Commenter: Lena Seville *

In favor of greater disclosure of fracking materials

I am in favor of greater transparency and the full disclosure of the ingredients used in hydraulic fracturing, also known as fracking. Fracking has the potential to affect the quality of our water supply and the health of our residents. Horizontal hydro fracturing is a fairly new method and it has the potential to negatively impact an exponentially greater area. As such, greater precautions and oversight is required.

Commenter: Whitney Whiting, Blue Ridge Environmental Defense League *

Comments on proposed changes to 4-VAC-25-150

Michael Skiffington, Regulatory Coordinator, Department of Mines, Minerals and Energy

1100 Bank Street, 8th Floor, Richmond, VA 23219-3402

Dear Mr. Skiffington:

On behalf of the members and directors of the Blue Ridge Environmental Defense League (“BREDL”), I offer the following comments on the proposed changes to 4-VAC-25-150. A full version of our comments has been submitted to your email at 11:29 p.m. on Dec 4, 2015.

It is our understanding that the purpose of this regulatory action is to ensure the gas and oil regulation reflects current industry best practices and to expand disclosure of ingredients used in gas and oil well stimulation and completion on permitted gas and oil operations in the Commonwealth. It is also stated that the existing regulation will be reviewed to determine if current requirements are sufficient to properly regulate drilling in different geographical areas of the Commonwealth.

BREDL asserts that the current proposed regulations and amendments are pitifully inadequate to protect against the myriad of well-documented harmful effects occurring in other parts of the country due to hydraulic fracturing. Given the track record of the drilling industry at large (which must be taken into consideration given its expanse and influence on current practices), the continuation and expansion of fracking in the Commonwealth of Virginia would result in the degradation of human health, community, and environment. In particular, the unique geological characteristics of the Taylorsville Basin region under consideration for new gas exploration combined with the increasing risk of flooding, sea level rise, and other interweaving factors stemming from the continued greenhouse gas emissions, presents a unique threat and dangers to those living in the Virginia Coastal Plains. We resolve that this threat must be addressed comprehensively and that it cannot be adequately mitigated through the existing draft regulations.

Objections to the Fracking Process Overall

The most immediate issues that make fracking such a dangerous endeavor to communities are 1) the large volume of fresh water that is wasted in the fracking process, 2) the list of chemicals still unknown to the public that is mixed with fresh water to
produce fracking fluid, and 3) the poor industry standards of practice which result in spillage, leaks, and outright dumping of chemically-laced toxic wastewater onto the immediate environment. The amendments to the regulations attempt to address the issue of chemical disclosure but do not explicitly provide for full disclosure of chemicals, solvents, nor their exact quantities for mixture at each wellhead. This information is imperative to knowing what is contaminating a community’s rivers, streams, wells, and groundwater in the common event of spills and leaks into the environment. Furthermore, the suggestion by industry representatives to use the Fracfocus website for public disclosure is akin to self-regulation, and without being subject to federal and state public information law and providing full disclosure of ingredients and site-specific quantities, this attempt at regulation has no teeth.

The Potomac Aquifer and Land Subsidence

The issue of land subsidence due to water withdrawal from underground aquifers is of particular significance to the Tidewater region, including the lands under consideration for new fracking in the Taylorsville Basin. Land subsidence consists of an ongoing settling or abrupt dropping of the Earth's surface due to underground movement of earth materials. According to the U.S. Geological Survey: “More than 80 percent of the identified subsidence in the Nation is a consequence of our exploitation of underground water, and the increasing development of land and water resources threatens to exacerbate existing land-subsidence problems and initiate new ones.”[1]

The fracking process, as explained above, uses a tremendous amount of water which is then rendered unfit for other utilization. Considering the amount of water that fracking requires, and the fact that this water would most likely be pumped from the Potomac Aquifer underneath which the Taylorsville Basin lies, would mean increased risk for an area already prone to land subsidence. The Tidewater area is under significant threat of increased sea level rise due to melting glaciers and previous land subsidence from groundwater withdrawal. A 2013 report by the US Geological Survey states that “When groundwater is pumped from an aquifer system, pressure decreases. The pressure change is reflected by water levels in wells, with water levels decreasing as aquifer-system pressure decreases. This is happening over most of the southern Chesapeake Bay region, with the greatest water-level decreases seen near the pumping centers of Franklin and West Point, Virginia. As water levels decrease, the aquifer system compacts, causing the land surface above to subside. Water levels have decreased over the entire Virginia Coastal Plain in the Potomac aquifer, which is the deepest and thickest aquifer in the southern Chesapeake Bay region and supplies about 75 percent of groundwater withdrawn from the Virginia Coastal Plain aquifer system.”[2]

BREDL shares the concerns that have been expressed by residents of the Middle Peninsula and Northern Neck regarding excessive water level decline in aquifers. But the concerns do not end with land subsidence. When Mathews County passed a resolution in March of 2015 asking that the state restrict fracking operations from taking place in and near critical aquifers, many residents and local government officials expressed concern that accelerated pumping of underground aquifers could result in decreased water pressure and an increased flow of salt water from the Chesapeake Bay impact crater into fresh water aquifers. There is great concern that there will come a time in the near future when no more additional ground withdrawals can be permitted. The Service Authority, which has jurisdiction over the water/sewer system, the landfill regulators and the stormwater management plans have all demonstrated an effort to be good stewards with
regards to the Chesapeake Bay Watershed. They are concerned that DMME is not displaying the same regard for their only source of drinking water. BREDL shares their concerns and insists that communities who stand to be impacted by the harmful effects of fracking be allowed to prohibit it in their communities if they deem necessary.

Though identifying, publicizing and addressing the myriad of health concerns regarding chemicals used in fracking is of critical importance, it cannot and will not address the exponential damage that would be done by furthering the problem of land subsidence by withdrawing vast amounts of water to use for fracking.

**Flooding/Sea Level Rise Considerations**

Because the areas currently under consideration for fracking are also areas prone to flooding, there are special considerations for the potential damage that fracking would cause in the coastal region of Virginia.

Flooding in areas where fracking is taking place could be devastating to the groundwater in the surrounding area and consequently the Chesapeake Bay. According to the Center for Coastal Resources Management: “Effectively managing flooding requires that flood risk be a consideration at all levels of planning. The challenge for appropriate flood management planning is to reduce risks to people, property and ecosystems associated with existing development while managing or preventing new development in high risk areas.”

The risk of flooding is of even greater concern due to the prevalence of extreme weather and the likelihood that flooding risks will increase exponentially due to the effects of climate change. Recently it was noted that: “Hampton Roads is considered a hot spot for sea level rise, and the second most-vulnerable region in the country to rising seas, behind New Orleans. The rate of rise here is more severe in part because of land subsidence caused by glacial rebound and the loss of groundwater.”[3]

“Every year, weather-related disasters injure or kill hundreds of Americans and cause billions of dollars in damage. Many of the risks posed by extreme weather will likely increase in a warming world. Scientists have already noted increases in extreme precipitation and heat waves as global warming raises temperatures and exacerbates weather extremes.”[4]

BREDL asserts that the wise management of our water resources should be of utmost consideration. The cascading and interweaving effects of increased groundwater pumping leading to increased land subsidence, increased greenhouse gas emissions leading to increased sea level rise, and the compounding dangers that increased flooding and erosion would have on the very drilling operations in question in this region of the Commonwealth, make the question of fracking in Virginia’s Coastal Plain a scenario fraught with risk.

**Existing Fracking in Virginia**

While the above issues deal most directly with the unique geological conditions of the Taylorsville Basin and Virginia Coastal Plains, the broader pervasive issues of water contamination from unknown chemicals and poor industry management and regulation hold true for any region under threat from fracking. Recent reports from citizens in far Southwest Virginia, where fracking is already happening, call into question the adequacy and efficacy of current drilling regulations.
Some of these reports from residents of Buchanan and Dickenson Counties already include incidents of contaminated drinking water. Citizens reported that “Water was murky and had oily films, black sediments, methane, and diesel odors. Individuals experienced rashes from showering. The Buchanan Citizens Action Group reported over 100 documented complaints of adverse effects of hydraulic fracturing and the Dickenson County Citizens Committee reported ground water quality deteriorated throughout the county as a result of the large number of hydraulic fracturing events.”[5]

It is of great concern that not all of the negative effects from fracking activity have been accurately documented. Sheila McClanahan from the Buchanan Citizens Action Group says that though citizens have reported more than 100 documented complaints to the state, many have “allegedly been intentionally misclassified and filed as impacts of long-wall coal mining.” Additional reports from Dickenson County Citizens Committee claim that “ground water quality has deteriorated throughout the county as a result of the large number of coalbed methane well hydraulic fracturing events. Only 40% of the county is served by public water.”[6]

**Protecting the Health and Safety of our Children**

We must, above all else, protect the health and well-being of our children. The EPA has established guidelines in its Final Rule regarding Executive Order 13045: “Protection of Children from Environmental Health Risks and Safety Risks” concluding that: “The agency has evaluated the environmental health and welfare effects of climate change on children. CO2 is a potent GHG that contributes to climate change and is emitted in significant quantities by fossil fuel-fired power plants. The EPA believes that the CO2 emission reductions resulting from implementation of these final guidelines, as well as substantial ozone and PM2.5 emission reductions as a cobenefit, will further improve children’s health.”[7]

President Clinton issued Executive Order 13045 in April 1997, establishing the President’s Task Force on Environmental Health Risks and Safety Risks to Children. [8] In 2010, the Obama Administration charged the Task Force with:

- Identifying priority issues of environmental health and safety risks to children that are best addressed through interagency efforts
- Developing strategies to protect children’s environmental health and safety
- Recommending and implementing interagency actions
- Communicating information to federal, state, and local decision makers for use in protecting children from environmental health and safety risks.

The Secretary of the Department of Health and Human Services and the Administrator of the Environmental Protection Agency co-chair the Task Force. A senior staff steering committee coordinates interagency cooperation on Task Force priority areas. To date, these include:

- Climate change
- Asthma disparities
- Healthy homes
- Chemical exposures
The Task Force is comprised of representatives of 17 federal departments and White House offices. Each representative from this task force must be consulted and those consultations must include recommendations that must be considered before any decision is made regarding these regulations in order to accurately identify and address potential harm to children.

For example, developmental issues often occur when children or embryos are exposed to toxic industrial chemicals. According to a recent study:

“Because of the extraordinary complexity of human brain development, windows of unique susceptibility to toxic interference arise that have no counterpart in the mature brain, or in any other organ. If a developmental process in the brain is halted or inhibited, there is little potential for later repair, and the consequences can therefore be permanent.”[9]

The most heartbreaking part of this study is that it found that, according to one of the authors of the study: “The brains of our children are our most precious economic resource, and we haven’t recognized how vulnerable they are,” says Grandjean. “We must make protection of the young brain a paramount goal of public health protection. You have only one chance to develop a brain.”[10]

In order to take into account all of the substantial risks to the health and safety of our children, we must include the evidence that natural gas and the risks associated with the fracking of natural gas have a significantly harmful affect on health and well-being and construct our plan for the future of energy production accordingly. The fracking process includes a multitude of aspects that would be harmful to our children, born and unborn, and each of those aspects must be explicitly explored, addressed and mitigated in order for any such project to proceed with integrity.

**Water Contamination**

There are several mechanisms by which fracking can contaminate drinking water resources.[11] Among them are overland flow to nearby surface water, soil contamination and eventual transport to surface water, and infiltration and contamination of underlying ground water. In a recent study, the EPA examined 151 spills from fracking operations. Of the spills characterized in its study, fluids reached surface water in 9 percent of cases and soil in 64 percent of cases.[12] If a spill does occur, there is a 64% chance that the fluid—laced with additives that have unknown environmental impacts—will contaminate the surrounding soil.

Once a spill has occurred, the contaminants may percolate through the soil and could, ultimately, reach ground water. It may take several years, however, for spilled fluids to infiltrate soil and leach into groundwater. Therefore, it may not be immediately apparent whether a spill has reached the ground water or not. It is imperative that we continue to view groundwater contamination as a serious risk associated with hydraulic fracking.

The vast majority of incidents of water contamination are due to the inadequate cement casing of fracked wells (also called wellbores). This allows natural gas and fracking fluid to migrate into groundwater zones. In fact, a 2014 study in *Proceedings of the National Academy of Sciences*, done by Duke and several other universities, found that faulty well
integrity—namely, poor casing and cementing—is the primary cause of drinking water contamination from shale gas extraction.

Most wells used in hydraulic fracturing operations have casings and a layer of cement to protect drinking water, however, there is an alarmingly large number of exceptions. A survey conducted by the EPA estimated that at least 3 percent of wells fractured by nine oil and gas service companies in 2009 and 2010 did not have cement casings.[13] This means that escaped fluids have fewer barriers to travel through to reach ground water resources. And while 3 percent may seem like a small fraction of wells, when the sample in question contains upwards of 20,000 wells, 3 percent amounts to 600 wells and over 600 communities at risk.

It is BREDL’s assertion that all water must be protected. It is inconceivable that fracking could proceed in the Commonwealth of Virginia without causing serious harm to our precious and irreplaceable water resources.

Summary

Natural gas carries with it an array of negative environmental, economic, health, and legal ramifications. Tenuous federal standards and surveillance make this billion-dollar industry exceedingly dangerous and detrimental to United States citizens. Every stage in the natural gas extraction process exposes the surrounding air and groundwater to dozens of deleterious pollutants. What is more, the transportation of natural gas via interstate pipelines not only causes further noise and chemical pollution, but so too does it infringe on the property rights of United States citizens. Natural gas threatens the wellbeing of the economy, the environment, and all of its inhabitants.

Countless landowners have been harmed by fracking. In addition to encroaching on property rights, gas development sites are increasingly popping up in public forestlands, once again demonstrating the corruption of power that private corporations exert over not only vulnerable communities and landowners, but also our shared commons.

The currently proposed regulations for oil and gas drilling in Virginia would not protect citizens from even the most minor effects of this hazardous practice. They would instead allow a cascading series of harmful practices to compound already existing realities of climate change, sea level rise, land subsidence, and green house gas emissions that would have game-changing effects on the state of Virginia as a whole.

BREDL acts in the public interest

The Blue Ridge Environmental Defense League was founded in 1984 as a non-profit, independent non-governmental organization. The League is a 501(c)(3) corporation with members, chapters and projects in seven states: Virginia, North Carolina, South Carolina, Tennessee, Georgia, Alabama and Mississippi. The organization’s mission is the protection of the natural environment and public health.

Respectfully,
Whitney Whiting
Blue Ridge Environmental Defense League

www.BREDL.org PO Box 88 Glendale Springs, North Carolina 28629
BREDL@skybest.com (336) 982-2691
TO: Michael A. Skiffington, Policy and Planning Manager, Dept. of Mines, Minerals and Energy
FROM: Josh Colwell, King George County, Virginia Planning Commission Chairman
DATE: December 4, 2015
SUBJECT: Comments on DMME Draft Regulations on Oil and Gas Drilling

Dear Mr. Skiffington,

Thank you for the opportunity to provide comments on this issue which is of great importance to the Citizens of King George County, Virginia. At the November 2, 2015 Public Hearing hosted by the UMW Dahlgren campus, King George County Planning Commission Chairman Josh Colwell spoke on behalf of the Planning Commission and provided comments for the record.

The King George County, Virginia Planning Commission would like to reiterate those comments and provide them in writing to the DMME.

In 2014, the King George County Board of Supervisors requested the Planning Commission to review the existing County Ordinances and provide a report with recommendations on strengthening the Ordinances regarding oil and gas drilling. The Planning Commission reviewed the County ordinances related to oil and gas drilling under its authority to regulate local land use pursuant to Va. Code § 15.2-2280. The Planning Commission completed the review and provided its primary recommendation with 2 additional options to the Board of Supervisors. Those recommendations have been incorporated into proposed Ordinance Amendments which are in a draft state pending further review and action by the Board of Supervisors.

During the Ordinance review, the Planning Commission discussed concerns with several additional issues related to oil and gas drilling which are clearly outside its authority but
are within the jurisdiction of DMME. Those issues along with the concerns raised by the Planning Commission are as follows;

1. Disclosure of Chemicals used in Oil and Gas Drilling

The Planning Commission discussed this issue at length and felt that there must be full disclosure of all chemicals used during all phases of oil and gas drilling and production. This is especially important in the Tidewater region where there will be drilling in close proximity to, or through the aquifer. In the event that there is contamination to the aquifer, there must be full knowledge of all chemical used. Additionally, in the event of chemical spills or industrial accidents, victims and first responders must have full knowledge of all chemicals used. Disclosure of all chemicals can be accomplished by any means including the use of NDA’s or PIA’s.

2. Open Pits

The Planning Commission discussed this issue at length and felt that open pits should not be permitted in the Tidewater region and that only closed storage should be allowed. The main reasons are the risks of contamination from overflow and/or breaching of the pit resulting in exposure to chemicals. Additionally, it was felt that open pits should not be permitted because the typical reclamation methods used (on open pits) are not desirable in the Tidewater region due the proximity to the Bay, its rivers, tributaries, streams, and extensive marsh and wetland habitats.

3. Different regulations in different parts of the state

The Planning Commission felt that the Tidewater region is different than other parts of the state and that different regulations should apply. The Tidewater region is part of the coastal plain and is criss-crossed by bay’s, rivers, tributaries, and extensive wetland networks, and is very different geology than Western Virginia. For these reasons, the Tidewater region should have unique regulations.

4. Bond Requirements for oil and gas drilling

The Planning Commission discussed this issue at length and felt that the existing minimum Bond value of $25,000 is wholly inadequate given the unique nature of the Tidewater region and the underlying aquifer. Since the aquifer is such a vital resource, its contamination by oil and gas drilling would have devastating and dire consequences which would be irreversible. Since the value of the aquifer is “priceless”, bond requirements should at a minimum be in the Millions (10’s-100’s of millions?) or Billions.

5. Baseline Water Testing

The Planning Commission discussed this issue and felt that there should be more rigorous baseline water testing and monitoring. Testing should be performed by certified testers which are independent from the Oil and Gas companies.

6. Wastewater Disposal

The Planning Commission discussed this issue and felt that there should be tightened regulations governing the disposal of oil and gas drilling wastewater, or any liquid waste.
The disposal of liquid wastes from oil and gas drilling should be further regulated and the spreading of these materials on roadways, forests, and agricultural land should not be permitted.

7. Compressor Stations, Processing Facilities, Scrubbers

The Planning Commission discussed this issue and felt that there should be tightened regulations governing the siting, hours of operation, noise limits, and lighting of Compressor Stations, Processing Facilities, and Scrubbers used in the exploration and production of oil and gas in the Tidewater region.

The King George County Planning Commission would like to thank the DMME for the opportunity to provide comments on this issue which is of great importance to the Citizens of King George County, Virginia. Please contact us if there are questions or if anything additional is required.

Respectfully Submitted,

Joshua L. Colwell
Planning Commission Chairman
King George County, Virginia

TO: Michael Skiffington
Regulatory Coordinator

FROM: Eric A. Gregory
County Attorney

DATE: December 2, 2015

RE: King George County Board of Supervisors’ Public comments concerning DMME’s Proposed Gas and Oil Regulation

Please accept the following comments submitted on behalf of the King George County Board of Supervisors:
The King George County Board of Supervisors supports DMME’s Proposed Virginia Gas and Oil Regulation (4 VAC 25-150) published on September 23, 2015, as an improvement upon the present regulation; however, the regulation must recognize and incorporate further amendments as submitted herein to better address public safety and environmental concerns. The King George County Board of Supervisors reiterates and affirms its comments submitted in response to DMME’s Notice of Intended Regulatory Action and notes that the regulation does not satisfactorily incorporate or address those comments. To that extent, the DMME should revisit those comments and take appropriate action to further amend the regulation in accordance therewith.

The Proposed Regulation seeks to ensure gas and oil regulation reflects current industry best practices; to expand disclosure of ingredients used in gas and oil well stimulation and completion on permitted and future gas and oil operations in the Commonwealth; and, to determine if current regulatory requirements are sufficient to properly regulate drilling in different geographical areas of the Commonwealth. In its analysis of the proposed Gas and Oil Regulation, the Virginia Department of Planning and Budget recognized that the benefits of the proposed changes likely exceed the costs.

Although the Proposed Regulation improves upon the presently applicable regulation in these important areas, the proposed regulation (1) fails to address or provide for potential impacts upon water quality and quantity concerns in the Eastern Virginia Groundwater Management Area; (2) fails to appropriately recognize the authority and role of local governments in exercising land use and zoning authority; (3) fails to recognize and properly memorialize the authority of the Virginia Department of Environmental Quality in the regulation and oversight of state waters, tributaries, and groundwater; and, (4) fails to provide for adequate financial assurance to provide for compliance with The Virginia Gas and Oil Act, specifically §§ 45.1-361.31 and 45.1-361.32 of the Code of Virginia.

The King George County Board of Supervisors submits these comments for the following reasons and may supplement these comments in the future:

1. **The Virginia Department of Planning and Budget’s Economic Impact Analysis recognizes that the benefits of the proposed Gas and Oil Regulation likely exceed the costs for all proposed changes and should therefore be adopted and expanded consistent with these comments.** In its Economic Impact Analysis, the Virginia Department of Planning and Budget (DPB) concluded that drilling for gas or oil in Tidewater Virginia “requires special consideration due to its potential impact on the Chesapeake Bay’s sensitive environmental balance and the lack of information on the potential impact of drilling on this balance since any gas or oil drilling has yet to be performed in this area.” DPB further concluded that (i)
the proposed Gas and Oil Regulation’s additional reporting costs are expected to be small, (ii) their changes will enhance groundwater protection, (iii) the proposed amendments are unlikely to significantly impact the use and value of private property, and (iv) they are unlikely to affect real estate development costs. With this in mind, the DMME should, at minimum, affirm and adopt the proposed regulation without reducing industry requirements in any way. DPB’s analysis, however, does not go far enough in considering or recognizing other impacts, such as, potential negative impacts on property values as a result of industrialization associated with oil and gas drilling, potential negative impacts upon local revenues due to reductions in tourism, reductions in real property values due to ground water impacts.

1. The Virginia Gas and Oil Regulation should be amended to recognize the fragility of the Eastern Virginia Groundwater Management Area (EVGMA), present and future impacts upon water quantity and quality, and require additional safeguards to prevent harm to the EVGMA. In 2013, the United States Geological Survey (USGS) and the Virginia Department of Environmental Quality published a USGS study[1] of the hydrologic conditions of the Potomac Aquifer in Virginia and parts of Maryland and North Carolina because “the aquifer’s internal hydraulic connectivity and overall hydrologic function have not been well understood. Furthermore, concern has arisen due to ground water level declines, aquifer flow gradient reversals, and potential saltwater intrusion. The USGS study was to aid in groundwater-management planning and decision-making; however, certain portions of the study were incomplete, particularly “across the Northern Neck and Middle Peninsula where only the shallowest part of the aquifer is known, and include structural aspects such as faults, basement bedrock, and the Chesapeake Bay impact crater.”

In 2015, the General Assembly passed legislation (see Chapter 613 of the Virginia Acts of Assembly) establishing the Eastern Virginia Groundwater Management Advisory Committee to examine concerns associated with the present and long term sustainability of the EVGMA. Specifically the Advisory Committee will examine (i) options for developing long-term alternative water sources, (ii) issues concerning water demand, (iii) sustainable ground water management, (iv) future groundwater permitting criteria, and other policies and procedures to enhance the effectiveness of ground water management in the EVGMA.

Given the issues driving the formation of the Advisory Committee, the challenges associated with present and long-term management of, and the sensitivity of ground water resources within the EVGMA, and recognizing the large amounts of water necessary to conduct gas and oil drilling activities, particularly those associated with hydraulic fracturing, the Gas and Oil Regulation should be amended to address and mitigate impacts upon ground water resources within the EVGMA. Further study is necessary to better understand the Potomac Aquifer and its hydrology before informed
decisions can be made concerning its management, particularly with regard to potentially significant withdrawals and other impacts from industrial oil and gas mining and hydraulic fracturing activities.

At minimum, the regulation should require the disclosure of water sources utilized for drilling and hydraulic fracturing activities and the proper treatment and disposition of waste or produced water from those activities so that waste or produced water does not impact the already fragile EVGMA. Such disclosures should include an analysis of impacts upon ground water, the Potomac Aquifer, and other affected users.

1. **Virginia’s Gas and Oil Regulation should recognize the authority and role of local governments in exercising land use and zoning authority, as authorized by the General Assembly and recognized by the Attorney General of the Commonwealth of Virginia.** On May 5, 2015, the Attorney General of the Commonwealth of Virginia issued an opinion concluding that Virginia local governments have the authority to prohibit oil and gas drilling in their jurisdictions through duly enacted zoning ordinances. The Attorney General further opined that local governments may enact zoning restrictions on such activities if and to the extent that they are reasonable in scope and are not inconsistent with the Gas and Oil Act or DMME regulations.

The Gas and Oil Regulation should explicitly recognize and respect local government authority and more appropriately involve local governments in the permitting and regulatory enforcement process. For instance, instead of merely notifying the local government of an application for a permit to conduct gas and oil drilling activities in the jurisdiction, the local government should be invited to actively participate in the permit application and review process. If a permit is issued, there should be a mechanism by which local governments may notify DMME of a permittee’s violation of a local ordinance or a provision of the Gas and Oil Act or Regulation. This mechanism must hold permittees accountable for compliance with local ordinances.

1. **The Virginia Gas and Oil Regulation should be amended to reflect and memorialize the provisions of the Memorandum of Agreement entered into by DMME and the Virginia Department of Environmental Quality (DEQ) in June 2014.** In June 2014, DMME and DEQ entered into a Memorandum of Agreement to (i) recognize the potential for unique environmental challenges and issues presented by oil or natural gas development in the Virginia coastal plain that includes Tidewater Virginia; (ii) acknowledge the distinctive characteristics and unique complexity of the coastal plain aquifer system, including the Potomac Aquifer, which supplies water for approximately half of Virginia’s population and is used to meet a variety of needs including drinking water, agricultural use and industrial use; (iii) ensure a transparent and comprehensive process for assessing and mitigating
any potential risks to the environment or public health in the development of oil or natural gas resources in Tidewater Virginia; (iv) provide a mechanism for discussing, resolving and memorializing how to address those instances that would require permits from both DEQ and DMME, and to stipulate the authority, roles and responsibilities of the agencies in the oversight and regulation of gas and oil drilling within Tidewater Virginia.

Recognizing that the Memorandum of Agreement sets forth a positive framework for inter-agency cooperation in the regulation of gas and oil drilling in Tidewater Virginia, but that the Agreement is subject to alteration, amendment, or rescission at any time, it is imperative that its provisions be made more resilient and therefore, the Gas and Oil Regulation should be amended to incorporate the provisions of the Agreement.

1. **The Virginia Gas and Oil Regulation should be amended to strengthen the bonding and financial security provisions in the Gas and Oil Act to augment minimum requirements to ensure compliance with all laws and regulations pertaining to permitted activities.** Section 45.1-361.31 of the Virginia Gas and Oil Act requires that permit applicants must give bond with surety acceptable to the Director of DMME to ensure compliance with all laws and regulations pertaining to permitted activities and the furnishing of reports and other information required by the Gas and Oil Board or the Director of DMME. At their request, permit applicants may submit blanket bonds in the amount of (i) for one to fifteen wells, $25,000; (ii) for sixteen to thirty wells, $50,000; (iii) for thirty-one to fifty wells, $75,000; and (iv) for fifty-one or more wells, $100,000. Section 45.1-361.32 provides for a fund to cover costs associated with the plugging and restoration of acreage associated with or impacted by the abandonment of gas and oil wells or damages associated therewith.

Given the real and potential impact of abandoned gas or oil wells, the potential negligence associated therewith, and the costs associated with mitigation of environmental impacts, bonding and financial securing requirements should be increased, with particular regard to those required for gas or oil wells permitted in Tidewater Virginia to address potential costly ground and surface water impacts. Present bonding requirements are inadequate and should be expanded to address and provide for potential costs incurred by local governments in dealing with abandoned wells.

This proposal is reasonable and well justified, particularly when considering the Virginia Department of Planning and Budget’s Economic Impact Analysis and its conclusion that the benefits of DMME’s proposed regulation likely exceed the costs and that additional reporting costs on regulated operators are expected to be small. Given the minimal impacts of expanding the Gas and Oil Regulation, increasing bonding and financial security provisions should not have a negative impact upon the industry.
1. **Section 4 VAC 25-150-365 should be further amended to require the prior disclosure of chemicals utilized during the gas and oil drilling and hydraulic fracturing to local emergency management and first responders so that they may adequately prepare for a potential hazard.** The proposed Section 4VAC25-150-365 requires operators to disclose chemical ingredients utilized in the hydraulic fracturing process and notes that such disclosures may be shared by the DMME director with local government officials for purposes of responding to an emergency. This provision, however, is inadequate in that it only addresses disclosures in the event an emergency occurs but by that time, it may likely be too late to properly prepare for and respond to an emergency situation that has already occurred or is developing in real time. For these reasons, disclosures must be shared ahead of time with local emergency management personnel and Section 4VAC25-150-365 should be further amended to require such disclosures.

---


**Commenter:** Nancy Stockner *

**Virginia Oil and Gas Regulations- FACTS not FEAR tactics**

I am writing to express my concerns about the new proposed changes to Virginia's oil and gas regulations. I live in the region and work in Virginia's natural gas industry in Southwest Virginia. Burdensome regulations that do little, if anything, to improve safety, will hurt Virginia’s industry. I would like to remind you that these proposed regulations, some of which our industry has been supportive of, do have real consequences on our companies, jobs and families.

While I can support some of these regulations, I would like to point out that several of these **proposed regulations do nothing more than solve hypothetical problems** and add unnecessary costs to an industry operating with a proven safety and environmental record for decades.

Special interest groups whose sole purpose is to oppose fossil fuels use are encouraging their members to write letters with views opposing mine and encouraging them to cite studies that have no credibility and that have been debunked as information and funding linking the authors to anti-fossil fuel groups has come out, forcing the study authors to **acknowledge they cannot credibly link oil and gas activity to the concerns they cite in their studies.**

I ask that you look at the actual **proven FACTS** as you move forward in this process. Look at the **FACT** that Virginia’s natural gas industry has operated safely for more than **80 years.** Please consider the **FACT** that the **EPA, USGS, Yale, Harvard,**
Colorado State University, Syracuse, Stanford, and the California Council on Science & Technology have all confirmed the safety of hydraulic fracturing. Please consider the FACT that Virginia currently has strong regulations regarding casing and cementing requirements. Please consider the FACT that Virginia's natural gas and oil industry contributes approximately $12 billion and thousands of jobs to Virginia's economy. Please consider the FACT that in 2014 alone, Virginia’s natural gas industry produced enough fuel to power approximately 1.2 million households.

FACTS not HYPOTHETICALS need to govern this process. Regulations which do nothing more than solve hypothetical problems and add unnecessary costs to an industry operating with a proven safety and environmental record for decades can have an impact on thousands of very real Virginia jobs, and the very real families they support.