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Testimony for Pennsylvania Democratic Policy Hearing
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Thank you for inviting me to testify before you today regarding legislation to remove exemptions for oil and gas waste in the Commonwealth. I and my cohort at Public Herald, Josh Pribanic, have documented the impacts from exempt oil and gas wastes for over ten years, and though we have a great amount of evidence to share, I'd also like to share an origin story of the exemptions for oil and gas waste, when they were first enacted. When proposing solutions to a systemic problem, in this case the categorical removal of oil and gas waste from protective laws, it's important to understand how that problem began.

Oil and Gas Waste Is A Hazard

As a researcher and analyst, I've found that a common factor in the environmental harm and injustice surrounding the oil and gas industry is its toxic waste. Oil and gas waste streams, whether solid or liquid, natural or manmade, contain heavy metals, drilling and fracking chemicals, hydrocarbons, and radioactive materials. Some of these materials are considered hazardous; others are known to cause cancer.

The industry produces massive volumes of waste products, including drill cuttings, sludge, and liquid wastewater called brine or produced water, even after a well is no longer economically viable. Liquid waste is particularly problematic, as it continues to erode and leak out of plugged and abandoned wells, hundreds of thousands of which exist in Pennsylvania.

Current law allows for the redistribution of the true costs of industry's toxic waste substances away from oil and gas sites and into communities, watersheds, and drinking water supplies across Pennsylvania – and other states as well. But how? Why is this occurring?

Oil and Gas Waste Is Exempt from Hazardous Waste Laws

In 1988, the United States Environmental Protection Agency exempted the oil and gas industry from federal hazardous waste law, despite finding that oil and gas wastes "contain a wide variety

of hazardous constituents."[1] Oil and gas states, including Pennsylvania, later mirrored this exemption in their own laws. New York is the only state that has removed this exemption, and only in the past couple of years.

The exemption from hazardous waste law has created a dangerous absence of 'cradle to grave' waste tracking from well site to disposal site, a lack of comprehensive analysis to determine how "hazardous" wastes actually are, the improper disposal of waste at municipal landfills and sewage treatment plants rather than hazardous waste facilities, the "beneficial use" of oil and gas waste without full and proper testing for things like road-spreading, and the injection of oil and gas wastewater into Class II disposal wells rather than the more stringently constructed and regulated Class I wells that are designed for hazardous material disposal.

But the origin of Pennsylvania's exemption for oil and gas waste goes back even further than the federal EPA exemption. It actually goes back to 1979, when an industry trade group, the Interstate Oil and Gas Compact Commission (IOGCC) began lobbying for a federal exemption from hazardous waste law.[2] The industry won, and this is the true origin of hazardous waste exemption in both the U.S. and Pennsylvania – it came from the industry itself.

Because of the exemption from hazardous waste laws, which are critical to protecting public health and the environment, two main problems exist: 1) there are no uniform legal requirements for handling hazards specific to the industry's waste, and 2) accountability is almost impossible. In Pennsylvania, this has led to many pollution problems, including the contamination of rivers with radioactive material from oil and gas waste, documented by a Duke University study in 2018.[3]

If not exempt from hazardous waste law, the radioactivity in Pennsylvania's oil and gas waste alone would qualify it under the federal definition of "hazardous". In order to be considered "hazardous" by the federal standard that applies to other industries, a material has to be one or more of the following: toxic, reactive, ignitable, and/or corrosive.[4] Levels of radioactive material found in Marcellus and Utica Shale oil and gas waste would qualify as toxic due to its ability to be absorbed by the human body and remain there, causing cancer and other disease.

If not exempt, oil and gas waste and its radioactive materials would be handled very differently. For example, instead of being trucked to municipal landfills, which often dispose of radium-laced leachate into Pennsylvania rivers through sewage treatment plants, oil and gas waste would be

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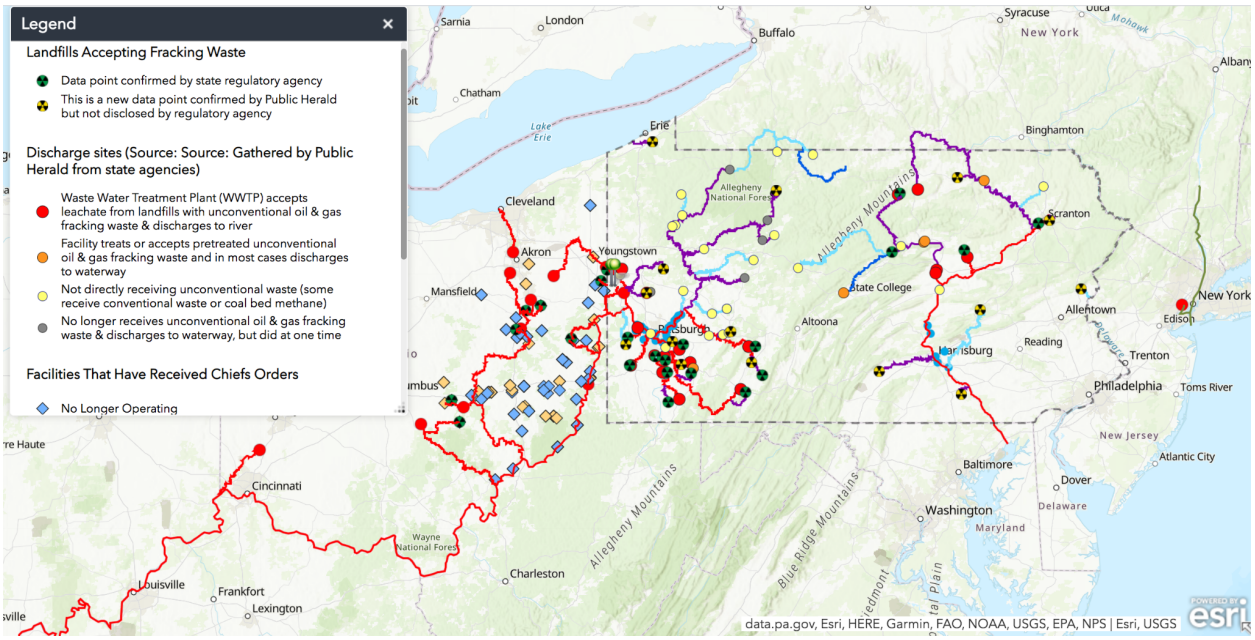
[1] EPA, Regulatory Determination for Oil and Gas and Geothermal Exploration, Development, and Production Wastes. 53 FR 25447, 1988.
[2] Steve Horn, "Documents: How IOGCC Created Loophole Ushering in Frackquakes and Allowing Methane Leakage." DeSmog Blog, April, 15, 2016.
[3] "Sources of Radium Accumulation in Stream Sediments Near Disposal Sites in Pennsylvania: Implications for Disposal of Conventional Oil and Gas Wastewater," N. Lauer, N. Warner, A. Vengosh, Environmental Science and Technology, Jan 4, 2018, DOI: 10.1021/acs.est.7b04952
[4] Hazardous Waste Characteristics, US EPA. October 2009. Pg. 5.

thoroughly tested, tracked, stored, transported, and disposed of according to hazardous waste standards, rather than the "residual waste" standards currently set forth in Pennsylvania law.



LEACHATE MAP: An August 2020 Public Herald investigation revealed the location of facilities currently and previously discharging fracking waste leachate, a selection of drinking water supplies located downstream of discharge facilities, and the likelihood of impact to waterways from these discharges. To use the interactive map, visit Public Herald.[5]

Oil and Gas Waste Is Radioactive

In 1982, the American Petroleum Institute found that "[a]lmost all materials of interest and use to the petroleum industry contain measurable quantities of radionuclides that reside finally in processing equipment, product streams, or waste. In addition, groundwater used for waterflood or brine solutions from operating wells contain biologically significant quantities of Radium 226 and Radon 222."[6]

The radioactive materials found in oil and gas waste originate underground where they occur naturally. Once they are changed by human or industrial activity, however, they are defined as Technologically Enhanced Naturally Occurring Radioactive Material (TENORM), meaning that the naturally occurring radioactive materials have been concentrated, altered, brought to the surface,

[5]Joshua Pribanic & Talia Wiener, "Pennsylvania Regulators Won't Say Where 66% of Landfill Leachate w/ Radioactive Material from Fracking Is Going." Public Herald. August 2, 2020.

[6] "An Analysis for the Impact of the Regulation of 'Radionuclides' as a Hazardous Air Pollutant on the Petroleum Industry," Prepared for the Committee for Environmental Biology and Community Health, Department of Medicine and Biology, American Petroleum Institute, October 19, 1982.

or otherwise changed in some way that increases the potential for human and environmental exposure.

According to a 2016 U.S. EPA analysis[7], the average concentration of radium-226 in 74 samples of Marcellus shale wastewater was 1,700 picocuries per liter. For comparison, the limit for drinking water is 5 picocuries per liter. Radium is a known human carcinogen, has a half life of 1,600 years, and is one of the most prevalent forms of TENORM in oil and gas waste.

The Pennsylvania Department of Environmental Protection's own TENORM study of radioactivity in oil and gas waste found that concentrations of radium in both drilling and fracking fluids were similar, reaching levels as high as 26,600 picocuries per liter.[8] PA DEP has downplayed the results of its own oil and gas TENORM study, choosing to ignore critical pieces within its dataset that Public Herald recently uncovered and will be reporting to the public very soon.

Downstream Liability

The risks from oil and gas waste extend far beyond the places where it originates. It sometimes travels hundreds of miles across the Commonwealth through unsuspecting communities to be disposed of landfills and rivers that then carry it downstream, even out-of-state.

In addition to traveling downstream, the impacts of oil and gas hazardous and radioactive wastes can be cumulative, meaning they persist and increase over time. Radioactivity and hazardous emissions are therefore legacy problems of the oil and gas industry, one that is increasingly bankrupt. Exemptions allow industry to push liabilities off onto the public, over time, and diminish accountability, leaving the Commonwealth and its citizens to pay for damages left behind.

An Equitable Solution

The solution is an equitable one – remove exemptions and place the oil and gas industry back on a level playing field with all other industry sectors. This is a simple solution rooted in common sense, not politics. Health and justice are the rights of everyone, regardless of where a person falls on a political or ideological spectrum.

Thank you for offering common-sense, science-based, legal solutions that apply hazardous waste standards to everyone who produces hazardous waste, regardless of who they are.

[7] Technical Development Document for the Effluent Limitations Guidelines and Standards for the Oil and Gas Extraction Point Source Category, US EPA. June 2016, EPA-820-R-16-003.
[8] PA DEP TENORM Study Report, May 1, 2016.