

Air and health impacts from compressor stations



Image of a compressor station in southwest PA. Used with permission from Bob Donnan.

- A compressor station is a facility that pressurizes natural gas to transport it through pipelines.
- Stations typically burn natural gas in very large engines to pressurize gas. They can also include other air pollution sources to separate and store water and natural gas liquids.
- Compressor stations are regulated under permits that allow operators to emit many tons of harmful pollutants each year that can negatively impact public health and regional air quality.

Air pollutants from compressor stations are linked to health issues

Volatile Organic Compounds (VOCs): According to the U.S. Environmental Protection Agency, some VOCs have been linked to elevated levels of cancer and neurological health issues.

Formaldehyde: Small levels can cause irritation of skin, eyes, nose and throat. Suspected to be a human carcinogen, unhealthy levels of formaldehyde have been found near compressor stations in Pennsylvania. A study by the City of Ft. Worth, Texas, on air quality in gas fields found concentrations of formaldehyde above state regulatory standards 750 feet beyond the site's fence line.

Benzene: Short-term inhalation can cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation. Benzene is a known human carcinogen.

Other Concerns

Noise: The engines at compressor stations run constantly and can be very loud. Valves at the stations can sound like jet engines when releasing pressurized natural gas periodically to maintain equipment.

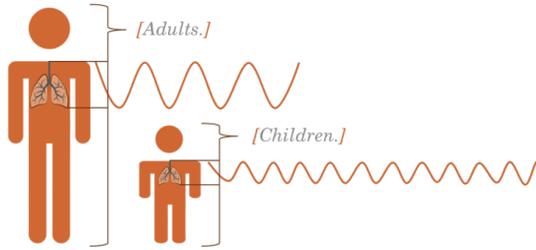
Odor: The pollutants emitted from wells have the potential to create strong and unpleasant odors. Residents in PA living near compressor stations complain of chemical-type odors.

Visible emissions: Compressor stations have the potential to emit dark plumes as a result of malfunctioning equipment.

Safety concerns: Compressor stations and wells in PA have had many incidents that resulted in evacuation zones out to a mile radius due to fires, explosions, or blowouts.

Risks to children

Children have a *higher* respiratory rate and receive *higher* doses of air pollution



Children are more vulnerable to environmental health risks.

- Children spend 100% more time out doors than adults and spend 6 times as much time being active.
- Children have a limited Immune System and their organs are still developing.
- Children breathe a higher percentage of air per unit of body weight.



Health impacts research

A growing body of evidence suggests fracking and related infrastructure can have significant health impacts. There is no research or data that can identify that there is a safe distance at which this activity can occur with minimal risk to human health but we do know that proximity matters.

- A 2013 study of health impacts at the Minisink compressor station experienced episodic health symptoms since the station began operation such as respiratory, neurological and dermatological symptoms.
- A study in PA found a higher prevalence of symptoms such as throat & nose irritation, sinus problems, severe headaches, persistent cough, and frequent nose bleeds among residents living within 1500 feet of gas facilities compared to those who lived over 1500 feet away.
- A 2014 study in Colorado found that birth defects such as congenital heart disease and neural tube defects increased with increasing number of wells in a given area. Women in high density drilling areas with greater than 125 wells per mile had an elevated risk of births with these defects.
- A 2013 study survey showed that the closer residents in PA live to gas wells and facilities, the more they reported specific health symptoms like headaches and sore throats.