

Besides truck accidents, there would also be illegal dumping of these materials in the Basin. There are toxic contaminants in these wastes, the impacts of which are described in the Rubin report. This report was prepared as a comment when in 2011, PA was pushing to allow statewide dumping on roads of oil and gas liquid drilling wastes, the state was calling "BRINE." That proposed PA statewide permit to dump was withdrawn as we hope the DRBC will withdraw the current proposal to import similar wastes.

There is a lot of radioactivity in these wastes. We are submitting the attached article from Environmental Science & Technology by Nathaniel Warner, et al. concerning levels of radium in river sediments downstream from the effluent discharge points of wastewater treatment facilities treating flowback and produced waters from HVHF wells completed in the Marcellus shale. This study documents radium levels in the downstream sediment approximately 200 times the upstream or "background" radium levels and greater than allowed radioactive waste disposal thresholds. The authors say, "The treatment facility "is supposed to prevent contamination of the environment, and I don't think it does."and that "The treatment facility was adding water to the stream containing about 200,000 mg of salt per liter as well as metals and radioactive elements. In comparison, seawater has about 35,000 mg of salt per liter.The vast excess of salt has created a dead zone stretching 500 meters downstream, Vengosh said." There have been later papers verifying the high radioactivity in stream sediment - Jan, 2018 Dr. Vengosh says, "Despite the fact that conventional oil and gas wastewater is treated to reduce its radium content, we still found high levels of radioactive build-up in the stream sediments we sampled," Vengosh said. "Radium is attached to these sediments, and over time even a small amount of radium being discharged into a stream accumulates to generate high radioactivity in the stream sediments."

The Jan, 2018 follow-up paper (on page 11) says, "At all three investigated sites, we consistently find elevated Ra activities in stream sediments collected near effluent pipes at the outfall sites (226Ra = 57-14,949 Bq/kg; n= 26) compared to upstream sediments (226Ra = 9-41 Bq/kg; n=18) (Figure 2). andBecause Ra is significantly higher in sediments from disposal sites compared to sediments from upstream sites (up to ~650

times compared to the average 226Ra background activity at the Franklin Facility), combined with direct evidence for water contamination from OGW effluents in the stream water,20, 41 we suggest that the CWT facility discharges are the source for the elevated Ra in the impacted stream sediments. "Paper is attachedWhy we ask, would the DRBC want to import this waste to dispose of it in the Delaware River, whether it is pre or post treatment at a CWT? The evidence is clear, we implore the Basin Commission to reject allowing, even as a possibility, the disposal in the Delaware River Basin of oil gas drilling wastes either with or without 'treatment' by Centralized Waste Treatment plants.

Attachment(s):
Warner Radium Wastewater paper 2013.pdf
HydroQuest Brine Dispersal Letter 11-15.pdf
acs.est.7b04952 Vengosh brine radioacti.pdf
Volz-Josephine small.pdf
Vengosh warner Jackson media 2012 .pdf