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SOUTHWEST PENNSYLVANIA ENVIRONMENTAL HEALTH PROJECT

www.environmentalhealthproject.org

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Environmental Quality Board Members:

My name is Raina Rippel, and I serve as the director of the Southwest Pennsylvania Environmental Health Project. On behalf of our team of researchers, public health experts, scientists, and community organizing professionals, I am pleased to present the following testimony regarding public health concerns associated with proposed regulations for oil and gas surface activities (Amendments to 25 PA Code Chapter 78, Subchapter C). I would like to acknowledge and thank my colleagues, Jill Kriesky and Ryan Grode, for helping to prepare this testimony.

The Southwest Pennsylvania Environmental Health Project (EHP) was established to respond to individuals' and communities' need for access to accurate, timely and trusted public health information and health services associated with natural gas extraction. Our office is located in Washington County, and we primarily serve community members in this area.

We have completed a thorough review of sections directly or indirectly related to public health impacts and concerns as noted in the Independent Regulatory Review Commission's Regulatory Analysis Form (ID# 7-484). As a result of that review, we note the following specific concerns:

1. Language in various sections appears directly contradictory to proposed regulations in other sections.

From a layperson's perspective, there are apparently contradictory regulations which have implications for public health impacts, from both long-term and acute perspectives. An example of this is the statement on pg. 4 that "proposed regulations would prohibit the use of underground storage tanks because these storage structures are more susceptible to corrosion and are not able to be inspected by the department or the operator properly."

This apparently contradicts language in the "Containment" section on pages 6-7, which asserts that "the proposed rule which allows buried tanks be used if they are approved by DEP." One need only to remember the experience with Methyl Tertiary Butyl Ether (MTBE) leaking into groundwater in various locations in the U.S. in the 1990s as a primary example of why use of underground storage tanks has public health implications.

Insofar as EHP recommends consistency in regulations that are fully health protective, both immediately and for long-term population health, we recommend deletion of the language under "Containment" on pages 6-7.

Residents have reported breathing difficulties and skin rashes occurring when such practices are used in close proximity to their houses;

6. Prohibit the land application of topsoil water, pit water, fill, or dredged materials. In particular, public health concerns are associated with the industry practice of burying on-site waste pits. The potential for toxic chemicals to leak from the burial sites into the ground water present potential problems for the health of current and future residents.

The primary concerns of the families we work with relate to how the entire fracking process – from exploration to fracking to condensing and shipment through pipelines – is impacting air, water, and soil. We know that if these exposure routes to humans are contaminated, then so is our health. Researchers who have examined the composition of fracking fluids and the mixtures that come back to the surface as flowback report cause for concern. Likewise, scientists who have measured air quality in close proximity to gas well pads have concluded that exposure risks are elevated. Some chemicals identified in air and water -- benzene, arsenic, and naturally-occurring radioactive materials – are known to cause cancer and other illnesses in humans if they are exposed to them in large enough doses over time.

Scientists don't yet have all the information necessary to definitively link worker and residents' exposures to chemicals to impacts on human health. However, we do know that Commonwealth residents living near some drilling sites are experiencing illnesses that they didn't have prior to the arrival of the shale gas industry in their communities.

We also know that health care providers in the region who are trying to diagnose and treat the rashes, gastrointestinal problems, muscle and joint aches, and other symptoms that patients present are sometimes at a loss to understand the underlying causes. Without comprehensive air, water, and soil data collected by the Pennsylvania Department of Environmental Protection (DEP), health care providers cannot take into consideration the impact of the drilling on patient health. If this information might help a health care provider offer a more accurate diagnosis or course of treatment, it must be provided.

Using federal or state regulatory action limits to police the industry has proven to be less than health protective in our opinion, and does not adequately account for acute or even chronic exposures from one-time or ongoing releases, spills, or accidents. If the DEP were instead to adopt a guiding philosophy of exposure monitoring and reduction, many of the probable and/or worst health impacts might be avoided or minimized.

The DEP has a mandate to monitor and regulate the gas extraction process. It has the skills and ability to collect information required by law, and beyond what any community-based organization can currently provide. But if the DEP does not step up to its responsibility, residents who believe their health is being compromised will find allies to pursue the scientific and political means necessary to protect themselves and their families.

Respectfully,

Raina Rippel, Director
Jill Kriesky, Associate Director
Ryan Grode, Environmental Health Educator

Robert Donnan, 107 Southview Court, McMurray, PA 15317

Panel: Please keep speakers on topic tonight. At the Pa DEP's Smith Compressor Station hearing in Burgettstown last year, the night was filled with rhetoric and hoopla that had no relation to the topic at hand.

>> "Modernize the regulatory program"

Move the DEP into the 21st century by creating all documents in PDF format and posting them online. Convert archived paper documents into PDF's to save us all time. Be more transparent and representative of the citizens of Pennsylvania instead of industry.

>> "Practices to prevent spills and releases"

Require tracers to be used in all frac fluid so that water contamination sources can be easily and readily identified, saving extensive lab expenses and legal fees. Provide full water test results to concerned parties and the public.

>> "Ensure the protection of public health, safety, and the environment"

Add provisions for controlling the clouds of deadly silica dust that seem to billow from every frac job. Worker safety is of the utmost concern here.

>> "Protect public resources to minimize impacts"

Do you remember Dunkard Creek with the decimation of over 20,000 fish and a unique mussel population. Regulations need to be added to prevent the further spread of Golden Algae and you need to better enforce random withdrawals from any stream.

Put an end to all drilling wastewater dumping into drinking water sources. Tell don't ask.

Air pollution knows no boundaries, crossing state and county lines from multiple sites. Aggregate air pollution sources when doing any further permitting.

Well site restoration reports must include often omitted acreage details, since our county tax office has had extreme difficulty removing Clean & Green classifications from many of these industrial well sites, some unchanged for as many as five years.

Ensure that all gathering pipelines are included in the ONE CALL 811 system to avoid future deadly accidents during excavation work.

Further address bentonite spill prevention since they are such a common occurrence.

Regulate and enforce better placarding of tanker trucks for emergency responders and the public, far beyond the typical non-descriptive "Residual Waste" placard.

Ban the burying of 'toxic teabags' on well pads and require all drilling waste to be removed and properly disposed of.

The term 'freshwater' is confusing and needs to be better defined and classified.

Temporary fluid pipelines need much better regulation and inspection since sensitive watersheds in our county have been subjected to repeated spills and fish kills with tens of thousands of gallons in some incidents.

Increase fines to more appropriately fit the crimes when they occur. This will work as a great deterrent as well.

Road spreading of brine: Don't allow even low levels of Barium, Lead and BTEXs to be applied to roads since storm drains and culverts lead directly to streams.

Increase well bonding amounts from \$2,500 per well to \$250,000 per well and ensure that these bonds also work to prevent orphaned wells with no one left responsible for plugging them.

78.56. [Pits and tanks for t]Temporary [containment] storage.

(7) The operator of an unconventional well site shall display a sign on or near the tank or other approved storage structure identifying the contents, and containing an appropriate warning of the contents such as flammable, corrosive or a similar warning.

Shouldn't the trucks that transport fluids from these tanks have to bear the same identification plaques?

(d) [Unless a permit under The Clean Streams Law (35 P. S. §§ 691.1—691.1001) or approval under § 78.57 or § 78.58 (relating to control, storage and disposal of production fluids; and existing pits used for the control, storage and disposal of production fluids) has been obtained for the pit,] [t]The owner or operator shall remove or fill the pit within 9 months after completion of drilling, or in accordance with the extension granted by the Department under section [206(g)] 3216(g) of the act [(58 P. S. § 601.206(g))] (58 Pa.C.S. 3216(g)) and § 78.65(d). Pits used during servicing, plugging and recompleting the well shall be removed or filled within 90 calendar days of construction.

Shouldn't operators be required to remove all the waste from drilling sites instead of leaving these 'toxic teabags' scattered across the state?

***Freshwater impoundment*—A facility that meets the following:**

- (1) is not regulated pursuant to 25 Pa. Code Chapter 105.3,**
- (2) a natural topographic depression, manmade excavation or diked area formed primarily of earthen materials although lined with synthetic materials,**
- (3) designed to hold fluids, including surface water, groundwater, and other Department approved sources,**
- (4) constructed for the purpose of servicing multiple well sites.**

Table 1

Fluid Height (ft)	Allowable Leakage Rate (gallons/acre/day)
$h \leq 10$	340
$10 < h \leq 15$	420
$15 < h \leq 20$	490
$20 < h \leq 25$	550
$25 < h \leq 30$	610
$h > 30$	case by case

The term 'freshwater' needs further definition since it is confusing and can be misconstrued to mean clean water from a stream or lake.

78.68b. Temporary pipelines for oil and gas operations.

(a) Temporary pipelines shall meet applicable requirements in 25 Pa. Code Chapters 102 (relating to erosion and sediment control) and Chapter 105 (relating to dam safety and waterway management).

(b) Temporary pipelines that transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, shall be installed aboveground except when crossing pathways, roads or railways where the pipeline may be installed below ground surface.

(c) Temporary pipelines cannot be installed through existing stream culverts, storm drain pipes or under bridges without approval by the Department pursuant to § 105.151 (relating to permit application for construction or modification of culverts and bridges).

(d) The section of a temporary pipeline crossing over a watercourse or body of water, except wetlands, shall not have joints or couplings. Temporary pipeline crossings over wetlands shall utilize a single section of pipe to the extent practicable. Shut off valves shall be installed on both sides of the temporary crossing.

(e) In addition to the requirements of subsection (c), temporary pipelines used to transport fluids other than fresh ground water, surface water, water from water purveyors or approved sources, shall have shut off valves, check valves or other method of segmenting the pipeline placed at designated intervals, to be determined by the pipeline diameter, that prevent the discharge of no more than 1000 barrels of fluid. Elevation changes that would effectively limit flow in the event of a pipeline leak shall be taken into consideration when determining the placement of shut off valves and be considered effective flow barriers.

(f) Highly visible flagging shall be placed at regular intervals, no greater than 75 feet, along the entire length of the temporary pipeline.

(g) Temporary pipelines shall be pressure tested prior to being first placed into service and after the pipeline is moved or altered. A passing test is holding 125% of the anticipated

maximum pressure for two hours. Leaks or other defects discovered during pressure testing shall be repaired prior to use.

(h) Water used for hydrostatic pressure testing shall be discharged in a manner that does not result in a discharge to waters of the Commonwealth unless approved by the Department.

(i) Temporary pipelines shall be inspected prior to and during each use. Inspection dates and any defects and repairs to the temporary pipeline shall be documented and made available to the Department upon request.

(j) Temporary pipelines not in use for more than 7 calendar days shall be emptied and depressurized.

(k) Flammable materials shall not be transported through a temporary pipeline.

(l) Temporary pipelines must be removed in accordance with the required restoration timeline of the well site it serviced under section § 78.65.

(m) An operator must keep records regarding the location of all temporary pipelines, the type of fluids transported through those pipelines, and the approximate period of time that the pipeline was installed. Such records must be made available to the Department upon request.

These need to be more tightly regulated and inspected due to their past history in Washington County.

78.69. Water management plans.

(a) *WMPs for unconventional well operators.* An unconventional well operator shall obtain a Department approved WMP pursuant to section 3211 (m) of the act (58 Pa. C.S. § 3211(m)) prior to withdrawal or use of water sources for drilling or completing an unconventional well.

There needs to be better enforcement of random water withdrawals from any stream with water.

78.70. Road-spreading of brine for dust control and road stabilization.

(a) Road-spreading of brine from oil and gas wells for dust suppression and road stabilization shall only be conducted pursuant to a plan approved by the Department and shall not result in pollution of the waters of the Commonwealth. Only production brines from conventional wells, not including coalbed methane wells, may be used for dust suppression and road stabilization pursuant to this section. The use of drilling, hydraulic fracture stimulation flowback, plugging fluids, or production brines mixed with well servicing or treatment fluids, except detergents, may not be used for dust suppression and road stabilization.

(b) Road-spreading of brine for dust control and road stabilization shall only be conducted on unpaved roads.

How do you apply brine to roadways without "pollution of the waters of the Commonwealth?"

(f) **Application rates:** The road shall initially be spread at a rate up to one-half gallon per square yard. The road shall subsequently be spread at a rate of up to one-third gallon per square yard. The application rate for race tracks and mining haul roads should be determined for each site and shall not exceed one gallon per square yard.

That allows 6,400 gallons (or 1-1/2 tanker loads) for an area the size of a football field playing surface!

(h) Trucks utilized to spread brine shall have signs identifying plan applicant's name and business address on both sides of the vehicle. The signs shall have lettering that is at least six inches in height.

These trucks need to have placards with more than just 'Residual Waste' displayed.

78.70a Pre-wetting, anti-icing and de-icing.

(a) Use of brine from oil and gas wells for pre-wetting, anti-icing and de-icing shall only be conducted pursuant to a plan approved by the Department and shall not result in pollution of the waters of the Commonwealth.

<u>Allowable Level</u> <u>Pre-wetting</u>	<u>Parameter</u>	<u>Allowable Level</u> <u>Anti-icing/De-icing</u>
>170,000 mg/l	TDS	>170,000 mg/l
>80,000 mg/l	Chloride	>80,000 mg/l
>40,000 mg/l	Sodium	>40,000 mg/l
>20,000 mg/l	Calcium	>20,000 mg/l
5 to 9.5	pH	5 to 9.5
<500 mg/l	Iron	<500 mg/l
<100 mg/l	Barium	<30 mg/l
<10 mg/l	Lead	<5 mg/l
<1,000 mg/l	Sulfate	<400 mg/l
<15 mg/l	Oil & Grease	<15 mg/l
<0.5 mg/l	Benzene	<0.5 mg/l
<0.7 mg/l	Ethylbenzene	<0.7 mg/l
<1 mg/l	Toluene	<1 mg/l
<1 mg/l	Xylene	<1 mg/l

Why allow even low levels of Barium, Lead and BTEX to be applied to roads?

(j) Brine shall not enter bodies of water or water courses.

How will that be prevented with most road drains and culverts leading directly to streams?

78.303. Form, terms and conditions of the bond.

[(e) The bond amounts required under section [215] 3225 of the act are as follows:

- (1) Two thousand five hundred dollars for a single well.
- (2) Twenty-five thousand dollars for a blanket bond.]

These bond amounts are so low they are ridiculous. Should be more like \$250,000 per well.