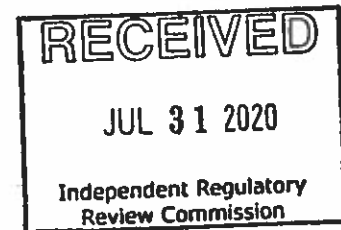


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Control of VOC Emissions from Oil and Natural Gas Sources

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July 27th, 2020

Via electronic mail *RegComments@pa.gov*

Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477

Re: Comments on Proposed Rulemaking

To: Patrick McDonnell, Secretary of Pennsylvania Department of Environmental Protection
Dr. Rachel Levine, Secretary of the Pennsylvania Department of Health
Dennis Davin, Secretary of the Pennsylvania Department of Community and Economic Development
Yassmin Gramian, Secretary of Pennsylvania Department of Transportation
Russell C. Redding, Secretary of Pennsylvania Department of Agriculture
Jerry Oleksiak, Secretary of the Pennsylvania Department of Labor and Industry
Timothy Schaeffer, Executive Director, Pennsylvania Fish and Boat Commission
Bryan Burhans, Executive Director, Pennsylvania Game Commission
Gladys Brown Dutrieuille, Chairman, Pennsylvania Public Utility Commission
Andrea Bakewell Lowery, Executive Director, Pennsylvania Historical and Museum Commission
Meg Snead, Secretary, Governor's Office of Planning and Policy
Cynthia Carrow
Mark Caskey
Duane Mowery
John St. Clair
James Welty
Gene Yaw, Senate of Pennsylvania
Steven Santarsiero, Senate of Pennsylvania
Daryl Metcalfe, Pennsylvania House of Representatives
Greg Vitali, Pennsylvania House of Representatives

CC: Russell Gold, Senior Energy Reporter, WSJ
Sam Robinson, Deputy Chief of Staff, Office of Pennsylvania Governor Tom Wolf
Elizabeth Arnold, ORISE Fellow, U.S. Department of Energy
Colin Jerolmack, Professor of Environmental Studies & Sociology, NYU

The Responsible Drilling Alliance (RDA), a 501 (c) (3) educational and advocacy coalition based in Lycoming County, appreciates the opportunity to submit this comment on the Pennsylvania Department of Environmental Protection's (PADEP) Regulatory Proposal; Control of VOC Emissions from Oil and Natural Gas Sources.

As the nation's second largest natural gas producing state, responsible for approximately 19% of all production in the US in 2019, up from negligible production just 13 years ago, Pennsylvania has seen its share of problems with such a vast and rapid development. While RDA supports the rulemaking effort and agrees heartily with the need to control VOC emissions, including methane, we believe the proposal is inadequately protective of human health considering the track record and current fiscal health of the shale gas industry.

As one of the specific responsibilities of the Environmental Quality Board (EQB) is to formulate, adopt and promulgate such rules and regulations as may be determined by the board **for the proper performance of the work of the department**, it is our opinion a frank discussion of the on the ground realities of the fiscal health of the shale gas industry is a necessary step in putting this very critical regulation into operation. The recent bankruptcy filing that for years was our Commonwealth's largest lease-holding operator, Chesapeake Energy, is a prime example of reason for our concern.

The methane molecule is the smallest organic molecule known to man. Consider the implications of that statement about this lighter than air molecule. Did the natural gas industry or any other expert witnesses inform our Legislature of this undisputable scientific fact? Is the difficulty of containing the methane molecule a well-understood concept among our lawmakers?

In RDA's comment read into the record at your hearing held on June 23rd, we focused on the issue of the proposed exemption in this regulation for compressors on well pads. The operator of Wyoming County's Cappucci Well Pad spoken of, Chesapeake, is currently in bankruptcy. We have been informed of the pad compressor's frequent, long pressure releases which consisted of methane, other hydrocarbons, and any trace contaminants attached to the gasses during their journey to the equipment. We believe these events should be of extreme interest to the PADEP. Are they? How often have the events occurred? Of what duration? How loud were they? Has the volume of methane and other VOC's released been reasonably estimated?

RDA would like to know the answers to these questions, and we think the Board should be curious too. It is interesting to us that Chesapeake, according to the nearby residents referred to in our previous testimony, has apparently put a lot of time and manpower into problems on the well pad that look to be centered around the compressor equipment. Now that those residents, Emily and David Krafjack

have submitted a comment, we strongly urge all members of the Board to read it. In case any of you have not, here is an excerpt:

We live 500' from the Cappucci Well Site; a producing unconventional natural gas well site that includes six wells, other equipment necessary for production, a large tank and a large unregulated 1,300 hp (horsepower) odorous and noisy compressor engine. Prior to the installation of this industrial site along with three other (six wells each) well sites on our four-mile road, this was literally a very quiet pastoral setting consisting of one working farm and residential tracts mixed in between very large hayfields. It was quiet here. The air was fresh and clean. Our water was very good. As a result of the Cappucci Well Site located 500' from our home, it is no longer quiet here; the air is unpredictable at best, malodors are common, and it is not unusual for these malodors to permeate within our home.

Methane is regularly venting from this well site, sometimes all day long, as it did just the other day. Included in that venting are toxic and carcinogenic VOCs; there is not a thorough and comprehensive report of what all is spewing from this well site on any given day and how it may be adversely affecting our health. Due to the lack of regulations, the compressor engine placed on this well site is quite old. In fact, as reported to me, it's likely 40 or more years old! It routinely malfunctions causing glycol to burn, which if you ever had to smell that inside your home -- you'd want adequately sufficient regulations capable of protecting public health too. The only time we have any relief from this well site is the brief period when the compressor engine so malfunctions it actually shuts down. Then the relief valves start releasing the VOC-methane toxic spew. Eventually, the workers show up to repair it. That often results in more repeated engine restarts which are more malodors and noise. Our breakfast conversation is likely to note, "it is noisier today", "they were out there since 3 am and the air stinks so don't go outside", or something along that line. This is no way to be living. It is long overdue for the DEP to promulgate regulations capable of protecting public health...

As an organization concerned with the relationship of energy and public health, RDA certainly recognizes the role shale gas development played in the elimination of at least 15 coal-fired electrical power generation facilities in the Commonwealth. We have no argument with the immediate health benefits and steps toward environmental justice that occurred for nearby residents of shuttered coal plants. But the health/energy nexus is complex. One of the selling points of Pennsylvania's gas industry was the replacement of coal with gas was going to help the Commonwealth lower its greenhouse gas emissions. However, when emissions of the VOC greenhouse gas methane is factored in, along with a reasonable assessment of its global warming potential, we now find, like many of the gas industry selling points, the claim is simply not true. We can provide you data on this but you are an esteemed board of experts in many fields who can certainly access it. We are

merely urging you to consider this reality carefully in order to live up to your charge and operate within the bounds of the Pennsylvania Constitution.

Other elements of deliberation over the health and energy connection must include economic consequences or fiscal implications both now and in the future. The Krafjacks describe it well:

*Now, as customary in rulemakings, there's the issue of cost, cost for the regulated community, costs for small business. **There's a cost you're omitting IF adequately sufficient regulations fail to be promulgated that are capable of protecting public health. That's the cost of public health, medical expenses and stress.***

We agree wholeheartedly with that astute assessment. We would further add that on the path to an overheated world humanity is on, health expenses will grow and our Commonwealth's economic security will be under threat. Beside our gas industry, as you well know, we are also an agribusiness powerhouse from "farm to table and forest to factory" as the DCED is proud to state on its website. If anyone on the Board does not believe human-caused climate change will put stress on our forests and our farm fields, please consult with Pennsylvania state employee Dr. Richard Alley (Don't get upset Representative Metcalfe, he is a Republican).

The Krafjacks, a retired couple living on their rural dream property they worked hard to acquire, are one of many patriotic, conservative families who's experience with the shale gas industry has been more than problematic. Perhaps it is difficult for you on the Board to understand how such a degradation of their property and threat to their health emerged though the cracks of PADEP oversight:

...a compressor engine was installed during December, 2019. We were not advised of this. It would have been considerate to tell us. The DEP was not advised of this. We were experiencing horrible malodors often and increasing noise. I didn't think the DEP could do anything because of the lack of regulations, so we didn't call. Finally, one night while trying to sleep the malodors filled our home again. So, I filed a complaint online. When the DEP came out to the well site, that was when it was discovered a compressor engine was installed and operating on the well site! Why doesn't the DEP know about this I wondered? It took several contacts to find out that it was a 1,300 hp compressor engine. Not exactly the small item we were told about years ago. We were infuriated to discover that once again a polluting, industrial engine was placed on this well site across from our home and exempt from regulations.

For those of you on the Board who did not hear or read RDA's testimony at your hearing on June 23rd, we will repeat a portion of it:

In "Gorsline vs Board of Supervisors of Fairfield Township", a Lycoming County zoning case about fracking in a residential community eventually reached the Pennsylvania Supreme Court. There an attorney for the operator stated, at oral argument, that a producing well "is a land use that is passive, low-impact in nature." Later she characterized it as, "a passive well that has no activity." These assertions were accepted without question.

We ask the Board if anyone is perhaps disturbed by the fact that an attorney for a well operator holding around 12,000 acres of leases in Pennsylvania, much in residential-agricultural zoned districts, would either state such a blatant lie or be so ignorant of the workings of the client represented in front of the our Commonwealth's highest Court?

The amount of activity on the Cappucci Well Pad, the industrial equipment, the noise, the odors, the obvious to most health impacts on their animals and on Emily herself, even prior to the addition of a massive compressor engine, was not an outlier experience in the shale fields. From living with that barrage of abuses, the Krafjacks make many recommendations for changes, additions and deletions in the regulation for the Board to consider and we strongly urge that you do so. We don't currently have access to the technical expertise to assess all of their points, but we do want to stress our agreement with this particular one:

We absolutely recommend NO EXEMPTIONS ON WELL PADS!
Exempting compressors at well pads is completely short-sighted and impractical. Operators have found it is less expensive for them to install compressors on well sites than...(frack additional stages? Or)... re-fracture wells. This has been a frequent occurrence since the 2018 natural gas emissions inventory, so it is very possible this information has not filtered down to the central office. Our rural areas are no longer quiet. People living near well sites can hear these loud, noisy engines in areas that were quieter than a library, but no more. We have malodors inside our home often from this nasty, smelly, malodorous engine. Don't even think we should have more of these located here! We totally object to this exemption!!!

There are other exemptions we believe must be eliminated. One of great significance exempts close to 70,000 low-producing wells from requirements to conduct regular leak detection and repair. These wells are responsible for about half of all Pennsylvania's methane pollution. Elimination of this exemption will surely lead to significant job loss for a number of small business operators of these wells and certainly some jobs with larger operators. A similar situation as to what occurs when a labor-intensive 24/7 operating coal plant is closed and a new high tech gas fired plant is opened. Hundreds of full-time jobs lost, about 30 new full-time jobs

created.

It is the same problem, the same reality facing so many sectors of our economy. More and more this issue is being talked about and addressed in our nation. The jobs excuse for exempting low producing wells is not one our populace can afford from a long-term physical and economic health perspective.

The fiscal health of the shale gas industry is well known. While being incredibly successful at producing gas, it is a dismal failure at producing positive cash flow. More than ample evidence is easy to find. This is not just a temporary phenomenon due to the recent economic retraction, it has been going on for the past 10 years. Do thorough inquiry and we bet you will find only a few gas operators in Pennsylvania consistently take in more than they spend. It is a simple equation, operators have spent billions more acquiring rights and developing wells than has been made producing gas. Is this going to change, as more entities specializing more in financial instruments than gas production enter the "play"?

The industry certainly gets more and more efficient, they are very good at that (requiring less labor plays a key role), but they are facing a global gas glut and resulting low prices that major market intelligence services agree will not go away soon. Other forces of competition, the price of power produced from the sun and the wind, as well as its companion, energy storage technologies, are all coming down. Each are getting more efficient and less expensive in increasingly faster occurring increments. As this happens, it will become difficult for gas power to compete within the PJM grid, eventually for anything more than peaker power. Enough to service debt on all the gas plants built in PA? And then there is the coming storm of clean energy sourced hydrogen fuel cell technology...

A number of Pennsylvania operators did report positive free cash flow during the first quarter of this year. But this was not achieved because of any improvement in the economics of the natural gas industry, rather, through financial hedging strategies and reductions in capital expenditures. And while the first quarter results look good for some operators, do they offset the negative cash flows over the past 12-months? Overall, the well-established trend of more spending on well development and other capital expenditures than was earned from core business operations continues.

It is easy to imagine the connection between lack of profitability and lax maintenance. Leaky, malfunctioning and out-of-date equipment are a large source of emissions. It is often argued that as "methane is the product of the gas industry, why would they not chose to optimize volume? There is no need for regulation to fix this issue". An example of how this can work was the change that occurred in Pennsylvania from flaring to green completions. A combination of factors; higher gas prices, growing awareness of deleterious pollution, and social pressure, made for a fairly smooth transition, captured a lot of wasted product, reduced pollution and ended up quickly paying off. But in financially leaner times, as with the today's

low NG prices? Pollution control investments that will pay off, unless mandated, lose out against other options for limited capital that look to provide a better return.

The prospects for LNG exports, potentially feasible for near 50% of current annual US gas production if all liquification export terminals once planned were constructed, faces the reality of better-positioned international competition. The basic fact that gas produced via hydraulic fracturing cannot compete in extraction cost with both associated gas produced by most types of oil production and non-associated gas from conventional gas plays is the crux of the problem. Qatar, Iran, Australia, Indonesia, and Russia all have huge gas reserves recoverable at lower extraction costs than Marcellus gas. The well-intentioned idea of US LNG exports as a geopolitical weapon may have some minor effect, but pricing will remain the main purchase determinative until a crisis temporarily disrupts Russian pipeline gas.

Look, we are not saying Pennsylvania won't continue to produce a lot of NG, but we are not going to produce as much this year as in 2019. If we are lucky, we never will. We at RDA believe the regulation you are considering could be, with prudent, non-partisan governance, the first in the decline era of the play. It is a rare opportunity to you members of this Environmental Quality Board. With fair, careful and reasonable bipartisan consideration, the Commonwealth can wrap up the highly risky massive toxic footprint of the "exploration and production" phase of our shale gas experiment. An experiment that, along with positive benefits, also distributed mayhem among rural Pennsylvanians, countered reasonable and prudent international climate policy, degraded vital rural air and water quality and wreaked financial havoc on far more people than it benefitted. Fulfilling your obligation as Board members and examining this regulation in the context of our Environmental Rights amendments could lead to better outcomes for the present of the Commonwealth, the future of the Commonwealth and the health and welfare of all who do and will live here.

The funny thing about the outrageous progressive postulate above is that if enacted it likely would lead to better outcomes for the industry too. We'll give you an example. Those incompetents who sent either a liar or an idiot to speak for them in front of the Pennsylvania Supreme Court, a privately held outfit that never drilled a shale-gas well in its entire existence before taking controlling interest of 12,000 acres here in RDA's home county of Lycoming, those people had a couple of other operator partners in for 20% each last time we looked. One of them was Noble Energy. Now Noble, as some of you know, was just bought on the cheap by mighty Chevron

So now we at RDA, if Noble was still in, will have Chevron's name out there as a responsible party for property in our beloved beautiful home county. We think Chevron may have read our state's Constitution. And we think they'd possibly be a bit perturbed regarding Inflection's Good Cop and Pit Bull Pennsylvania Township Zoning Hearing Board and Courtroom legal strategy. We think they might want to make sure the person who for years used the title of Inflection's director of,

“regulatory, health, safety and environment” is no longer on those jobs to continue the outfit’s disgusting record of violations.

Do all four legislators on the Board remember these words of George Mitchell, the person known as “the father of the modern fracking technique” in a 2012 interview with Forbes Magazine?:

The administration is trying to tighten up controls. I think it's a good idea. They should have very strict controls... Because if they don't do it right there could be trouble... There's no excuse not to get it right. But, the smaller, independent drillers are wild. It's tough to control these independents. In the interview, Mitchell dismisses any concern that the costs to drillers to abide by a barrage of fracking regulations would be egregious. After all, any extra costs associated with best practices are always passed on in the price of natural gas.

We can understand the pressures on legislators to be easily scared off by threats of consumer price increases, but this regulation will increase product and make money, not cost money over time. Why, we ask your solons on the Board, does Pennsylvania continue to be so timid with the gas industry? They hemorrhage other people’s money, they incur criminal indictments, they destroy Pennsylvanian’s quality of life and sometimes their property value, and they impact and threaten people’s health. Many people receiving financial benefit from the development have no complaints, but that is what makes it all the more infuriating. Why is it necessary to enable the industry to continue the abuse some people suffer with regulation inconsistent with our Constitution? Cannot you Board members imagine what it feels like if you are the family that is impacted and the power of government at all levels is clearly with the industry?

Speaking to you legislators on the Board and specifically to our own Senator Yaw, we understand it may have been a simple equation for you to support as much free market oversight as the industry could get away with in early years of the shale gas era. Swapping out coal plants in urban areas for well field development in sparsely populated regions in need of economic development may have made sense to you on many levels, but the facts are, though many of your constituents benefitted from the largess of the gas industry, there were a good number who were harshly screwed over. This is a much bigger problem in southwestern PA than in your extremely dry gas district Senator Yaw, though there have been plenty of people harmed here too.

In Lycoming County we have one very problematic operator who dominates the townships with wild/agricultural/rural/suburban interface leases barely developed so far and other operators, some not without problems either, already in or beginning to encroach on those neighborhoods. We ask you to consider all the property owners in those townships, not just the larger landowners who like yourself have leased multiple acres and can live quite far away from well pads and infrastructure. Having a well pad producing from say, one’s 99 acres in a production unit on someone else’s property that is almost one mile away and uphill though a

thick forest from one's property dwelling may not be an issue for either property owner. But having a large compressor engine on a well pad a few feet over 500, or even 2,500' from their home may certainly be a serious problem for some families.

For those of you on the Board in the administration, please remember that shale gas development was a bi-partisan effort from the get-go. The Rendell administration did not give all citizens in either Pennsylvania's portion of the Susquehanna or Ohio River Basin any choice or any real say in the matter. Sure people made individual decisions to lease and municipalities had and have the opportunity to exercise some level of control. But on a practical level so far, money concerns prevail and Constitutional rights take a back seat. And in general people in rural Pennsylvania don't want to interfere in their neighbor's business. If someone you know is a good person, works hard and happens to have a big property that happens to be above a thick and not problematic part of the Marcellus, people don't want to mess with their neighbor's winning shale lottery ticket.

There is good reason why there is no shale gas development in our own Delaware River Basin, in neighboring New York State and Maryland as well as in numerous other places and even whole nations with the geology for it all around the world. The reason is called Pennsylvania. More people in those places do not want what has happened here to happen to their own beautiful, tranquil and vital ecological-services-providing part of the world. There is still plenty of cheap gas and other fossil fuels around to put the future of humanity in jeopardy. Luckily that has saved a lot of capital from being destroyed, capital that is now flowing into non-burning sources of power. The time is right to review, re-think and redo Pennsylvania's approach to shale gas development. Industry supporters need to get with what is necessary for succeeding generations to thrive too.

The oil and gas industry has a great ability to make a few people wealthy while losing a lot of other people's money. The capital markets are getting tired of it. The combination of the massive Chinese electrification via coal burning push coming around the same time the shale gas era began has led to increasing awareness of current health and dislocation costs of fossil fuels and understanding of those looming if humanity does not change course. Increasingly the cost of non-burning power production and alternatives to internal combustion engines for transportation are becoming more than competitive, they are becoming the cheaper option. Pennsylvania has a small window to get ahead of a tsunami of change that has a good shot at beginning as soon as January of 2021. Surely the majority on the Board must see the opportunities as well as the threat to the economy of the Commonwealth that is coming.

Gas so cheap the Commonwealth cannot afford proper regulation does very few a favor. It is still awfully competitive here, with short distances to transport gas to plenty of major northeastern markets and those that serve our Commonwealth while the energy transition unfolds. An additional cost like a fee for the best levels of inspection possible (California apparently does it monthly on some of this equipment) yes, may curtail production to

some degree. But it may also ensure that uneconomic assets controlled by operators facing a bleak future can be retired properly when vertically integrated companies, the type of business model that has proven in a few cases to be able to consistently eek out positive core business cash flow from this extremely competitive PA shale gas environment, take our Constitution seriously when their money is in play here. Perhaps then they may not leave the Commonwealth of the future in a less dire position.

This can only be accomplished with a legislature that understands funds for proper oversight of the gas industry can only come from fees assessed to the industry. That combined with an Administration that understands any fees added beyond the impact fee cannot go to anything but ensuring proper oversight until we have permanent funding for that and the legislature then has the necessary information to fairly analyze the economic impacts.

It can all start by making this regulation in front of you the tightest in the nation in an attempt to ensure all people's health and their basic rights as Pennsylvanians are as protected as much possible from the decline of the fossil fuel era. By so doing, a new era of responsible Pennsylvania energy development can begin with you, the members of this Board.

Sincerely,

The Board of Directors of the Responsible Drilling Alliance

Robert Cross, President

Barbara Jarmoska

Jon Bogle

Mark Szybist

Roscoe McCloskey

Dianne Peeling

Harvey Katz

Ralph Kisberg, energy policy consultant to the RDA Board of Directors