

Testimony at Legislative Hearing on DNM, Sept. 1, 2016

Julie Huntsman, DVM
2151 County Highway 26
Fly Creek, NY 13337

I am a veterinarian who has been assisting in a public health research initiative concerning air quality and health impacts around compressors, specifically around the planned expansion of the station at Brookman Corners. As DEC deliberates on whether to grant air permits to Dominion New Market, I urge them to keep the following in mind:

I. **Consider the testimony of health professionals** you have heard from over the years on not only the risks of HVHF but of its accompanying infrastructure - compressor stations being a significant part of associated "HVHF activities" evaluated by the DOH public health review.

Also recall: the AMA and the Medical Society of the State of New York have both passed resolutions calling for an HIA on gas infrastructure before any new permits are granted.

Health professionals are justifiably alarmed over the clinical reports and evidence of air toxins around compressor stations.

II. **Consider the assessments of scientists** reviewing dozens of peer reviewed studies, and their findings: Notably, scientists from Physicians, Scientists and Engineers for Healthy Energy undertook a survey of the scientific literature from 2009-2015 on air pollution, water pollution, and health impacts around unconventional gas development, and found that the majority of these studies indicated harm to public health or diminished air and water quality.

Trends in recent research. Researchers from Johns Hopkins and the University of California published studies looking at proximity to unconventional gas development and birth outcomes, asthma, and other symptoms. These were big studies, with over 8000 mother child pairs and 35,000 asthma patients. They found increased odds of preterm birth and evidence of reduced birth weigh among women living closer to unconventional natural gas development activity. There were increased odds among asthma patients of hospitalizations and emergency department visits. And patients living near NG activity had higher odds of nasal and sinus symptoms, migraine headaches, and fatigue than those living farther away. In each analysis, the researchers controlled for other risk factors such as smoking or obesity which could affect the outcome. They hypothesized that **stress and air pollution were the two primary pathways** by which unconventional gas development affected health.

- III. **Consider the clinical findings** of the non-profit research group Southwest PA-Environmental Health Project, a group dealing for years with PA citizens with troubling health symptoms that emerged with the buildout of gas wells and compressor stations near them. Consider their two year pilot project around the Minisink compressor, which is of similar HP size to the two compressors planned for Horseheads and Sheds. Concerned residents living near the Minisink compressor reached out to this group for help. In measurements of particulate matter, and health assessments of residents by a physician, they found a direct correlation between particulate matter spikes and physical symptoms such as headaches, nosebleeds, and respiratory signs.
- IV. **Consider the commonality of acute clinical signs reported:** headaches, nosebleeds, fatigue, dizziness, nausea, loss of the sense of smell, and other more persistent and serious illnesses have been consistently reported by people living near HVHF activities. These are reported by people near well pads and infrastructure such as compressor stations. My colleague, veterinarian and researcher Michelle Bamberger, calls it “shale gas syndrome.” This is because many of the same toxins that emanate from gas wells, condensate tanks, and impoundment ponds come from compressors as well. There’s a logical, cause and effect relationship, and many of these compounds are respiratory toxins and neurologic toxins; some are carcinogens as well.
- V. **Consider the findings and implications of the Macey et al** report of October 2014, one of the many studies Dr. Zucker reviewed. These researchers documented alarmingly high levels of several toxic chemicals near compressor stations. Levels that would be dangerous in the short term, with unknown levels of risk if there were repetitive exposures. Also, toxicologist David Brown and his SWPA colleagues have demonstrated the major variability day to day and morning to evening of toxic spikes of particulate matter (PM). Particulate matter is formed as a result of air pollution, tiny bits of soot-like material containing toxic compounds. PM2.5 in particular penetrates deep lung tissue and can enter the blood. It is less expensive to measure than direct measurement of toxins, but it serves as a proxy measurement of air pollution, so knowing these levels is valuable. These intermittent spikes of toxins and particulate matter that sicken people (and likely their animals as well) are not captured by remote monitoring, by averages, tons per year estimates, or by compliance with National Ambient Air Quality Standards. Toxic spikes of air contaminants that are affecting public health in gas fields or around infrastructure are not being monitored by the state or federal government. It has fallen illogically and unfairly on private citizens and non-profit organizations to try to fill these data gaps.

Public health is not being served here; it is being abandoned.

- VI. Consider that when DOH concluded the public health review of “HVHF activities” by saying that it should not proceed in NYS, as **the risks were not sufficiently understood. It’s not a stretch to assert that the same is true of compressor stations and gas infrastructure, all part of the complex network of heavy industrial activities of HVHF.** Dr. Zucker ended his complex review by saying that he would not be comfortable with his family living near HVHF activities. Obviously, he is not here to challenge my thoughts here. But as a fellow health care provider, it’s hard for me to imagine that it would somehow be OK with him for his family to live near a compressor station. That would be an interesting question to ask him.
- VII. **FERC’s EA and assessment of risk to human health (which found none posed by this project) is based on technical, mathematical, theoretical modeling - completely out of touch with what actually happens around compressors.** They didn’t look at that. But DEC, you must.
- VIII. In a comparison Dominion made that was ostensibly to put one’s mind at ease about the emission levels expected at the Brookman Corners, Sheds, and Horseheads compressor stations, they compared the yearly level of **particulate matter** expected from each of these facilities with the corresponding particulate matter output from cars. They equated **the particulate matter expected at Brookman Corners 47 acre site to equal to that from 120,000 cars.** For Sheds and Horseheads it was 58,333 cars. This hardly puts one’s mind at ease - far from it. Brookman Corners is a quiet farming community with few cars and some Amish and Mennonite horse drawn buggy traffic.

Recall that **particulate matter**, composed of microscopic debris and toxic molecules (with PM2.5 being one of the six constituent key pollutants that the EPA monitors) in the short term **causes asthma attacks, acute bronchitis, and heart attacks in people with pre-existing heart disease. With chronic exposure, there is reduced lung function and chronic bronchitis.**

Extending the comparisons - **the nitrogen oxide emissions** expected at Brookman Corners were compared to those of **3300 wood burning stoves. Nitrogen oxides worsen asthma, other respiratory diseases, and heart disease.**

And what about the **ozone** that will result from these emissions? Ozone is created by chemical reactions between nitrogen oxides and VOC’s in the presence of sunlight. **Ozone has a host of acute effects: chest pain,**

coughing, congestion, throat irritation, worsening of bronchitis, emphysema, and asthma - and over time, worsening all of these conditions and chronic lung disease.

Consider the above information in light of **NYS concern over the prevalence and cost of asthma in our state.** There is an extensive report on this on Comptroller DiNapoli's website, from April 2014. It is acknowledged as a major public health concern in NYS. The report quotes the CDC's characterization of the disease as "common, deadly, disruptive, and expensive" with a steady increase in its prevalence nationally. As of this 2014 report, the number of overall deaths and asthma related hospitalizations had declined in NYS, but the costs remain very high.

The report continues: "The cost of asthma goes well beyond the direct expense that taxpayers bear through the Medicaid program...[it] drives higher insurance premiums for New Yorkers with privately paid health insurance coverage. Including Medicaid costs, the State Department of Health (DOH) recently estimated the annual overall cost of asthma in New York at 1.3 billion in direct medical costs and lost productivity. Hospitalizations account for \$660 million of these costs, a 61 percent increase since 2002."

Obviously, we need asthma rates and costs to go down, not up. Montgomery County is rated #6 in asthma prevalence rates among Medicaid recipients by county. It's already in the top 10 for asthma. There's solid evidence that it could get worse if this project goes forward.

What is going to be unleashed on these largely unsuspecting quiet rural communities should these permits be approved? And there are not just monetary costs incurred - what about quality of life?

IX: The draft air permit is based on an application with significant problems and an EA from FERC that is out of touch with reality. The applicant used irrelevant weather data to predict emission dispersion, presented a flawed sound study, and failed to report to either DEC or FERC emissions contributed by microturbines at Brookman Corners that would likely have put the emissions over the 100,000 ton per year mark, triggering further review. As mentioned previously, FERC's EA dismisses all concerns over public health based on their modeling. NYS cannot afford that kind of error and we did not make that mistake with the decision on HVHF.

DEC's responsibility to safeguard the environment and human health does not end because FERC has greenlighted a project. For the sake of environmental and public health I urge you to reject these permits.