

**Comments to PA DEP Office of Environmental Justice
Regarding Draft Environmental Justice Public Participation Policy**

May 20, 2021

The mission of the Southwest Pennsylvania Environmental Health Project (EHP) is to defend public health in the face of oil and gas development by providing frontline communities with timely monitoring, interpretation, and guidance, and by engaging diverse stakeholders: health professionals, researchers, community organizers, public servants, and others.

In providing comments on the Pennsylvania Department of Environmental Protection's draft Environmental Justice Public Participation Policy, EHP urges improvement of environmental justice provisions in Pennsylvania to more fully protect the health of all residents in the commonwealth.

Overview

EHP recommends that the proposed Environmental Justice Public Participation Policy be improved to include, and to adequately protect, those bearing the impacts of oil and gas development throughout Pennsylvania. Environmental justice communities are often assumed to be comprised primarily of people living in urban areas. However, when it comes to oil and gas development in Pennsylvania, much of the burden is being borne by rural communities where extraction, transportation, and storage occurs.

There are more than 100,000 active oil and gas wells in Pennsylvania. About 2 million Pennsylvanians live within one kilometer (0.62 miles) of a well.¹ Thousands of these residents are among the most vulnerable—children, the elderly, and people with existing health issues. With all these wells and a spider web of infrastructure—pipelines, compressor stations, storage facilities, processing plants, injection wells, waste sites—we must act now to protect the health of the underserved and underrepresented people who live, work, and go to school in these communities.

Recommended Environmental Justice Actions

EHP strongly urges the DEP to:

1. **Approach health impacts from a community exposure perspective and not just from an industrial emissions one.** Pollution can come from various sources, directions, and distances. People experience these toxic pollutants sometimes in combination, sometimes in succession. Some exposures are

constant; others last less than an hour, but because of their intensity they can be extremely dangerous to exposed individuals. The DEP should consider all of these factors, minimizing industry interests and focusing on the high burden felt by individuals in the community, particularly those in environmental justice areas.

2. **List shale gas and oil drilling and infrastructure permits as “trigger permits” and hold industry accountable.** Currently, shale gas and oil drilling and infrastructure permits are not “trigger permits,” meaning that permits for new oil and gas projects escape environmental justice review, despite the fact that these areas are heavily and disproportionately burdened by public health impacts and environmental damage. All new oil and gas activity should require trigger permits that begin a process of environmental and health impact review. The DEP should explain clearly the responsibility of the applicant and use language that requires the applicant to hold public meetings instead of merely encouraging them to do so. Communities should receive notices of any substantive changes to the permit or permit applications.
3. **Increase efforts to minimize exposures through technology and timing of emissions.** The DEP should require complete and public disclosure of expected emissions and installation of publicly accessible monitoring equipment to ensure that degradation of industry systems do not pose an increased risk to public health over time. Monitoring requirements and compliance with standards should be established before permitting. Waste streams need to be appropriately classified based on the toxics they contain. All waste must be tracked from cradle to grave and disposed of in a fashion that prevents exposure to resident populations. Failure to comply once the site is operational should result in the loss of permits to operate. Emissions should be timed to correspond to periods of least human exposure.
4. **Work with the PA Department of Health (DOH) to engage communities.** Environmental Justice is not about clean air and pure water or safety in a general sense. It’s about protecting the health of community members and creating opportunities for them to thrive. Environmental decisions should reflect public health considerations. With that in mind, community prevalence of preexisting conditions and vulnerabilities should be a part of the decision-making process. In addition, environmental justice communities will necessarily include children and women of child-bearing age. Both of these groups will be particularly affected by additions of industry pollutants. With many years of research on Pennsylvania’s oil and gas industry already available, the DOH should already know and understand the effects of pollutants on the human body. If there are gaps in knowledge, further attention to environmental justice communities will require extra effort on the agency’s part.
5. **Respond to residents’ complaints in a timely and thorough way.** Until the DEP is fully responsive to complaints and transparent with information regarding oil and gas development, it’s unlikely that the public will trust the

agency enough to feel confident in whatever information the DEP offers. EHP has observed individual and community mistrust in the DEP countless times during our nearly 10 years of operation, particularly in underserved rural areas heavily impacted by shale gas development.

6. Provide more authority to the Office of Environmental Justice. Article 1 Section 27 of the Pennsylvania Constitution reads:

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

The DEP should act on the powers provided by Pennsylvania's constitution and grant the Office of Environmental Justice more authority to uphold this imperative.

The Health Impacts

More than two dozen peer-reviewed epidemiological studies, as well as hundreds of other investigations and first-hand accounts, have shown that oil and gas development, particularly shale gas development, correlates with poor health outcomes in people living in proximity to such infrastructure.² Air emissions from shale gas sites contain levels of particulate matter high enough to create health hazards. Emissions also release toxic substances, including formaldehyde, and other volatile organic compounds (VOCs), such as benzene and toluene. Recent studies have shown that the radioactivity of airborne particles increases significantly downwind of shale gas sites.³

Peer-reviewed studies indicate that health impacts increase the closer one is to shale gas facilities. These studies show:

- Worsening asthma symptoms are linked to nearness of shale gas facilities.⁴
- Symptoms including headaches, fatigue, upper and lower respiratory complaints, and skin rashes have been reported near well pads.^{5,6}
- Babies born to mothers living less than a mile from wells were 25% more likely to be born with low birth weights,⁷ which may lead to serious future consequences in growth and development, including asthma, intellectual and developmental disabilities, obesity, and infant mortality.
- An increasing number of babies have been born with congenital heart defects and possibly neural tube defects, impacts dependent on both the number of wells in the vicinity and the distance from the wells to mothers' homes.
- Hospitalizations for heart complications are significantly higher in areas impacted by shale gas development.⁸
- Stress, anxiety, depression, and other mental health symptoms increase the closer one is to shale gas development.⁹

Health impacts from oil and gas development are very real. The research has been done. Now is the time to act to protect public health.

Conclusion

As Pennsylvania continues to face changes to its landscape, air quality, and water resources from oil and gas development, residents and communities in the path of this industry should be acknowledged as deserving extra attention from the agencies who have been entrusted to protect their welfare.

EHP looks forward to meaningful action at the state level. On behalf of residents in our service area, we can say that the need and demand for such action is both immediate and widespread.

Respectfully submitted,

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¹ Kelso, M. (2015). Nearly 2 Million Pennsylvanians Live Within a Kilometer of Oil & Gas Wells. FracTracker Alliance. <https://www.fractracker.org/2015/11/2-million-pennsylvanians/>

² Concerned Health Professionals of New York (2020). Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction), Seventh Edition. <https://concernedhealthny.org/compendium/>

³ Li, L., Blomberg, A.J., Spengler, J.D. *et al.* (2020) Unconventional oil and gas development and ambient particle radioactivity. *Nat Commun* **11**, 5002. <https://doi.org/10.1038/s41467-020-18226-w>

⁴ Southwest Pennsylvania Environmental Health Project (2020). Health Outcomes Associated with Exposure to Shale Gas Development from Peer-Reviewed Epidemiological Literature. <https://www.environmentalhealthproject.org/sites/default/files/assets/resources/health-outcomes-associated-with-exposure-to-shale-gas-development.pdf>

⁵ Weinberger, B., Greiner, L., Walleigh, L., Brown, D. (2017). Health symptoms in residents living near shale gas activity: A retrospective record review from the Environmental Health Project. *Preventive Medicine Reports*, Volume 8, December 2017, pages 112-115. <https://doi.org/10.1016/j.pmedr.2017.09.002>

⁶ Brown, D., Lewis, C. & Weinberger, B. (2015). Human exposure to unconventional natural gas development: A public health demonstration of periodic high exposure to chemical mixtures in ambient air. *Journal of Environmental Science and Health, Part A*, 50:5, 460-472. <https://doi.org/10.1080/10934529.2015.992663>

⁷ Currie, J., Greenstone, M., Meckel, K. (2017). Hydraulic fracturing and infant health: New evidence from Pennsylvania. *Science Advances*, 3, e1603021. <https://advances.sciencemag.org/content/advances/3/12/e1603021.full.pdf>

⁸ McAlexander, T.P., Bandeen-Roche, K. *et al.* (2020). Unconventional Natural Gas Development and Hospitalization for Heart Failure in Pennsylvania. *Journal of the American College of Cardiology*. 2020 Dec, 76 (24) 2862–2874, <https://www.jacc.org/doi/10.1016/j.jacc.2020.10.023>

⁹ Ferrar, K. J., Kriesky, J., Christen, C. L., Marshall, L. P., Malone, S. L., Sharma, R. K., Goldstein, B. D. (2013b). Assessment and longitudinal analysis of health impacts and stressors perceived to result from unconventional shale gas development in the Marcellus Shale region. *International Journal of Occupational and Environmental Health*, 19(2), 104–112. <https://doi.org/10.1179/2049396713Y.0000000024>