

Minutes of December 8, 2014, meeting of the Marcellus Shale Safe Drilling Initiative Advisory Commission

Approved by e-mail as of 1/23/15: Commissioners Harry Weiss, Jeffrey Kupfer, Annie Bristow, Steve Bunker, Jim Raley and Mayor Peggy Jamison

The Commission held its 35th meeting on December 8, 2014 at two locations, the Garrett County Health Department in Oakland and the Maryland Department of the Environment in Baltimore. The two sites were linked by conference call. In attendance in Oakland were Chairman David Vanko and Commission members Senator George Edwards, Mayor Peggy Jamison, Shawn Bender, and Paul Roberts, and staff member Brigid Kenney. Attending in Baltimore were Commissioners Delegate Heather Mizeur, Steve Bunker, Nick Weber, and Harry Weiss, and staff member Christine Conn. MDE Secretary Bob Summers and DNR Secretary Joe Gill were also at the Baltimore meeting. Commissioners Ann Bristow and Cliff Mitchell called in. Members of the public were present at both locations.

Chairman Vanko called the meeting to order at about 4:00 pm. Secretary Summers thanked the Commissioners for their service, noting that the issues were numerous and challenging and that the Commissioners had been exceptionally hardworking and dedicated. He read a proclamation from Governor O'Malley in recognition of Chairman Vanko's work. Secretary Gill similarly praised the Commissioners for having been "thirsty to figure it out" and read a proclamation from the Governor recognizing Delegate Mizeur's work. This proclamation was representative of proclamations that each of the other Commissioners would receive. Chairman Vanko acknowledged the proclamations and praised the Commissioners for their cordial, thoughtful, civil behavior throughout.

The minutes of the November 25 meeting were adopted unanimously with three amendments.

Chairman Vanko then summarized briefly the work of the Departments and the Commission since August 2011. He said that the judgment of the Departments, as expressed in the draft final report, was that high volume hydraulic fracturing in the Marcellus Shale could be done without unacceptable risks if the practices were followed, sites were inspected, and violations were punished. He noted that the draft report also acknowledged that the risks can be reduced but not eliminated and that best practices will evolve.

Commissioner Roberts said that he had sent an email to Commissioners floating the idea that the Commissioners might want to write to Governor-elect Hogan asking that the process the Commission has undertaken be respected and that he consider adopting regulations that are consistent with the key features of the recommendations. Commissioners Bunker, Jamison, Weber and Weiss spoke in favor of the idea. Senator Edwards suggested dropping the reference to "key" recommendations and merely sending the report to the Governor-elect so that his advisory could review it. Commissioner Weiss suggested that the letter remind the Governor-elect of the significant time the Commission, the public, outside experts, and staff had spent and ask him consider the report carefully. Commissioner Bristow also mentioned that the health study was the first of its kind, that citizen involvement had been extensive, and that

citizen scientists would be needed to monitor the gas development activity. Chairman Vanko mentioned the health study and the proposal for adaptive management. Commissioner Roberts said that he would like to see clear language that regulations are useless without inspection and enforcement. Senator Edwards said the letter should be simple: the regulations need to be updated and the report can be a guide. He reminded the Commissioners that they had not voted on the recommendations in the final report.

Commissioner Bristow noted the recommendation on page 87 of the draft report that the enforcement provisions of the existing statute should be revised to provide for additional civil penalty fines. She asked whether MDE and DNR would draft legislation. Staff responded that legislation would be under the control of the new Administration. The Commissioner stated that it was important to ensure that people were compensated for harm and also emphasized the need to eliminate trade secrets.

Commissioner Mitchell had emailed comments on the draft report that were summarized orally by Ms. Kenney. The first was a clarification and expansion of the provisions for disclosure of trade secret information for treating physicians and public health officials. The second was a recommendation for health surveillance, perhaps not for a specific illness, but for clusters of symptoms or outcomes. It could also provide baseline rates. Commissioner Bristow endorsed the idea of medical surveillance.

Commissioner Weber noted that the draft final report followed closely on the risk assessment, but that there was little mention of the State's risk assessment or the Ricardo risk assessment in the draft final report. Both have risk rankings, although they break out the risks differently. Commissioner Weber suggested that the report make clear that the risks are not eliminated. He feared that adequate funds will not be available for public health monitoring, baseline monitoring, or ongoing monitoring. He said that a wide variety of chemicals should be monitored. Industry has said that the two years of baseline monitoring is expensive and unnecessary and will thwart the development of natural gas.

Commissioner Weber expressed concern that the severance tax may not be enough to pay for the increased demand on the health care infrastructure and emergency response. Chairman Vanko said that the first report recommended a State-level severance tax, and Commissioner Roberts recalled that the Commission had not been able to agree on the tax rate.

Delegate Mizeur said that the Executive Order directed us to consider whether and how unconventional gas development could be done without unacceptable risk. She said the Commission had paid too little attention to the "whether." She feared that enforcement would be underfunded and urged the Departments to estimate the cost of the program. She noted that there were many unknowns, and that she thought the risks are unacceptable. She is not saying "never, no where, no how" but rather that we should leave the gas in the ground for now. That would eliminate the risks. Commissioner Roberts agreed that State resources would be needed. Commissioner Weber was disappointed that the State had not come up with a dollar amount. Ms. Kenney explained that the current draft of the regulations had a

placeholder for the permit fees and that the Departments were actively working on calculating the amount that would be needed. Chairman Vanko suggested that we look at what other states charge.

Commissioner Weiss acknowledged the need for vigorous enforcement. He said he thought that the Comprehensive Gas Development Plan (CGDP) was not necessary, and that the State could accomplish its goals through the individual permit process instead.

Commissioner Weber said that the CGDP is cited as reducing several of the identified risks, but that the Ricardo study identifies 27 risks where the CGDP can play a role but shows only 2 instances where the CGDP would be effective. The Ricardo report should be carefully reviewed, he said.

Commissioner Bristow said that, given that drilling might go forward under the new Administration without safeguards, it is essential that the public should be involved in monitoring and should have access to monitoring data. She said that the GPS data on truck movement should be available online in real time, and if cuttings are buried, citizens should know the concentrations of pollutants and the amount of cuttings.

Additional comments on the final report were provided by Commissioner Bristow by e-mail and are provided below:

1) CGDP: formalized, if not statutory, role for DHMH and local health departments. The public health concerns are paramount in UNGDP; however, MDE does not have the expertise or capacity to evaluate permits for public health effects. I don't think that a loose and unspecified collaboration with public health stakeholders is sufficient to ensure public health protection.

2) Air monitoring: recommend monitoring of episodic and spike emissions events. There are new technologies developing. And though I have mixed feelings about the burden being placed on citizen-scientists, better that approach than none at all. I remain concerned that the ARMA stakeholder meeting(s) haven't occurred.

3) community/public online access in order to increase citizen engagement; e.g., GPS on trucks hauling waste; CGDP stakeholder process; monitoring data; test results of drill cuttings permitted for on-site disposal

4) import all MIAEH recommendations for baseline, surveillance data and citizen engagement.

5) chemical disclosure: this recommended BP is far from a gold standard and will inhibit the research that is critically needed. Trade secrets are placed above public health. I think this is unethical. There is certainly now enough documentation that public health

is being compromised by allowing industry to claim trade secrets and coerce harmed citizens into non-disclosure agreements.

7) waste disposal: CGDP should include a waste disposal plan. It is noteworthy that an API spokesperson commented at one of our meetings that the 90% recycling of flowback and produced water is not feasible. The public should know in advance how an operator plans to dispose of all of their waste.

8) well casings and cement failures: failure to cite the 2014 Ingraffea research is a glaring omission.

Finally, does MDE plan to introduce legislation recommended on p. 87: "The enforcement provisions of the existing statute should be revised."

As many of us have said, the BPs are worthless as protection without stringent enforcement. As you state on p. 88: "The addition of administrative and civil penalty provisions with appropriate fines would help deter violations."

Following a brief break, the public was invited to comment.

Dave and Amy Nard spoke about the risks of radiation. Monitoring for NORM and TENORM will not be sufficient, especially if shaped charges using radioactive metals are used. These charges should be tracked to their end of life. How will the public be involved? The State could be a leader on this issue. Different isotopes have different hazards. It is grossly negligent to dispose of radioactive materials in landfills. They were appreciative that the radiation hazard risks of radiation sealed source charges and radon were recognized in the final draft report.

Elizabeth Grant, a native of Garrett County, spoke of the devastation that other natural resource extraction industries had wrought on the County. She said it is imperative that we do not make another mistake that will further degrade Garrett County.

Eric Robison said that he has been studying Marcellus Shale issues for four years. The most important question now is what the County should do. He urged the new County Commissioners to protect the community and address its needs

Marilyn Moors spoke next. She is 80 years old and has devoted time and money to improving her property. She does not own her gas rights. She has breathing problems and said not enough attention has been paid to air pollution. She is concerned that if she has to sell her property and move because of health issues, she will not be able to recoup her costs due to decreased property values.

Lisa Jan, a Garrett County resident and business owner said that no one should be allowed to decide for her what risks are acceptable. She said that her business, Blue Moon Rising, has been

bringing new people into the County for the unique experience of an eco-friendly resort. She said that if fracking comes, she will sell or close her business and leave. She said that if she has to sell her business, she will lose money.

William Vargas, a 12 year old Maryland resident, asked for a ban on fracking. He spoke about his introduction to the beauty of nature in Western Maryland and said that some things cannot be bought. Fracking can release chemicals into the air, into rivers and streams, and into the groundwater that is used for drinking. He also distributed a photograph of himself on a rock outcrop overlooking a scenic view of western Maryland mountains to all the Commissioners in attendance.

Liz Bayner of Howard County said she was mystified by the recommendation that hydraulic fracturing should go forward. Where will all the toxic waste go? Dr. Ingraffea has documented the rate of failure of well casings. What do we tell our children? The industry has spent huge sums of money fighting controls on benzene. The gas will be shipped to China and Japan. The State talks about property rights – what about the rights of people who will lose their property to sea level rise caused by climate change?

Ann Corin of Howard County said she was a retired chemist and a member of Transition Howard County. She said suppose she gave you a vial of gas that could be either clean air or air from a fracking site. Would we take the risk of opening the vial? She said fracking has devastated cities and contaminated an entire aquifer in California. What will the ultimate cost to the State be? Fracking is unnecessarily risky.

Nadine Grabania first said that the State's own risk assessment said that a 1 km setback would be less risky than a 2,000 foot setback, and yet the State was recommending the 2,000 foot setback. There are risks to health, to tax revenues the County needs, and it is not clear that fracking will benefit anyone. She urged that we use the precautionary principle and not allow fracking.

Ruth Yoder said she was born and raised in Garrett County. She is worried that the voices of residents and citizens will be lost. She can't imagine what her viewshed will be like if fracking is allowed. She said setbacks should not be based on what other states do. She begged that the State remember the voices of the residents when industry gets loud.

Robert Payne, representing a coalition of property owners who would like to develop their gas provided written comments and also spoke. His written comments gave four examples of recommendations that were unnecessarily restrictive. He asked whether it is in the economic interests of Garrett and Allegany Counties to be so strict when they have only 1.6% of the Marcellus Shale gas. He said that Garrett and Allegany are the second and fourth poorest counties in Maryland. He requested that the State evaluate the cumulative effect of all the restrictions and, if the effect is to shut down gas drilling, to reevaluate the situation.

Lisa Bardock said she is deeply concerned about the health impact and is here as a mother and concerned citizen. Nondisclosure agreements make it impossible to evaluate the true risks. We are taking a gamble because well casing will not last forever. She said that Maryland should not allow fracking because too much is still unknown. Nevertheless, she recommended that, if fracking goes forward, that the stringent regulations recommended be adopted.

Barbara Christensen, of Howard County, spoke about environmental justice and listed her concerns: fracking brings radioactive material to the surface; the wastewater treatment plants can't handle the waste; the sludge will be radioactive and will contaminate the land; vehicles will be carrying radioactive waste on the roads; spreading wastewater on roads is a bad idea; storage containers leak; and methane from the Marcellus Shale contains radon. She also referenced the New York State human health risks fact sheet.

Aaron Mintzes of EarthWorks said that he was concerned about enforcement, and whether the State could catch up when more permit applications are filed. He commended the zero air emissions of methane standard and the two years of pre-drilling monitoring. He said it was not too late to close the RCRA loophole that excludes oil and gas exploration and production wastes from classification as hazardous wastes.

Jane Avery said she was recovering from brain surgery. She said gas development would not solve Garrett County's problems and challenged the three new County Commissioners to think more creatively. She said cottage industries would be a better economic development direction.

Charles W. Lovell, III expressed his belief that sludge with heavy metals, radioactivity and PCBs would permanently contaminate the land. He said the counties could become a smaller version of Chernobyl and Love Canal.

Derek Johnson, a resident landowner, said he thinks the Commission has wasted thousands of hours and millions of dollars. What's the big rush? Leave the gas in the ground for now. The argument for energy security is a sham; it is all about money. If they get the gold mine, we get the shaft.

David O'Leary of the Sierra Club, Maryland Chapter, thanked the Commission and staff for their work, but said that the work is not done. There are open issues about long term health impacts. Moving forward with regulations without assurance that money will be there for monitoring and enforcement is dangerous. MDE has never had enough money for enforcement. The State should slow down.

Theresa Ruder said that we cannot go forward with fracking. We should leave the oil and gas in the ground and turn to solar and wind power. Maryland should be an example for the rest of the nation as a leader in sustainability and should use sustainable sources of energy.

Stewart Stainman of Towson said that he would support the State's recommendations if he thought fracking could be done safely, but the track record of the oil and gas industry does not inspire confidence that it will be. Companies will take short cuts, not follow best practices, and just pay the fines and keep going. He suggested that the State consider criminal penalties for gross negligence. He also noted that too little attention had been given to the transport of natural gas from the well to the user.

Susan Snow paraphrased Dr. Keith Eshleman as saying that it was not a question of if wells would fail but when. She enjoys the clean environment we have because past generations fought for clean air and clean water. We still have problems – why do we want more? She referred to Section 1-302 of the Natural Resources Article of the Annotated Code of Maryland that declares the policy that state agencies are stewards of the air, land, and water and that they have an obligation to protect the environment for future generations and that each person has an inalienable right to a healthful environment. She said that we need to take care of the land and take care of the people.

Marcia Tiroche thanked the Commission, but said that she would prefer no fracking or more stringent regulations. She said the prospect horrifies her, and that the boom will not make up for the bust.

Larry Wolfe spoke about the good jobs that could come with reasonable gas extractions, averaging \$80,000 per year. His organization supports good projects. There are apprenticeship programs and safety is taught. He said that the CGDP should not be mandatory and that there was no need for two years of predrilling monitoring. He said that Maryland was trying to hold the oil and gas industry to a higher standard than other states and higher than other industries in Maryland. He said that we should look behind the numbers. For example, if there had been one accident previously and two accidents later, it would be a 200% increase, even though it was just one more accident. He urged the State to reconsider the restrictions if it deters gas development in Maryland.

Dr. Donald Milton, the principal investigator of the MIAEH health study spoke next. He appreciated the work of the Commission, but recommended that more studies were needed. The language in the draft report referring to anecdotal reports and spikes in air concentrations does not give due weight to the data. He said that we need both health research and health surveillance. He said that a study to detect an association between fracking and a relatively rare health outcome would take years because the numbers would be so small, but if we don't look, we'll never know. Such a study would benefit Maryland and the whole world. He recommended that the State begin public health surveillance studies now and not waste the opportunity.

Drew Cobbs acknowledged the work of Jeff Kupfer, the industry representative on the Advisory Commission. He said the Maryland Petroleum Council had assisted the work of the Commission by providing information. He said that 24 other states are drilling. He objects to some of the best practices because they are theoretical and unproven. He also said that the process would

take too long and the setbacks are excessive and inflexible. As an example, he said, forcing the well pad to be 2,000 feet from a residential drinking water well might mean the well pad would have to be put in a forested area. He supported the permit fee bill so that the Department would have adequate resources to do enforcement. He said there was never any intention to use the existing rules, and that the drilling and hydraulic fracturing obviously need to be regulated.

Pat Riley said that no amount of economic penalty will cause big oil companies to do the right thing. People need to be held accountable for the harm they do. Individuals in corporations who do wrong should be put in jail and he advocates for criminal liability. He does not believe that fracking can be done safely if there is the possibility that cementing and casing might fail.

Katherine Dubansky noted that it's ironic that the areas richest in natural resources are the poorest economically. She said best practices for stormwater are not enforced on logging operations. West Virginia does not even have a hazardous spill response team. She is not prepared to accept the risks of fracking. She urged Garrett County to figure out what it really wants to be. She does not want to be a baseline statistic for a health study or a symptom cluster.

Mark Stutzman said he had spent a career in advertising and that he and his wife had helped to develop the "Deep Creek Experience" brand. It encompasses not only the lake, but also the authentic and local farming, hiking, and fishing opportunities that Garrett County offers. He said natural gas development would undermine what the County is trying to do and be.

William Gumbert spoke for himself and his wife Roxanne. He owns 25 acres with a well, a spring and two houses. He hopes that, at a minimum, all the recommendations will be adopted. He does not understand how the setback from a school is only 1,000 feet. He said all the setbacks should be increased, and that adopting and enforcing the laws and regulations, and maintaining oversight will take political will. It is a moral obligation.

Gabriel Echeverri said we have been wasting our time – we should have said no to fracking at the beginning. What good is money if we can't drink the water or eat the food. The politicians should be prepared. If the people are attacked, we'll fight back. If the wells burn, the politicians will feel the heat.

Jackie Sams noted that Maryland has just a small amount of gas, but if it impacts your health, the air, the roads, etc., it is a big deal. We are dealing with the legacy of past resource extraction. In 25 years, we'll see the legacy of gas production here.

Woody Getz thanked the Commissioners and all the members of the public who participated for their civility. He praised the Appalachian way of life and urged that we preserve what we have. He suggested sacrificing 2% of the gas was a small price to pay to protect our water and our way of life. The setbacks can't be far enough. Water should not be sold for fracking. Let's keep Maryland the way it is.

In addition to the verbal comments provided, several written comments were submitted and are attached as scanned documents.

There being no further business, the meeting adjourned around 6:15.

COALITION COMMENTS

The Energy and Property Rights Coalition, a Coalition of farmers, property owners, labor unions and citizens in Allegany and Garrett Counties, submits the following comments regarding the proposed Final Report:

The Coalition proposes a number of changes in the draft Final Report for the reasons that a) some of the restrictions are excessive, b) cumulatively, the restrictions create such overwhelming obstacles that they will probably stifle shale gas investment and production and c) although extensive work has been done, there has been a failure to assess the cumulative effect of all of the restrictions in suppressing any industry participation in Maryland.

A) Excessive Restrictions.

Several draft restrictions impose clearly excessive requirements and the following are notable:

- 1) *Requirement of a Mandatory Comprehensive Gas Development Plan (CGDP).* This is wholly experimental, never required in any other state. The requirement is for a detailed 5-year facility plan with review for up to six (6) months in facilitated meetings with stakeholders, to undergo a public hearing, with the plan to be then approved or rejected in the discretion of MDE. This requirement is expected to impede any participation since the process would require a huge investment of time and capital in a process that will likely draw militant opposition with an uncertain outcome and potential for appeal. The suggestion that such a process can be completed in six (6) months is baseless. Such a process would likely consume 1 -2 years with potential for an appeal.
- 2) *Mandatory Baseline Environmental Assessment.* This would require a company which survives the CGDP process to perform 2 years of baseline monitoring for a full environmental assessment that "satisfies guidance" of MDE prior to any application for a permit to drill. Such a lengthy and detailed requirement is unlikely to be met when it is yet unknown as to whether a permit will be issued, and any permit decision is subject to the likelihood of appeal. The combined requirement of a CGDP and the baseline environmental assessment appear to involve a 3 -5 year process, prior to an application, with a potential for two (2) appeals.
- 3) *Setbacks/Restrictions.* There are 12 (and likely more) required setbacks, a number of which exceed those required in the neighboring states. The setbacks are even more extreme because most are measured from the "edge of disturbance" rather than the borehole. In addition, setbacks from aquatic resources, are not measured as the

distance from the body of water but are measured from the edge of floodplain. The cumulative effect of the excessive requirements is to prohibit surface gas facilities in at least 85% of the land area of Western Maryland.

- 4) *Duplicative Requirements.* Some requirements unnecessarily create double (or even triple) restraints. The zero-discharge well pad practice requires an impervious liner with an impervious berm sufficient to contain run-off from a 25-year storm. In addition, vacuum trucks are required to be present at the pad. All of these requirements are in addition to the requirement that the edge of disturbance for the drill pad be more than 2,000 feet from any well.

B) Lack of Assessment of Cumulative Effects.

Despite all of the detailed work and evaluation with regard to individual restraints, there has been no assessment or attempt to evaluate the cumulative impact of all of the restraints and requirements. The prospect of a very detailed and potentially controversial 4+ year process prior to application for a drilling permit, plus setbacks and other requirements that substantially exceed those in neighboring states will deter potential drillers from investing in Maryland. The extent of the Marcellus Shale in Maryland is only 1.6% of the total Marcellus Shale play in adjoining states. There is reason to believe that proposed cumulative requirements will stifle any interest in gas drilling or production in Maryland.

The affected areas in Garrett and Western Allegany Counties are among the poorest in the State and there is a long-standing need for additional jobs and development. We assert that the Commission has a responsibility to the citizens of our area to evaluate the cumulative effect of the proposed restrictions to determine whether or not these requirements will stifle investment in shale gas resources in Maryland and deny the growth in jobs and economic benefits that could otherwise occur.

At a minimum, the Coalition requests that the Commission approve a recommendation as follows:

That, if the cumulative effect of the proposed requirements is determined to significantly deter investment in shale gas resources and development in Maryland, then a review and revision of the proposed requirements should be undertaken.



Dear ^{Commissioners,} ~~Sirs,~~

To me it seems that your task is to determine if the risk of ^{fracking in MD} building the gas liquefaction plant and all of its related infrastructure, the jobs it creates, and ~~invitation to fracking in MD~~, is more or less of a risk in relation to human health than the move towards wind and/or solar energy.

Imagine that I have in my hand, to give to you, a vial containing gas. It might be harmless air or it might have been collected near a fracking site. It is your choice to open it, test it and determine later that you may have been harmed by it. You have a 50/50 chance that it is harmless. On the other hand it may cause you cancer 10 years down the road, or if opened near a pregnant woman or child may cause him/her birth defects, cancer, learning disabilities.... Is it worth the risk to open that vial?

The vial that I'm handing you is tiny. But once the gas inside is released, you cannot get it back. It disperses in the atmosphere and there is no way to protect yourself or anyone else from its contents. It's like opening Sarin gas in an airport. It's very scary to those of us who understand the chemistry of gases. (I am a chemist.) They are difficult to contain and they dissolve in water, effecting both the air and water supply.

I remember when the Iron Curtain came down and we in the West got the first glimpses of life in the Soviet Union. We saw images of people living in caves because their towns had been destroyed by industrial pollution. (http://en.wikipedia.org/wiki/Effects_on_the_environment_in_Czechoslovakia_from_Soviet_influence_during_the_Cold_War, american.edu/tes/russair.htm, ... There are hundreds of articles)

Currently cities in the United States are experiencing similar disasters, caused by the fracking industry. Recently in California entire aquifers were contaminated. (<http://www.desmogblog.com/2014/10/07/central-california-aquifers-contaminated-billions-gallons-fracking-wastewater>, <http://www.nbcbayarea.com/investigations/Waste-Water-from-Oil-Fracking-Injected-into-Clean-Aquifers-282733051.html>) Towns have been evacuated in California, Texas, Ohio, Arkansas... the citizens lost everything, their homes, their jobs and their health. ^{with no recompense} *What was the cost to the states?*

Why would Maryland jump on this band-wagon and repeat these mistakes? Why would we be so arrogant as to think that we could forestall these disasters in our communities when other states could not? Your own report states, "...some risks will remain..." and "...cannot completely eliminate all risks..." What is the life of a citizen or a child worth, if even one is injured? What amount of money in the states income is your life worth? What is the Chesapeake Bay, the downstream recipient of all pollutants, worth in State revenues? Could we achieve the same income from wind or solar if we put our minds to it?

We have the CHOICE **not** to do this! Yes the state needs jobs, and yes we need energy. But Fracking has proved itself to be unnecessarily hazardous! Your report states "...provided all the recommended best practices are followed and the State is able to rigorously monitor and enforce compliance..." However, best practices ^{have not been shown to protect} are not clearly defined, "Because knowledge and technology are advancing, it will be necessary to adaptively manage shale gas development...." So the regulating agency will have a guessing game of trying to stay one step ahead of an industry that keeps "trade secrets". This regulatory agency is expected to "rigorously monitor and enforce compliance", but **this is impossible if you do not know what is in the vial!!!**

So, choose. Open the vial, or not.

Breath deeply. Drink your water. You and your grandchildren live in Maryland also.

You have the power to recommend NO fracking.

Ann Coren

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Retired Chemist/Chemistry Teacher

Steering Committee, Transition Howard County

Member ~~Climate Change Initiative of Howard County~~

HoCo Climate Change

My Name is David Nard and I am a private citizen of the State of Maryland. I am concerned that monitoring NORM and TENORM is not a broad enough measure for testing radioactivity.

The Nuclear Regulatory Commission maintains documentation of the dialogue between the NRC and the Gas & Oil Industry's representative: Oil Field Service Industry Forum for Radiation Safety, known as "The Forum." The Forum is made up of companies involved in the manufacture and use of shaped charges, such as: Halliburton, Slumberger, Perf-O-Log & Titan Wireline. Shaped charge explosives are used to perforate the horizontal casing and rock prior to the hydraulic fracturing phase. Please note that a shaped charge containing a radioactive isotope is considered to be a "sealed source" according to NRC definition. Dialogue between the NRC and the Forum during their meetings in a two year period from 2004 to 2006 focused on the development of regulation for tracking RADIATION SOURCE MATERIALS that require a RADIATION EXPLOSIVES EXPERT to oversee these operations.

Information on sealed source materials is difficult to obtain because NRC regulations governing the security of this material prohibits Agreement States from accessing this information from other states. This may explain why the Departments could not "confirm" whether or not other states are using radiation explosive shaped charges.

NRC requires a license to possess radiation sealed source materials and the licensee is required to disclose these radioactive materials to the Agreement State in which they physically possess this material. Maryland has the opportunity and authority to discretely investigate and test the remains of explosive shaped charge sealed source materials when they come to their "end point or end-life."

And finally, how will the "public" monitor and participate in the development and progress of the State's proceedings regarding the PROPOSED RULEMAKING through the FINAL RULE regarding the use of these radiation explosive sealed sources?

The NRC has determined to quote, (promel-gate) "promulgate the Proposed Rule by the Agreement State under its authority to protect the public health and safety," and it will be up to the Agreement State to see to the "promotion of the common defense and security for protection of the public health and safety." End quote. Thank you.

Hello, my name is Amy Nard. I am here as a private citizen and would like to express concerns about radiation hazards.

Consideration of radiation hazard risks and waste disposal must go above and beyond the NORM/TENORM dogma that focuses mainly on the properties of “naturally occurring/technically enhanced” uranium, radium & radon. Industry-introduced radioactive materials used in UNGDP must also be known in order to assess whether or not these materials pose additional risks and disposal challenges. Shaped charges used for perforating the casing may contain industry-introduced radioactive materials, such as Plutonium and Uranium-238, which have their own signature radioactive properties.

It is not sufficient to base a hazard analysis solely on whether α , β or γ radiation is present in a sample therefore testing methods must be able to differentiate between the various radioisotopes that may be present. As the “*Background*” section of the final draft acknowledges: hazards can vary for different radioactive substances. Each radioisotope has its own signature half-life, its own radiation emission rate, reactivity, solubility, etc. For example, Plutonium-239 has a half-life of 24,000 years and is more radioactive than Uranium-238 which has a half-life of 4.5 billion years. Furthermore, each radioisotope has its own series of decay or daughter products with their own signature properties and associated hazards.

It would be grossly negligent to detonate and disperse radioactive materials in an uncontrolled environment, exposing people, unknowingly, to radioactivity. And, it would be grossly negligent to allow radioactive wastes to be disposed in landfills without assuring radiation hazards will be controlled & contained for the full duration of the hazards presented by the material. In many cases, the landfill would have to be equipped to contain these materials for tens of thousands or for millions of years in order to account for the long half-lives of these materials and their decay “daughter” products. If The State of Maryland and The Oil & Gas Industry were to fail in carrying out its mandated duties surrounding rules for explosive sealed source materials as required by the NRC, this could be a display of willful and wanton misconduct.....Thank you.



MARYLAND
LEAGUE OF
CONSERVATION
VOTERS
EDUCATION FUND

December 8, 2014

Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

RE: Marcellus Shale Safe Drilling Initiative Study Draft Final Report

Dear Secretary Summers:

We commend Governor O'Malley and the Maryland Fracking Commission for issuing the Final Report of the Marcellus Shale Safe Drilling Commission. It outlines the need and framework of regulations on fracking and we were particularly pleased to see the following included:

- Requirement of zero methane leakage from wells, limiting damaging climate pollution.
- Requirement of the completion of Comprehensive Gas Development Plan (CGDP), and two years monitoring in a specific site, before full scale drilling commences.
- Disclosure of chemicals used for drilling to Maryland Department of the Environment and to health professionals diagnosing and treating patient.

As the political voice for the environment, Maryland LCV is working with advocates across the state with varying positions on this critical issue. While most groups agree that these recommendation are groundbreaking, they do not believe that this report proves the case that fracking can be done with acceptable levels of public health and environmental risk.

Maryland LCV supports strong protections for Maryland communities. We call on Governor-Elect Larry Hogan to pledge to support and strengthen these regulations as minimum safeguards. If fracking commences in Maryland, funding for these protections should come from the gas companies who profit from the drilling. Maryland taxpayers should not be burdened with the costs of cleaning up damages commonly experienced in places where drilling occurs. The best solution for Maryland families is for our state to stop investing in dirty fuels and instead increase our investments in and requirements for clean, renewable energy that can power our economy without sacrificing our air, land, water, health, or climate.

Sincerely,

Karla Raettig
Executive Director

Board of Directors

Marissa Brown, *Chair*

Jennifer Bevan-Dangel

Joy Blackwood

Beth Blauer

Alan Girard

Larissa Johnson

Mary Ellen Kustin

Oscar Ramirez

Dawn Stoltzfus

Liz Nelson

Karla Raettig
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www.MarylandConservation.org



Western Maryland Health System

November 24, 2014

Marcellus Shale Safe Drilling Initiative Advisory Commission
c/o Brigid Kenney, Esq., Maryland Department of Environment

Re: Proposed Assessment of Marcellus Shale – Related Jobs on Healthcare Infrastructure

Members of the Commission:

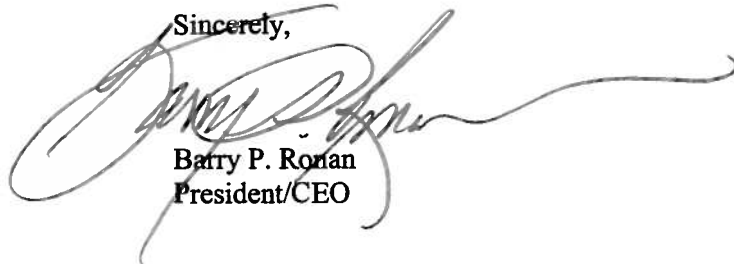
The Western Maryland Health System is the largest provider of acute care, emergency care, wellness and other healthcare services to the people of Allegany and Garrett Counties. We operate the Western Maryland Regional Medical Center in Cumberland, a 275 bed general hospital. We are one of nine trauma centers in Maryland and operate an occupational health and medicine program, two urgent care centers among a wide range of physician practices, clinics and diagnostic centers in Western Maryland.

I have just learned of a draft report dated November 21, 2014, purporting to assess the demand on healthcare facilities in our two counties from increased employment over time from potential natural gas production. The report estimates additional employment in the peak years (expected in 2021 in Garrett County and in 2024 in Allegany County) from the projected additional jobs (both direct and “spin-off” jobs) peaking at 908 jobs in Allegany County and 2,425 in Garrett County. The assessment report refers to a “study” which suggests that such added employment would increase healthcare utilization in a manner that would strain the existing healthcare infrastructure in our counties, likely leading to decreased quality, availability and access to services.

To both my surprise and my dismay, Western Maryland Health System was not contacted or asked to participate in this assessment. Although we have not had the opportunity to actively participate or review the specific details of this assessment, my general reaction and position is that we, and other healthcare providers in Allegany and Garrett Counties, have more than enough capacity to meet the estimated increased demand and can continue to provide excellent healthcare for all of the people of our service area. In this regard, we join with Rodney Glotfelty, the Garrett County Health Officer, in asserting that our Health System in this area is resilient enough to meet any increased demand without jeopardizing public health.

Should you require any additional information, please do not hesitate in contacting me directly. Going forward, I would appreciate the opportunity to participate further in this assessment in the future.

Sincerely,



Barry P. Ronan
President/CEO

Western Maryland Regional Medical Center
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Cumberland, MD 21501-0539
240-964-7000

WMHS Administrative Center
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P.O. Box 539
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Willowbrook Office Complex
12501 Willowbrook Road
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Cumberland, MD 21501-0539
240-964-7000

*Frostburg Nursing
& Rehabilitation Center*
48 Tarn Terrace
Frostburg, MD 21532
301-689-1391

Written testimony for the state shale advisory
commission meeting on 20 Oct 12 @ Garrett College

In addition to the one page "Principles
To Remember" enclosed, the following

suggestions are submitted for the commission's
consideration:

I. One of the requirements included in the
1976 Surface Mine ^{Reclamation} Regulation and Conservation Act
was to mandate a pre-blast survey, conducted
at company expense by a certified appraiser, to
ascertain the quality of homes and structures
within a one mile radius of the blast sites. Why
not include a pre-^{environment} drilling survey, at company
expense to provide certified baseline data
on air, noise and water quality?

II. The above mentioned act levied a
reclamation tax on each ton of surface and
deep mined coal mined after the passage of the
act to be used to reclaim abandoned mined
lands. Why not a gas extraction tax to
pay for land and water damage resulting from
the gas extraction process?

Basically I am in favor of a gas extraction
act at the federal level similar to federal act
on mined coal. Prior to my federal retirement, I
was an inspector of the Office of Surface Mining.

By: Paul Shogren, presently member of the Garrett
County shale advisory committee representing the Garrett
County Forestry Board, having a Forestry degree, PSU,

Principles to Remember When Dealing With the Extraction of Non-renewable Mineral Resources (gold, coal, gas, oil);

I. These ~~two~~ ^{three} laws prevail during all phases;

- A. Murphy's Law
- B. Unintended Consequences
- C. Boom and Bust

Depend ^{on} and Prepare For them

II. Make sure any Severance Taxes levied on the industry are used for their intended uses, not to balance budgets.

III. Do not rely on only one source for information. Each side has its own agenda.

IV. Greed and Jobs create the most emotion and uncivil behaviors

V. Follow the Money Trail. ^{most of} Does the money stay in-state or go out-of-state?

VI. When leasing see a lawyer and consider thy neighbor.

VII. If the deal is too good to be true, it probably is!

Fracking provides a perfect application for Murphy's Law

To the Editor

To frack or not to frack? I am an engineer, have been for 69 of my 84 years. I've worked and taught at Drexel University, graduate school, aeronautics, rocket propulsion, air-frame structures etc.

I'd like to introduce a personality that through the years has always been with me and with every other engineer, his name is "Murphy".

A wily elf, always at every engineer's side. This cheerful personage has, as god of engineers, one law: Whatever can go wrong - will. It never fails.

Prof. Alan Glasser
Cumberland