

Don't Frack Michigan



You Can't Drink Natural Gas! P.O. Box 65, Afton, Michigan 49705 www.DontFrackMichigan.org

Poison Gas Leaks and Earthquakes - What They Have In Common?

Both are the result of fracking for methane gas extraction and both events occurred during the 2011 holidays.

On Christmas Eve a valve failed at the Beaver Creek Gas Injection well in Crawford County just south of Grayling. According to Breitburn Energy Partners, owners of the well, upwards of 135,000 cubic feet of hydrogen sulfide (H₂S) was released into the atmosphere. H₂S is a byproduct of gas extraction and in Michigan it is disposed of in injection wells. ***It is also deadly.***

According to a DEQ fact sheet on H₂S, concentrations as low as 10ppm (parts per million) can irritate eyes. Higher concentrations deaden the sense of smell and 500-700ppm can cause unconsciousness and death. Also according to the DEQ, the gas billowing out of the well for more than 4 hours was about 80% H₂S, which would equal 800,000ppm. Fortunately winds dispersed the gas. Had it fallen on a populated area in a more concentrated amount, the outcome could have been catastrophic. As it was, this potentially deadly plume of gas spread out over most of northern Michigan. The DEQ estimated more than 100 calls were made to 911 centers. Many more calls were received by DTE Energy from people who thought the smell was coming from a gas leak in their home. Citizens from Charlevoix, Boyne City, Petoskey, Harbor Springs and Cheboygan, over 80 miles from the source of the leak reported the rotten egg smell. According to a Crawford County emergency responder, two people near Beaver Creek went to the hospital.

Is This An Isolated Incident?

A report by Filer Township Supervisor Dana Schindler in 2002 documented 45 accidental and intentional releases of H₂S from oil and gas drilling sites in just 2 counties, Mason and Manistee. These releases resulted in families having to evacuate their homes, numerous hospitalizations, headaches, difficulty breathing, nausea, skin burns, death of cattle, loss of property value and long term health problems from repeated exposures. In each of these cases the DEQ downplayed the severity of the situations, often blaming the victims for "overreacting." (See Schindler's "Survey of Accidental and Intentional Hydrogen Sulfide (H₂) Releases..." on website www.dontfrackmichigan.com.) How many other cases around the state have gone unreported?

Why Can't Regulatory Agencies Protect Us?

An EPA study "Hydrogen Sulfide Air Emissions Associated With the Extraction of Oil and Natural Gas" documented numerous accidents across the country and concluded that releases of H₂S pose a significant public health risk. Yet according to Carol Browner, former Director of the EPA, H₂S was eliminated from the Clean Air Act list of hazardous substances by powerful last minute gas and oil company lobbyists.

The DEQ historically does not thoroughly investigate leaks. Victims are seldom interviewed. The DEQ has not even been required to report intentional H₂S releases (done during certain maintenance procedures). Accidental releases are only reported if it can be proven that the release caused death, hospitalization, or damage over \$5,000. By not thoroughly investigating or reporting accidents, the gas industry and DEQ can continue to claim a perfect safety record. For instance, an H₂S release over a 2-day period near Ludington caused multiple evacuations due to severe chest pains, nausea, vomiting, debilitating headaches, burning eyes and slurred speech. DEQ's Rick Henderson was quoted in the Ludington Daily News as saying that no laws had been violated. "It's a fairly routine thing. Its not a big deal. The volume of gas released was really very small." In another incident, the sensors failed to

register significant amounts of H₂S. Because H₂S is heavier than air it often settles out in low-lying areas where it can accumulate in concentrations high enough to kill or injure wildlife, livestock and people. This happened in Mason County in May, 1994, when a compressing station seal broke. 11 people required emergency hospital treatment and 10 cattle died. The next morning, 8 hours after the leak had been fixed, several children had to be rushed to the hospital after entering a basement child care center where H₂S gas had settled. The day care center was located ¾ mile outside the evacuation zone.

As gas drilling into deeper formations through horizontal fracking intensifies, more hydrogen sulfide leaks are possible. Is it worth the risk?

Earthquakes

On New Years Eve, Youngstown, Ohio experienced a 4.0 magnitude earthquake. This was the latest of 11 earthquakes to hit the region since March, 2011. Research Professor of Seismology, Geology and Tectonophysics, Won-Young Kim was hired by the state of Ohio to investigate. He concluded that the earthquakes were not a naturally occurring event, but were likely caused by high pressure injection underground of contaminated water and chemicals from fracking for methane gas extraction. Ohio state officials suspended operations at the 5 surrounding injection well sites. However according to Dr Kim, the area may still experience earthquakes. "It could take a couple of years for the earthquakes to go away. The migration of fluid injected into the rock takes a long time to leave," said Kim. Earthquakes in Ohio, as in Michigan, were previously considered extremely rare to nonexistent events.

Is This An Isolated Incident?

Arkansas experienced 800 earthquakes between September 2010 and January 2011. Injection wells receiving fracking waste were blamed, forcing the state to temporary ban their use.

Oklahoma registered an average of just 50 minor earthquakes per year until 2009 when that number jumped to over 1,000. 181 injection wells disposing of fracking waste in the vicinity of the earthquakes were blamed. These earthquakes not only damage homes, but can fracture rock, allowing for the upward migration of dangerous gases and chemicals from the injection wells.

The same thing could happen in Michigan. Like Ohio, earthquakes in our area have historically been rare. However, at least two fault lines run across northern Michigan. Fracking involves blasting millions of gallons of water mixed with thousands of pounds of toxic chemicals and sand into the earth to fracture rock and release methane gas. Massive quantities of this toxic brew return to the surface and must be pumped at high pressure into injection wells for disposal. Both these processes have the ability to activate those fault lines and cause earthquakes.

Horizontal fracking has had devastating effects on public health and the environment in every state where it has been used. Massive amounts of fresh water are contaminated forever in the process. Air pollution from fracking has serious health consequences to people and wildlife. Chemicals used in fracking can cause cancer, and a host of other ailments. Fracking has been banned in Quebec, South Africa and France. Over 100 municipalities around the country including Detroit and Wayne County have banned its use. In January, a conference of the Mid-Atlantic Center for Children's Health and the Environment called for a moratorium on the practice. Fracking is possible and profitable only because gas and oil companies are exempt from the Clean Water Act and the Clean Air Act, and from Michigan water withdrawal rules. Green energy technology such as solar, wind and geothermal do not stand a very good chance of survival as long as the gas industry giants get to write their own rules. Gas and oil companies, as well as the DEQ and EPA, must be held accountable for environmental damage and public health. We must demand an end to exemptions from environmental laws for gas and oil companies, and we must demand an end to this dangerous and deadly practice of gas extraction. Ban Horizontal Fracking in Michigan.