

Minutes of July 11, 2014, meeting of the Marcellus Shale Safe Drilling Initiative Advisory Commission

Approved: August 18, 2014.

The Commission held its 30th meeting on July 11, 2014, at Frostburg State University. The meeting was scheduled to begin at 10:00 am, but was delayed because of problems with access to the room and the computer/projection system. In attendance were Chairman David Vanko and Commission members Commissioner James Raley, Commissioner William Valentine, Mayor Peggy Jamison, Shawn Bender, Ann Bristow, Steve Bunker, Cliff Mitchell, Paul Roberts, Nick Weber and Harry Weiss. Commission staff Dr. Christine Conn and Brigid Kenney were present, as well as other agency personnel and members of the public.

Chairman Vanko called the meeting to order. The revised draft minutes of the June meeting were discussed. Commissioner Kupfer had emailed corrections the day before. There was discussion about the definition of “best practices” in the Executive Order and whether the recommended best practices met the definition.

At this point Gabriel Echeverri interrupted the meeting by standing and making a statement. The Chairman said that this was not an appropriate time for public statements, but Mr. Echeverri continued, making statements in opposition to fracking and claims that polluted water would result if shale gas development were allowed in Maryland. Mr. Echeverri then left.

Because of continued computer/projector problems, the Chairman allowed other members of the audience to speak. Susan Snell said that she lives in the area and does not want fracking here. Fracturing should not be considered separately from the Cove Point issue. Fracking will impact health, the environment, and the entire culture and way of life. This is her home. Fracking will benefit only big corporations.

Eric Robison spoke next. He said that he has not received answers to all his questions. What does he have to do to get answers? He is concerned that the public process is not working. Chairman Vanko said that all comments and questions are reviewed and considered by staff, but that it is not feasible to answer every question posed. He pointed out that changes were made to the best practices report as a result of comments and questions. Mr. Robison specifically mentioned that his questions about transportation have not been answered. Ms. Kenney advised him that the transportation issue is being reviewed, but there is nothing to report yet.

A woman from Allegany County asked about “unacceptable risk.” Where and how is that defined? Chairman Vanko said that it is a judgment call that will be made by the Departments after considering the risk analysis. Commissioner Weber said that after the risk assessment is released the community of stakeholders needs to address the concept of unacceptable risk and mitigation. Commissioner Bristow said that, from a

public health perspective, empirical evidence on impacts should be weighed against the benefits of drilling to the local area; for example, weigh an increase in low birth weight babies against benefits. Local elected officials should be engaged in weighing and comparing these factors.

Amy Fabbri, attending with her young son, said that it is not a question of if harm will be done, but when. She expressed concern over emergency response, chemical disclosure, the common occurrence of well failure, and the boom and bust cycle. Using coal as an example, she said that extractive industries create environmental problems and leave the community in poverty. She encouraged the Commission to think long term and that the impairment of even one person's health or property should be considered.

Commissioner Roberts said that the Governor has publicly stated that fracking will occur in western Maryland. He encouraged the public to vote and to bring others to public meetings like this one to express their thoughts. He said more voices are needed to influence the decision.

Commissioner Weiss commented that the role of the Commission has been to advise the Departments on all of the issues to help the Governor's office make a final decision on whether risks are acceptable. Ms. Fabbri asked what the benefits of gas development are that could be weighed against the risks. Chairman Vanko pointed out that America relies on gas for energy. Commissioner Weiss said that anyone who drives a car relies on fossil fuels. Ms. Fabbri encouraged the Commission to change America's paradigm of energy addiction.

Mr. Robison said that MDE as a regulatory agency allows a certain amount of environmental degradation and that he feels that the Commission's process is leading to the same result.

Commissioner Bristow said that she does not agree that it is a foregone conclusion that Maryland will allow hydraulic fracturing. She refuses to accept that, especially since we have touched only the tip of the iceberg in terms of evidence on performance and impacts. She also encouraged the public to speak out more and to vote because these are critical for making a change in public policy.

Another member of the audience said that if Cove Point is approved, there will be an increased demand for fracking and that she does not support this. She also asked how the Commission advises the agencies. Chairman Vanko explained the advisory role of the Commission, and cited the protection of the Savage River watershed as evidence that the departments have been willing to accept advice.

At this point the computer/projector problems were resolved. The revised minutes, including the changes suggested by Commissioners Kupfer and Weiss, were approved.

Ms. Kenney provided an update on the public health report. Some Commissioners had been able to attend the June 28 final progress report presentation by MIAEH. The slides from that presentation are posted on MDE's website and the Marcellus Shale Public Health Study website. Topics addressed included the Baseline Health Assessment, Impact Assessment, and Recommendations. The report is expected to be issued soon. There will be a 30 day comment period and MIAEH will be present at the August 18 Advisory Commission meeting to discuss the report with the Commissioners. Commissioner Mitchell added that the comments of the 50+ people who attended the June 28 meeting will result in some modifications to the report. Public comment and the comments of independent reviewers will be made public. Commissioner Mitchell plans to summarize the comments for the Commission at the August meeting. Commissioner Bristow asked to see the comments of the independent reviewers on the scoping report. Commissioner Mitchell agreed to release these to the Commission. Commissioner Bristow also said that she would like to see a comparison of what was scoped with what was done.

Commissioner Roberts asked for clarification of the relationship between the risks being addressed by the health team and how this differs from the risk assessment being undertaken by the Departments. Commissioner Mitchell explained how the team assigned risk, using a widely accepted but not quantitative approach. He could not speak to the Departments' risk assessment. Ms. Kenney confirmed that the Departments are doing a qualitative risk assessment and will consider the health report as well as other studies. In response to a question from Commissioner Weber, Commissioner Mitchell confirmed that the health team will recommend setbacks.

Commissioner Bristow said that cumulative risks should not be estimated as an average of all the risks. As an example, she said that throwing a cigarette butt in a stream poses a low health risk to the public, but that the overall public health risk of cigarette smoking is high; these two health risks should not be averaged into an overall public health risk of cigarettes. She said that the University of Maryland team was using an averaging methodology for cumulative risk assessment and cumulative hazard scores and that this was inappropriate. She said cumulative risks are at least additive if not multiplicative. Commissioner Mitchell welcomed these comments and pointed out that the science and methodology of assessing cumulative risks is evolving and subject to many criticisms. Some risks are additive, some are synergistic, and some could cancel each other out. He recommended that the public look at the report in its entirety and evaluate how the known information informs the recommendations. He recognizes that there is a great deal of uncertainty.

By way of public announcement, Commissioners Bristow and Mitchell noted that a public health symposium will be held on September 12. Commissioner Bristow mentioned another meeting on July 15 and said that she hopes to arrange for a film about gas development to be screened at the upcoming Appalachian festival.

Ms. Kenney provided an update on the RESI economic report. The comment period on the economic study closes on Monday July 14 at 5:00. To date, she has received written comments/questions/critiques from three persons/organizations. RESI will develop a written response to the comments and also will attend the August 18 meeting of the Advisory Commission to discuss the report with the Commissioners. In the meantime, she gave brief answers to some questions that had been raised orally at previous meetings.

Commissioner Valentine had noted that the economic baseline and projections in the report are different from the projections used by the Maryland Department of Planning. Why?

RESI's baseline projections are based on Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW) data at the County level. This data is collected by the Maryland Department of Labor, Licensing and Regulation and is then tabulated to reflect employment from payroll and Unemployment Insurance record data. QCEW data is based on where people work.

In contrast, Maryland Department of Planning (MDP) bases its projections on American Community Survey (ACS) Data for 2008-2012. The ACS represents data collected by a survey of a subset of the population, and is based on where people live. ACS is not updated as frequently as QCEW data.

The methodology for the two is therefore vastly different. Although the choice of datasets makes a difference, it is not critical to the analysis because the impact of gas development is seen in the difference between the no drilling scenario and the other scenarios.

Who were the outside reviewers of the RESI economic study?

The reviewers of the RESI study were Dr. Lucija Muehlenbachs and Dr. Clifford Lipscomb. An MDE staff economist also reviewed the report and offered suggestions. Information about the peer review appears in Appendix E to the report.

Did RESI assume revenue from a business personal property tax at the County level?

No. The "other taxes" represent fees and taxes such as licenses, permits, etc. ordinarily associated with development at the local level.

Did RESI assume a value for the permit fee to be assessed by the State for gas well permits?

No. The permit fee, which has not yet been set, must cover the cost of the state oil and gas program, but not collect more. Thus the fee would be a wash and would have little effect on the economy of western Maryland.

The report fails to address the impact of gas drilling on property values.

The report acknowledges that gas development could affect property values because of the proximity of the property to drilling. The value of properties could also decline if

there were actual or perceived changes brought on by drilling activity that lessened the attractiveness of the area. RESI addressed these separately.

RESI discussed the available literature on the impact of proximity to a gas well on home values in Appendix A to the report. Those studies indicated that homes close to operating gas wells declined in value on the order of 22 percent to 27 percent if the homes were reliant on water from private wells. Section 8 of the report and Appendix C discuss RESI's evaluation of the effect of gas wells on housing prices. Although there are no horizontal wells to date in either county, there are older vertical wells near residences in the region. To determine the level of impact in Western Maryland from Marcellus Shale drilling, RESI employed a hedonic model using historical well data and property data for Allegany and Garrett Counties. The results from this analysis were used in the model for each scenario.

The RESI analysis found that for two identical homes, one within a half mile of an existing gas well and one two miles or more from a gas well, the value of the home within a half mile would be about 8 percent lower. In contrast to the results of other studies, whether the home was on well water or public water was not significant. This was probably because homes in western Maryland near current or inactive well sites were predominantly on public water.

The report fails to address the impact on tourism.

Due to a lack of data regarding the coexistence of tourism and drilling, the possible impacts to tourism activity in Western Maryland were difficult to quantify. RESI addressed it qualitatively.

RESI searched for data on regarding the coexistence of tourism and drilling. Little data were available, and what was found was not very helpful. For example, occupancy rates did not differentiate between "visitors" who were tourists and "visitors" who were employed at drill sites. Sales tax data did not differentiate between sales to workers and sales to tourists. It appears that no one is collecting data that would separately assess the impact on tourism. As summarized in Section 1.4 of the report, however, RESI's research identified some potential impacts relying on both actual and perceived changes brought on by drilling activity. "Willingness to pay" answers from the survey were incorporated into the contingent valuation analysis.

Addressing the question qualitatively, RESI noted that Western Maryland is attractive for tourism and for second homes because, among other things, it offers exceptional natural beauty and opportunities for outdoor recreation. If drilling occurs, nonresidents may perceive the area to be less attractive. In addition to affecting tourism generally, this could negatively impact the popular second-home market of Garrett County, including properties in the Deep Creek Lake area.

RESI observed that the depth of the impacts relies on the pace and scale of drilling activity. Pace is determined by the number of wells drilled in a year, and scale is the

geographic area in which drilling is concentrated. The pace and scale of drilling can be influenced by domestic and global industry behavior.

Of course, an incident such as a spill that affected water quality in Deep Creek Lake could have an adverse impact on tourism, although not necessarily a lasting impact on property values. The proposed best practices are designed to minimize those risks.

County Commissioners said that they had received comments from their constituents that would be forthcoming.

After a break, Ms. Kenney presented some slides and talked about the trip some Commissioners made on June 14, arranged by West Virginia Host Farms. The group saw sand trucks and residual waste trucks, experienced traffic stops to allow trucks to pass, saw an abandoned well that appeared to be spewing a gas, saw storage tanks with periodic venting to the ambient air, saw many instances of erosion and sediment control lapses associated with pipeline installation and drill sites, observed many houses with water buffaloes, drove around potholes and on roadways with buckled asphalt, watched (from a distance) an active drill site where casing was being installed and water was being transferred from a truck to a lined impoundment causing foam to form in the impoundment, and observed a few water withdrawal points, pipe storage areas, and rectangular and circular tanks for holding liquids, some of which appeared to be in the floodplain.

Commissioner Bunker asked why there were water buffaloes. We were unable to learn the nature of the problem that necessitated discontinuing use of well water and substituting water delivered to water buffaloes. Some of our tour guides said that the well water became cloudy with sediment, but did not know if the water had been tested. There was some speculation that when gas wells in the area were drilled through the ground water, sediment entered the drinking water aquifer.

Commissioner Roberts noted that the pads seemed to contain only one well each. There are multi-well pads in West Virginia. Commissioner Bender said that 6 to 12 wells per pad are common, but it depends on what land has been leased and other factors. It is common to drill several wells sequentially on the same pad before moving the drill rig off site.

Chairman Vanko said that there were many practices that were alarming and many practices that would not be permitted in Maryland, such as storage of liquids in open top tanks, pads constructed on land with steep slopes, development in floodplains, and very poor erosion and sediment control. He observed that the water appropriation program in West Virginia seemed not to be very stringent. Commissioner Jamison pointed out that Maryland has excellent soil and erosion control regulations, and Chairman Vanko recalled Jay Sakai's presentation on Maryland's effective water appropriation program.

Commissioner Weber noted that we had visited a compressor station that was very loud. The noise was constant. Commissioner Roberts pointed out that compressors are under FERC control, which he found alarming, because FERC pays little attention to local concerns or local ordinances.

Commissioner Bristow said that it was apparent in West Virginia that the industry is not doing any more than they are required to do, and that apparently West Virginia does not require much. She expressed concern that Maryland is setting standards based in part on the very poor standards of other states.

In response to a request, Ms. Kenney agreed to post a link to West Virginia Host Farms on MDE's website. (The URL is www.wvhostfarms.org/)

Ms. Kenney said that the interim final best practices report has been posted on MDE's website. It is called "interim final" to emphasize the fact that the recommendations could change based on additional information such as the health study and the risk assessment. She provided a summary of changes made most recently and provided updates and answers regarding matters raised at earlier meetings as follows.

1. *If a Commissioner develops a different opinion on a best practice after the June meeting, how will this be memorialized?*

If a Commissioner wants to express a view on the best practices different from the view expressed at the June 13 meeting based on the public health report or other studies, the Commissioner can mention it during the discussion of those studies. Either we will add another appendix to the best practices report indicating the change of view, or it will be reflected in the third and final report. The decision where to put it hasn't been made.

2. *Will you accept Commissioner Mitchell's recommendation to specifically mention public health in connection with the CGDP?*

We have accepted Commissioner Mitchell's recommendation and amended Planning Principle 3 to read "Observe and comply with all location restrictions and setbacks in Section IV and locate wells, pads and infrastructure to avoid, minimize and mitigate impact on public health and human and natural resources."

3. *What additional public health layers will be added to the toolbox?*

The contents of the toolbox will not be determined at this time, but we would anticipate including any GIS layers that a State department thinks should be considered.

4. *How will other agencies participate in the CGDP process or review of the application for an individual permit?*

MDE will consult with the other agencies, but the decision will be MDE's. It is not uncommon for a statute to require consultation or coordination among agencies while leaving the decision making in the hands of one agency. This is what the legislature has done with respect to oil and gas permits. The current statute (14-104) requires MDE to

"coordinate with the Department of Natural Resources in its evaluation of the environmental assessment" for a well permit but MDE makes the decision.

To ensure that other agencies have an opportunity to participate, we have added this paragraph to the best practices report: "In the event that an application is made for an exploratory well before a CGDP has been submitted and approved, MDE will notify relevant State agencies and the County and municipality in which the proposed exploratory well is to be located and provide an opportunity to review the application and comment. Relevant State agencies will include DNR and the Maryland Departments of Agriculture, Planning, and Health and Mental Hygiene."

5. *Any update on the relevance of the review letter on SB370 to our proposed setbacks?*

No. I have asked our legal counsel for advice on the applicability of the review letter on SB370 to our proposed setbacks. I do not know when I will get a response.

6. *Springs used for drinking water need a setback longer than 450 feet.*

After discussions with water supply, we decided to recommend a setback specific to wells used for residential drinking water. It reads "The setback from a spring that is used as the source of domestic drinking water by the residents of the property on which the spring is located, measured from spring to the edge of the well pad, shall extend to all lands at an elevation equal to or greater than the spring discharge elevation, but not to exceed 2,500 feet unless a delineation of the recharge area prepared by a registered geologist, with a report and data supporting an alternate area, is submitted to the Department and the Department approves an alternative area."

7. *How long will the State allow wastewater be stored on site?*

The length of time onsite storage can occur will be addressed, if HVHF is allowed, in regulations or in permit conditions.

Mr. Dexter's presentation

8. *Could Mr. Dexter investigate and report back on the landfill in West Virginia that accepted NORM and then detected radiation in its leachate? Are Maryland's landfills designed differently from the West Virginia landfill?*

I have asked Mr. Dexter to look into the West Virginia landfill issue and report back to me.

9. *What about the use of depleted uranium in perf guns?*

We are considering the issues involved in the use of depleted uranium, but have not come to any decisions yet.

Questions on Mr. Aburn's presentation

10. *Have decisions been made on air monitoring?*

Anything said about air monitoring at this point is preliminary and subject to change. MDE is still awaiting the results of the PADEP long term monitoring study, and EPA Region III, ATSDR, and NETLs studies in Southwestern Pennsylvania. This work will be evaluated and the findings will be incorporated into MDEs recommendations for any required ambient air monitoring programs. Canister samples can be collected and analyzed by GC/MS for a wide variety of VOCs. Where sensitive populations are in close proximity to drilling operations, more monitoring could be required. MDE could require comprehensive monitoring initially and then reduce the frequency of sample collection based on the number of non-detects and ratchet down to screening or sentinel techniques. Weather conditions and topography always affect pollutant concentrations. MDE could require air toxics modeling using conservative meteorological assumptions that simulate inversion conditions.

MDE can monitor for one or several chemicals, but we cannot design an air monitoring program to address combinations of emissions for which standards do not exist.

Sensor technology is rapidly evolving and could potentially be incorporated. FLIR and other sentinel type monitoring could be used to detect episodic releases and be used to trigger other more compound specific and temporally resolved monitoring.

11. *In addition to FLIR, is the state considering using near infrared spectroscopy on site, which can identify many different organic chemicals?*

We have done some preliminary evaluation of this technology. We believe near infrared spectroscopy may not be suitable for Marcellus Shale drilling operations. The detection limits appear to be too high to be of any practical value. In addition, instrumentation costs are significant and the equipment is very operator intensive.

12. *If exports drive up the price of natural gas, won't that lead to more well drilling and hydraulic fracturing?*

It may, but if prices rise very much, the demand will go down. DOE commissioned two studies on the economic effect of export of LNG. Our understanding of the Energy Information Administration (EIA) Report is that increasing natural gas exports will also increase the price of natural gas. Larger exports will yield larger domestic price increases. Natural gas production would be expected to rise to meet the demand. If exports increase rapidly, prices will increase rapidly within the first few years; and if exports increase slowly, prices will increase slowly at first but eventually lead to higher average prices in the future. The study also finds that due to the higher domestic prices the electric power sector will shift to coal-fired generation and renewable energy, and there will be some decrease in total generation, too.

The second study was by NERA Economic Consulting (NERA). Our understanding of the NERA Report is that the net economic benefits increase as the level of natural gas exports increase. The rise in price of natural gas will be limited by the global market

(demand and supply for natural gas). In the case where the cost of producing additional natural gas rises substantially, the US would not export natural gas. Further, if other regions have ample supply entering the international market and if the US were to export gas, there would be little impact on the price of natural gas. That is, the US exports will not impact price because global supply will determine the price, and the US would be providing a small share of natural gas to the global market.

13. *When figuring CO₂e for methane for purposes of requiring offsets, what conversion will be used -- methane as 30 times more potent than CO₂ or 80 times more potent?*

The Greenhouse Gas Reduction Act and associated emission inventories used the 100-year impact factor for methane of 34, which is the factor we intend to use.

The Commissioners then asked a few questions. How will the air monitoring program be developed? Ms. Kenney said that MDE's Air and Radiation Management Administration would convene a stakeholders' workgroup to develop the monitoring program.

Would the setback for springs be applicable to artesian springs? Chairman Vanko said that for an artesian spring, one would need to identify the recharge area, which could be located miles away. Ms. Kenney said that she had talked with someone from the Garrett County Environmental Health Department, who said that the County no longer approved residential lots that would be served by springs and that there were few properties in Garret County that relied on springs for drinking water. Commissioner Bristow said that springs are used to water livestock and to irrigate farmland. She said that these uses should also be protected by setbacks. She would like to revisit the issue. Commissioner Roberts said he believes that the County underestimates the number of homes that use spring water. He would like to see more coordination between County and State to improve the database. Ms. Kenney noted that any applicant for a gas well permit would be required to inventory the source water of surrounding properties and to notify landowners. Commissioner Valentine said that the data on the use of springs may be drawn from mortgage records, because banks will not issue loans for spring-fed homes.

Commissioner Bristow expressed concern that canister sampling will not pick up spikes in air pollution. Ms. Kenney said that canister sampling could be followed up by additional sampling that was compound specific and temporally resolved. Commissioner Bristow wondered what the detection limit would be. Ms. Kenney said she did not know, but reminded the Commission that there will be a public process to develop the monitoring protocols. Commissioner Weber noted said that he had seen air monitors during the West Virginia trip, including one at a residential property. Chairman Vanko said these were monitors for particulates. Chairman Vanko said that the general plan seemed to be detection monitoring at a relatively coarse scale, to be followed by fine scale monitoring if potential problems were detected. Commissioner

Bristow said that the inability to monitor may be another reason not to allow fracking. Commissioner Weber commented on the need to get a handle on cumulative effects. Chairman Vanko asked the Commissioners if they were satisfied to know that there will be a public process later this summer to develop a monitoring protocol. Commissioner Mitchell noted that monitoring is very complex and that the goals of the monitoring must be defined, e.g., spikes in emissions, chronic emissions, etc. Commissioner Roberts expressed concern that the State will move forward without a monitoring plan. Commissioner Roberts asked if the State had considered the comment made by Mr. Durham at an earlier meeting that setbacks should not only be from occupied dwellings because that would not protect the owners of undeveloped land that would later be developed. Ms. Kenney said that the issue was being considered.

In response to a question, Ms. Kenney said that no date for a stakeholder meeting on air monitoring had been set. Commissioner Bristow asked if MDE is waiting for the release of EPA reports. Ms. Kenney said that ARMA wanted to see the results of those other studies, and reminded the Commissioners that there would be time to consider this long before any drilling could occur.

Because Commissioner Bristow was interested in the topic and had not been on the Commission when a Surface Owners Protection Act was discussed, Ms. Kenney reviewed what the Commission had agreed on and not agreed on. Commissioner Weiss had chaired a subgroup of Commissioners who considered the SOPA. The Committee had agreed that a SOPA was desirable, and had reached consensus on three core principles:

1. it should apply, at a minimum, to any surface owner who does not own the mineral rights;
2. the person seeking the permit to drill should give advance notice to the surface owner regarding what he intends to do and where he intends to locate the well pad, access road, etc. and give the surface owner an opportunity to negotiate these matters; and
3. the permittee must pay money damages to the surface owner for damage to the surface owner's property.

The Committee had not reached agreement on other aspects of a SOPA, such as

1. whether a SOPA should cover surface owners who are also mineral rights owners, as opposed to those who only own surface rights; and
2. the question of what should occur if the surface owner and the lessee negotiate but fail to reach agreement.

Ms. Kenney advocated waiting until after the third and final report is issued before tackling other issues such as the SOPA.

Commissioner Bunker pointed out that many of the leases have expired, so the issue of protecting property owners who want to lease their mineral rights should not be a sticking point. Ms. Kenney pointed out that some landowners may be ill-equipped to negotiate leasing conditions. Commissioner Bunker asked if this could be approached as a consumer protection or consumer education matter, with dissemination of technical resources for property owners who want to enter into mineral leases. Commissioner Roberts said that the Attorney General had opined that the consumer protection law would not be applicable to oil and gas leases, which are considered commercial leases. Ms. Kenney agreed, but said that a new law could address oil and gas leases by, e.g., requiring that certain provisions be included in every such lease.

Commissioner Bunker said that there had been an issue of contract law involved. Commissioner Weiss said that a person who doesn't own the mineral rights needs a SOPA, whereas a person who owns the mineral rights and decides to lease them needs resources and protections, but that negotiation of the terms of the lease should be allowed. Commissioner Roberts called on the counties to educate landowners on negotiating leases, either a county program or an ombudsman at the county level. Commissioner Weiss noted that University Extension Services and banks can provide these services. A member of the public said that the University of Maryland Extension Service has a leasing specialist to help farmers. Commissioner Bristow said that the Maryland Environmental Trust has decided that they will not take conservation easements on land unless they know who owns the mineral rights. Commissioner Bunker commented that it is very difficult and expensive to research mineral rights, especially when the mineral rights were severed from the surface estate more than 100 years ago. There followed a general discussion of the dormant mineral rights law and a case in Allegany County where the dormant rights had been extinguished and whether the case had been appealed. Chairman Vanko said that he sensed strong support from the Commission for a SOPA, and that the question of whether the SOPA would apply to a person leasing mineral rights should be considered. He said that the focus should be on finalizing the reports that are required under the Executive Order.

Commissioner Bristow asked if emergency preparedness and local land use will be discussed. Ms. Kenney said that MDE is working with the counties on emergency preparedness and that local land use has been discussed a number of times and will be referenced in the report as it relates to the industrialization of the rural landscape and the role of local zoning.

Commissioner Roberts asked about Fred Baldassare and the issue of methane monitoring. Ms. Kenney said that she had contacted Mr. Baldassare and sent him some information but had not gotten any comments back. Methane monitoring will not be discussed at the August meeting, which will be focused on the health report and the economic report.

Commissioner Weber brought up the issue of the use of depleted uranium in perf charges. Ms. Kenney said that ARMA was looking at this issue and that if depleted uranium were brought to the site, it would have to be disclosed in advance. Commissioner Weber is concerned about possible exposure pathways.

Public comment followed.

Mr. Nard offered that depleted uranium is a waste product of uranium processing such as milling, enrichment, recycling and nuclear fission. These can have different properties and levels of radiation. Depleted uranium is dangerous if you breathe it or ingest it. When it is used in explosives it could oxidize and it could become an aerosol. Chairman Vanko pointed out that depleted uranium is used safely in applications such as weighing the keel of a sailboat.

Mr. Quilty asked for an explanation of what would be in the third report. Ms. Kenney said that it would be a standalone report that would synthesize the various studies, make findings and recommendations, and key up the issues for the decision makers. Mr. Quilty also said that he would like to see some sort of balance sheet in the economic study, showing costs and benefits. He understands that it is difficult to assign economic value, but that acknowledging this and identifying the magnitude would be helpful. Chairman Vanko said that another way to look at it would be to consider the winners and the losers.

“Liz” from Garrett County asked if the States Genuine Progress Indicator could be used to evaluate benefits and costs. Dr. Conn responded that the GPI is a statewide metric and does not have data at the scale of counties or the Marcellus shale region.

David O’Leary of the Sierra Club said that the structure of the economic report makes it difficult to understand and comment on. He asked that the comment period be extended. Commissioner Mitchell said that he anticipates similar concerns with comments on the health report, but that he hoped the organization of the report would facilitate reading and commenting. Mr. Quilty said that he would like an extension, but that the questions and answers were valuable. Commissioner Roberts asked for another two weeks to comment.

Tommy Landers of Chesapeake Climate Action Network expressed appreciation for the BMPs to control and possibly offset methane emissions. He would like to be on the stakeholders group for the air regulations and monitoring. He objects to the use of 34 as the CO₂e factor for methane because it represents 100 years, and the timeline for action is on the order of decades. He asked how the Commission would present its findings and whether there would be majority and minority reports. Commissioner Bristow asked if Commissioners could do a minority report. Commissioner Weiss suggested that the Commission could vote as they did on best practices. Ms. Kenney reminded everyone that the reports are the Departments’ reports, after consultation

with the Commission. In the two prior reports, the Commissioners' comments were included in an appendix.

Eric Robison spoke about the economic report. He said the number of truck trips was misleading as presented. He said that he heard Dr. Irani say that business personal property taxes were included. He said that he would like to see all the tax income broken out for each county. He said that the report had no data and no baseline. He said that if Citizen Shale had submitted a report like that, the State would have rejected it.

Mr. O'Leary asked about the agenda for the October meeting. Ms. Kenney said that she did not know.

Mr. Landers asked if we could consider two meetings, one in Baltimore and one in Garrett County, perhaps in the evening. Chairman Vanko said he would consider it. Mr. Robison said that the lack of technology hinders public participation.

Rebecca Ruggles said that the health symposium would be held on September 12 in Baltimore, from 10:00 to 3:00, probably at the University of Maryland School of Nursing. Dr. Bernard Goldstein has agreed to moderate. The MIAEH team that produced the health report and Dr. Mitchell are expected to participate. More information will be available on the website of the Maryland Environmental Health Network, www.mdehn.org.

The next commenter did not give his name. He said that he had been in the western United States and talked with Native Americans about fracking. He asked what we will do when militant groups rise up and take action against fracking. Commissioner Weiss asked what he was talking about – sabotage, violence? The commenter mentioned Earth First! and also talked about blocking truck traffic as an example of action. Chairman Vanko said that he hoped that people would be civil.

The last commenter was Ruth Yoder. She said the Commissioners were a diverse and talented group and she was not surprised if they are unable to come to a consensus. She said landowners like herself should be represented and asked that the backgrounds of the Commissioners be disclosed perhaps by including a brief biography of each in the final report.

The meeting adjourned at about 3:30.