

PSR[®] Physicians for Social Responsibility



United States Affiliate of International Physicians for the Prevention of Nuclear War

November 6, 2017

The Honorable Ryan Zinke
Secretary
U.S. Department of the Interior
1849 C Street NW.,
Washington, DC 20240

Attention: RIN 1004-AE54

Dear Secretary Zinke,

Physicians for Social Responsibility (PSR) is a nonprofit organization based in Washington, DC and with chapters in multiple states across the country. Our mission is to protect human life from the gravest threats to health and survival; we number environmental pollution and climate change among those threats.

PSR writes in strong **opposition** to the U.S. Department of the Interior (DOI) Bureau of Land Management's (BLM) proposal to delay implementation of health-protective standards to reduce methane pollution and waste of natural gas produced on the nation's federal and tribal lands.

Methane is a greenhouse gas that is 86 times more powerful than carbon dioxide when considered over a 20-year timeframe. As it leaks from fracking wells and, further downstream, pipelines, compressor stations and distribution lines, methane accelerates global warming. In so doing, it contributes to the range of health threats associated with climate change in the U.S. These include heat waves, which in many years is the most lethal impact of climate change; the spread of diseases carried by insects and other vectors, such as West Nile disease and Lyme disease; intense hurricanes like those we saw this fall across the U.S.; sea level rise; flooding, which may cause water contamination and destruction of homes and crops; droughts; wildfires like those that occurred in California in October; and decreased crop yields.

Due to tipping points in the climate system, the next 20 to 30 years will be decisive in determining the extent of climate change impacts. With air and ocean temperatures rising worldwide, we are in danger of surpassing the critical threshold of a greater than 2 degrees

Celsius temperature increase. Once that happens, a cascade of harmful effects is anticipated that would inflict irreversible harm. Delaying or weakening methane protections will weaken the U.S.'s ability to control our climate emissions in the timeframe necessary to avoid the worst impacts of climate change.

In addition to the impacts of methane on the climate, natural gas leaks expose nearby communities to toxic chemicals associated with dangerous health impacts such as respiratory disease and congenital heart defects. We flag in particular the release into the atmosphere of Volatile Organic Compounds (VOCs) and air toxics. VOC's emitted from oil and gas operations include carcinogens such as benzene and formaldehyde; toluene, associated with mental disabilities and abnormal growth in children, as well as damage to the kidney, liver, and immune and reproductive systems; and xylene, which can affect the nervous system, kidneys, lungs and heart. VOC's also contribute to ground-level ozone, a pollutant that can reduce lung function and worsen bronchitis, emphysema and asthma.

Peer-reviewed scientific research on the health effects of fracking for natural gas and oil now demonstrates not only health *risks* from fracking, but associations between proximity to fracking and poor health *outcomes*. Proximity to fracking operations is associated with congenital heart defects, increased risk of high-risk pregnancy and premature birth, worsening asthma, and increased rates of hospitalization for cardiac, neurological and cancer-related problems. We cite here four recent studies, published in respected professional journals, that document those associations:

- A July 2016 study, published in the prestigious Journal of the American Medical Association, identified a statistical association between progressively worsening asthma symptoms and the patient's proximity to natural gas fracking operations.¹
- A March 2016 study found that expectant mothers living in the most active fracking areas were at greater risk of having a high-risk pregnancy, and 40 percent more likely to give birth prematurely.² Preterm birth and low birth weight are leading causes of infant death in the U.S.
- A 2015 study by University of Pennsylvania and Columbia University researchers published in the journal *PLoS One* found that residing near gas or oil fracking sites in Pennsylvania was associated with increased rates of hospitalization for cardiac, neurological, urological, cancer-related, and skin-related problems. This study compared outcomes in counties with gas and oil wells against a control county where there were no wells; in the communities with the most wells, the rate of cardiac hospitalizations was 27 percent higher than in the control county.³

¹ Rasmussen, SG, et al (September 2016). Association Between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations. *Journal of the American Medical Association*. JAMA Intern Med. 2016;176(9):1334-1343. doi:10.1001/jamainternmed.2016.2436

² Casey J.A. et al. "[Unconventional Natural Gas Development and Birth Outcomes in Pennsylvania, USA.](#)" *Epidemiology*, Volume 27, Issue 2. March 2016.

³ Jemielita T. et al, 2015. Unconventional gas and oil drilling is associated with increased hospital utilization rates. *PLoS ONE* 10, e0131093. doi: 10.1371/journal. Pone.131093.

- A 2014 study looked at almost 25,000 births in rural Colorado. The study found that the prevalence of congenital heart defects in newborns increased with exposure, specifically higher density of and greater proximity to natural gas wells within a 10-mile radius of the mother's residence.⁴

The toxic gases emitted from oil and gas operations are responsible for serious and documented damage to health, as evidenced by the above studies. The continued leakage of methane, a potent greenhouse gas, jeopardizes world climate. The oil and gas industry should be required to take effective steps to prevent or capture fugitive emissions of VOCs and methane from their operations. With over 74,000 people live within a half-mile of an oil or gas facility on federal public lands, dismantling or delaying the proposed methane waste rule is inappropriate and dangerous to health. Physicians for Social Responsibility thus opposes the Department of the Interior's delay of the BLM methane waste rule.

Sincerely,

Barbara Gottlieb
Director of Environment and Health
Physicians for Social Responsibility

⁴ McKenzie, L. M., et al. (2014). Birth outcomes and maternal residential proximity to natural gas development in rural Colorado. *Environmental Health Perspectives*, 122, 412-417. doi: 10.1289/ehp.1306722