

Pennsylvania House Environmental Resources and Energy Committee
Unconventional Gas Well Setbacks and HB 170 Hearing
Monday, October 30, 2023

Testimony: Melissa Ostroff, MPH, Pennsylvania Policy and Field Advocate, Earthworks

Good morning, and thank you for the opportunity to speak today. My name is Melissa Ostroff, and I am the Pennsylvania Policy and Field Advocate with Earthworks. Earthworks' mission is to protect communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions. Earthworks is part of the Protective Buffers PA coalition, a collaborative effort between frontline residents and environmental groups advocating for greater distances between fracking infrastructure and the places where people live, work, and play.

In my role at Earthworks, I use my education and background in public health and optical gas imaging to shine a light on the impacts of invisible pollution from the oil and gas industry. I received my certification as an optical gas imaging thermographer alongside employees from the oil and gas industry through the Infrared Training Center. The Environmental Protection Agency defines optical gas imaging (OGI) as "making visible emissions which may otherwise be invisible to the naked eye." OGI was approved as an alternative work practice for oil and gas sector leak detection and repair by the EPA in 2008. In 2016, EPA amended these regulations to recognize OGI as the Best System for Emissions Reduction. OGI cameras are used throughout the oil and gas industry to detect methane and other hydrocarbon emissions from the extraction, transmission, and processing of petroleum and gas.

The FLIR GF 320 optical gas imaging camera that I use in my role at Earthworks is designed to detect gasses that absorb infrared radiation in the range of 3.2 - 3.4 micrometers. The camera's filter only allows infrared energy between these wavelengths to transmit through to the detector. Most hydrocarbons, including methane and volatile organic compounds (VOCs) like benzene, toluene, ethylbenzene, and xylene, absorb energy near 3.3 micrometers. While the camera cannot quantify emissions or speciate between different hydrocarbons, the narrow range of the filter provides indisputable evidence of otherwise invisible hydrocarbon releases from the industry. As a result, OGI cameras are the industry and regulatory standard for detecting methane and VOCs that are emitted from oil and gas equipment.

Earthworks has been using OGI technology to inspect oil and gas facilities for over a decade in multiple states across the country. In my role, I have conducted fieldwork in 18 counties across Pennsylvania. The footage Earthworks has captured shows air pollution from unconventional oil and gas development regularly goes beyond facility fencelines. While this pollution is not visible to the naked eye, our camera provides visual evidence that communities living in close proximity to well pads and other fracking infrastructure are breathing in pollution from the industry. While Earthworks has conducted field investigations at thousands of well sites across the country, in the interest of time, I will be sharing just one Pennsylvania example today.

In my first slide, you can see a Google Earth aerial view of Inflection Energy's Ultimate Warrior well pad in Lycoming County. The well pad sits directly next to a church and across the street from a residential development. In slide two, we see a tank battery located on the well pad. These tanks are located approximately 300 feet from an outdoor church pavilion and 600 feet from a home. This photo was taken using a standard camera the day Earthworks conducted fieldwork at this site, and it shows only what is visible to the naked eye. Tanks like these – used to store oil and hydrocarbon liquids – are necessary for fracking operations. They pollute by design, in order to relieve pressure and prevent explosions. When tanks vent, they release methane and carcinogenic VOCs directly into the air. These large plumes of invisible pollution can move freely beyond the well pad fence line. Optical gas imaging gives us the ability to see this clearly. In this video, Earthworks used the FLIR GF 320 optical gas imaging camera to capture footage of the tank battery. We can see that two of the tanks on site are releasing large plumes of hydrocarbons into the surrounding air. This is not a malfunction. In fact, when Earthworks filed a complaint with DEP about this site and submitted our video, we were told that the "Department does not see anything outside of the scope of normal operation" in our footage. Tanks are designed to vent.

Policymakers must recognize this reality. Unconventional gas development cannot happen without significant air pollution, even under the best of circumstances. It is part of normal operations. Additionally, fugitive emissions and leaks due to equipment malfunctions are a frequent problem in the oil and gas industry – something Earthworks has documented numerous times at well sites across the country. What the optical gas imaging camera makes clear is that this air pollution – whether intentional or accidental – does not care about fence lines. In Pennsylvania, new well pads continue to be built in areas that are already densely developed with fracking infrastructure, leading to cumulative impacts. According to the Oil and Gas Threat Map developed by Earthworks and FracTracker Alliance, nearly 1.5 million Pennsylvanians already live within ½ mile of active oil and gas production facilities. When we build well pads, compressor stations, and other oil and gas infrastructure next to homes, schools, churches, and parks, Pennsylvania residents are exposed to pollution from this industry. Setback distance requirements must reflect this reality by ensuring that these facilities are kept at a safe distance from the places where Pennsylvanians – especially children and other vulnerable residents – live, learn, and recreate.

Nearly 5000 Pennsylvanians have signed our coalition's petition calling for setbacks of at least 2500 feet for fracking and related infrastructure. These recommendations aren't arbitrary. A large and growing body of research, much of it originating within Pennsylvania, clearly shows both the acute and the chronic health consequences of living in proximity to oil and gas development. You heard this from Dr. Cassie Clark and Dr. Ned Ketyer earlier, and it's echoed in the recommendations of Pennsylvania's 43rd Statewide Grand Jury report and in firsthand accounts from frontline residents. The setbacks proposed in this bill are the minimum necessary to protect the health and safety of all Pennsylvanians, and I urge you to seriously consider this legislation. Public health must be the top priority when it comes to Pennsylvania's siting of oil and gas facilities. As our optical gas imaging cameras make clear, what we don't see can hurt us.



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