

Minutes of September 15, 2014, meeting of the Marcellus Shale Safe Drilling Initiative Advisory Commission

Approved: November 5, 2014

The Commission held its 32nd meeting on September 15, 2014, at the Lyric Theater in Frostburg, Maryland. In attendance were Chairman David Vanko and Commission members Senator George Edwards, Delegate Heather Mizeur, Commissioner James Raley, Commissioner William Valentine, Mayor Peggy Jamison, and Commissioners Shawn Bender, Ann Bristow, Steve Bunker, Jeff Kupfer, 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. Two amendments were made to the draft minutes of the August meeting, after which they were approved unanimously.

The next agenda item was a presentation by Matt Rowe, Deputy Administrator of MDE's Science Services Administration, on the risk assessment (RA) undertaken by the Agencies. He explained that he was going to describe the process of preparing the RA and share a few of the findings. The draft RA will be released within 2 weeks for a 30 day comment period. The risk assessment will not specifically address the health and safety of workers because this is outside the purview of the Marcellus Shale Safe Drilling Initiative and under the jurisdiction of the Occupational Safety and Health Administration. The RA does not evaluate climate change because that is more of a national energy policy issue. The RA does not address downstream infrastructure or the proposed liquefied natural gas terminal at Cove Point, because there are other forums for addressing these. The RA does not evaluate the Accident storage facility.

Bill Neil from the audience questioned why the RA evaluated 150 well and 450 well scenarios when statistics for fire and explosion are based on thousands of wells. For example, he said that based on wells in Texas and Pennsylvania, you can anticipate one serious fire for each 1,000 wells. Commissioner Weiss pointed out that we do not expect more than 450 wells in the Marcellus shale in Maryland. It was clarified that this number included both Garrett and Allegany Counties.

Mr. Rowe explained that depending on the risk being evaluated, different approaches were used. For example, there is a noise standard, so the risk evaluated is whether the noise standard will be exceeded. Noise was evaluated for a single 6-well pad. Noise is not additive, and well pads are likely to be spaced at a considerable distance from each other. For water appropriation risks, there is not a standard per se, but site-specific factors are considered in the permit review. The water appropriation permit program is responsible for ensuring that stream flow is protected.

Commissioner Mizeur asked if the RA assumed that the best practices would be followed. Mr. Rowe said yes. He then continued, saying that there is no regulatory

threshold or standard for methane migration; in that case the RA relies heavily on the literature to find that the risk was moderate at a setback of 2,000 feet from private wells and low at a setback of 1 km. A suite of best practices for casing and cement reduce the risks.

Commissioner Valentine asked whether the evaluation of noise from truck traffic considered the proximity of the road to people, which roads would be used (state or local), and a comparison with existing traffic noise. Mr. Rowe said no, because the specific roads could not be identified at this time.

Commissioner Bristow said that methane is not the only contaminant to be concerned with – methane can be accompanied by ethane and other volatile organic compounds (VOCs). She also said that there was a recent report of a surfactant contaminating ground water. Mr. Rowe said that the RA had to cut off considering new material, and some of the most recent may not be included.

Commissioner Weber said he assumed the 66 risks would be evaluated independently. He asked how probability was calculated. Mr. Rowe said that when data were available, we used them; otherwise, we used professional judgment. Sometimes there was insufficient data.

Commissioner Roberts asked if the report would be released simultaneously to the Commission and the public. Mr. Rowe said yes, with a 30 day comment period. Mr. Roberts said that the Departments had taken the position that the Executive Order did not bind the agencies to do a RA. What is the history behind the change? Mr. Rowe said that the Departments decided to do a RA in part because of requests from the Commission. Ms. Kenney said that the Department's consistent position has been that a RA is not required. She said she was involved in the drafting of the Executive Order and the word risk was used in phrases like "consider the risk of ground water contamination" because ground water contamination is not a certainty. Chairman Vanko pointed out that the undertaking of a RA showed a concurrence of thinking on the part of the Commission and the Departments.

Mr. Roberts said that setbacks were intended for protection against surface spills. Did the State consider that? Mr. Rowe said yes.

Commissioner Bristow said that compressor station blowdowns are noisy. Will the Commission see the evaluation of all 66 risks before the comment period closes? Will the Commission have an opportunity to ask questions about the RA? Mr. Rowe said yes to both questions.

Mr. Roberts asked if rainfall was considered. Mr. Rowe said yes.

Bill Neil, a new resident of Frostburg asked from the audience about mapping existing and abandoned wells and coal mines. He said the presence of these features

complicates matters, especially with respect to water. Mr. Rowe pointed out that the Comprehensive Gas Development Plan (CGDP) requires an investigation of subsurface features and that MDE's mining program has maps of coal mines. Chairman Vanko added that drilling a pilot hole (another best practice) will reveal whether coal mines are present. Commissioner Weber reminded everyone that coal bed methane has a unique isotopic signature. He called for an isotopic study. Ms. Kenney said that if there were an incident, an isotopic analysis could be done, and reminded him that the methane must exceed a certain concentration before an isotopic analysis can be performed. Chairman Vanko said that existing methane data for Garrett County private wells collected by the Maryland Geological Survey showed that the methane was not purely thermogenic or purely biogenic.

Eric Robison of Citizen Shale and the Garrett County Shale Gas Advisory Committee asked from the audience whether those doing the RA considered the risks only under the assumption that the best practices were followed. Mr. Rowe answered yes. Did the RA use numbers of truck traffic trips consistent with the numbers MDE supplied to MDE? Mr. Rowe answered yes. How can we say anything about the risks to water resources when a hydrogeologic study of western Maryland has not been completed? Mr. Rowe and Ms. Kenney answered that some data are available, and that pump tests are used to determine if the proposed withdrawal will impact other well users. Did the RA look at one well or many, and what failure rate did the RA assume? Anna Kasko, an MDE staff person who worked on the RA, was present and said that the leak rate has been reported to be between 5 percent and 50 percent. The best practices should reduce the rate of well failure. Mr. Robison said that he thought that we should use a 9 percent failure rate based on the Ingraffea paper. He said that 10% of 450 wells is 45 wells, and that would be a problem for Garrett County. He also said that by evaluating methane, which does not pose a health concern, we would miss the risk of other contaminants like benzene that do. Mr. Rowe suggested that would be a good comment. Mr. Robison asked if risks will be reevaluated if comments are made. Ms. Kenney said she anticipates that will happen.

Commissioner Bristow complained that edits had been made to the best practices report that had not been brought before the Commission. Will this happen with the RA? Ms. Kenney said that the agencies could provide a redline version to show changes.

Chairman Vanko pointed out that in the Jackson study some wells with methane also contained small amounts of ethane and propane; he did not recall that benzene was also present. It would be important to look at the methane to benzene concentrations and ratios, and consider how far away the sample points were from the source. Mr. Rowe noted that there is a Safe Drinking Water Act Maximum contaminant Level for benzene and said he would look into this. Chairman Vanko said that benzene is known to be associated with flowback and is a carcinogen, but he is not certain benzene has been associated with methane. Commissioner Roberts pointed out that radon in methane is a problem.

Tim Whitehouse of Physicians for Social Responsibility asked from the audience if it is known what standards drillers were actually using in Pennsylvania and how they might compare with the proposed Maryland standards. Can the state estimate well casing failure rates if Maryland's best practices are followed? Mr. Rowe said his understanding was that Pennsylvania enforcement may have been lax, and he doubted the information would be available. The RA team was not able to assess the reduction in failure rate that would result from Maryland's best practices. Mr. Whitehouse said he wants to understand the basis for the risk judgment and whether it was based on data or "just people sitting around." Mr. Rowe said that the reasoning would be explained in the document.

Delegate Wendell Beitzel asked from the audience if any analysis had been done to determine whether the 2,000 foot or 1 km setback would leave any land available for drilling. Could 450 wells still be drilled? Will there be any consideration given if a group of contiguous landowners want to waive that setback? Dr. Conn said that a constraint analysis was done to locate sites that could accommodate a 4 acre pad. With 8,000 foot laterals, a large portion of the shale gas could still be accessed. The analysis had not been done for these setbacks, partly because the locations of the private wells are not available. Ms. Kenney said that a 1 km setback might significantly reduce the amount of land available for pad location.

Paul Durham of the Garrett County Board of Realtors expressed, from the audience, his concern about diminution of property values and asked if the best practices would affect that. He said that the issue of setbacks from unimproved property and lease boundaries should be revisited because so much of Garrett County is undeveloped. He suggested that the data recently released by PA DEP on well contamination could help identify constituents and distances from sources.

Commissioner Bristow said that Pennsylvania continues to release data as it evaluates complaints. In the recent case of contamination by a surfactant, it has not been determined if the source was a surface spill or a release below the surface. Non-disclosure agreements squelch our ability to investigate.

Paul Durham said that Charlie Yoe had stressed the importance of establishing a standard before beginning the RA; this standard would serve as the dividing line between acceptable and unacceptable risk. If there was not enough information to make a judgment, the risk should be considered unacceptable. Will the air standards be met? Will the setbacks be enough? Mr. Rowe admitted that in some instances there were insufficient data. Ms. Kenney noted that risks with regulatory standards were relatively easy to assess. The judgment of whether the risk is acceptable or not is a policy decision.

Jim Guy from the audience said that acceptable and unacceptable risk should be defined and quantified before the RA is done. Mr. Rowe said that some risks are not amenable

to quantitative analysis and that qualitative judgments must also be made. The RA team is not setting a threshold for “acceptable” risk. That is the call of the Governor’s office.

Bill Neil asked if the private drinking water wells will be mapped. Does the State even have the resources to manage this program? Ms. Kenney said that MGS and the Garrett County Health Department were undertaking to geolocate the wells that have been permitted. She explained that fees for gas well permits can be set to fully fund the Department’s program. There is no fee for water appropriation permits, and the staff of that program are stretched, but still able to manage. The applications for Marcellus wells that were filed and then withdrawn indicated that public systems had agreed to sell the necessary water for the drilling and hydraulic fracturing.

Rebecca Ruggles of the Maryland Environmental Health Network said that the RA should include the noise data that MIAEH had collected for its health report. Ms. Kenney noted that this was limited to compressor stations, but that it could be incorporated. Ms. Ruggles suggested that the RA should indicate when, for each risk, the team stopped collecting new literature. Ms. Kenney said that this information would have to be found in the citations. Chairman Vanko pointed out that the RA is a living document.

Commissioner Weber said that we should have the risk assessment peer reviewed.

Following a lunch break, Dr. Donald Milton of the Maryland Institute for Applied Environmental Health spoke about MIAEH’s health report, which had been publicly available since August 18. He explained the differences between a health impact assessment and a quantitative risk assessment. A quantitative assessment tends to focus on one chemical. It is extremely sensitive to assumptions and the conclusions often have a high level of uncertainty. With quantitative risk assessments, there is a chance that the most important risks will be overlooked because its focus is narrow and it is dependent on numerical analysis. Qualitative health impact assessments are an attempt to answer broader questions about risks, the population exposed, and how that population would be affected.

Dr. Milton’s colleague, Dr. Amir Sapkota, continued the presentation, concentrating on air quality. He said that air quality and noise concerns were identified by both the community and the literature. In evaluating the literature, the team analyzed the data rather than accepting the author’s interpretation of the data.

Noise from the well pad is transient, while noise from a compressor station will remain in the community for 20 or 30 years. The team monitored noise inside and outside homes and different distances from the compressor station. Duration, frequency, intensity or magnitude, and concentration were all considered in evaluating the risks. For certain kinds of pollutants, distance matters. For example, the concentration of air pollutants from traffic drops to background levels between 500 meters (1640 feet) and 1,000 meters (3281 feet) from the source.

Commissioner Valentine said that if setbacks reduce the amount of pollution reaching people, doesn't that lower all the other rating factors? Dr. Sapkota said no, each factor is evaluated separately.

Commissioner Kupfer commented that setbacks are not the only practice to reduce risk. If industry practices make it less likely that air pollutants would be emitted, that should also reduce risks. Dr. Sapkota said that we don't know what the best practices will achieve, so best practices were not taken into account except for setbacks.

Commissioner Weiss said that if setbacks reduce the risk, they should be represented as a negative number in summing the risks. Dr. Sapkota said using a negative number wouldn't change the categories.

Dr. Sapkota said that the high rating for occupational health was heavily influenced by the NIOSH silica study. More recent information has recently been released on benzene exposure among oil and gas workers.

Dr. Sapkota noted that the low risk of earthquakes was based on the assumption that Maryland would not allow wastewater disposal by deep well injection.

Dr. Milton then continued the presentation with a discussion of the comments of the peer reviewers and MIAEH's response.

- The impact of methane on climate change was not considered. Dr. Milton said that climate change was not in the charge. This is a global, not local issue. To evaluate it would require a supercomputer and a different team of experts.
- Exposure intensity was not estimated. Dr. Milton said that concentration was hard to anticipate. The concept of exposure intensity was rolled into severity and frequency.
- "Impact" is not the best term to use; "concern" is better. Dr. Milton said the tables have been revised to indicate "level of concern."
- Why was it considered appropriate to rank the risks in three categories? Dr. Milton said that such an organizing principle helps policy makers to focus on the most important or critical health concerns. Dr. Milton cautioned the rankings are to be used internally, and that the rankings should not be compared directly to other studies, such as the Battlement Mesa report.
- The same rigor of review was not applied to all the literature studies. Dr. Milton explained that it is important to look across multiple studies, but that deficiencies should be noted. The one study that was rejected had made two very basic errors that invalidated its conclusions. An abstract was considered because it had been peer reviewed.

- Why are the owners of surface rights a vulnerable group? Dr. Milton said that those who own only the surface rights and not the mineral rights will suffer the consequences of gas development without reaping the benefits. They may also be unable to remove themselves from the impacts. This justifies classifying them as a vulnerable group.
- The populations of western Maryland may be so small that surveillance will not yield useful data. Dr. Milton explained surveillance ensures continuous improvement, and is an important part of prevention. It can be used to evaluate the success of the best practices. Tracking birth outcomes, mucosal problems, asthma and chronic obstructive pulmonary disease could be an early warning system. The surveillance must be active, however, not passive. It would probably not be helpful to track stroke outcomes.
- There is little basis for the recommended 2,000 foot setback for air pollution. Dr. Milton said that Colorado found that odors could not be detected 0.5 miles from the source, but that the distance could have been longer or shorter. Highway studies indicate the reduction of pollutants at 500 meters (1640 feet) and 1,000 meters (3281 feet) from the source. The recommended setback of 2,000 feet seemed like a reasonable intermediate number.

At this point, the Commissioners were invited to comment or ask questions.

Commissioner Bender said that the best practices will reduce the risks and should be considered in the ranking. Dr. Milton said that it is difficult to determine the level of implementation of the best practices. For example, the type of fuel used by trucks and compressors makes a difference – diesel has a different impact than gasoline or natural gas. There will be a certain amount of diesel and people close to it will be affected. You may be able to do more with controlling compressors. Chairman Vanko noted that the CGDP will help to reduce exposure to some populations. Dr. Milton said that the traffic will go somewhere; it may be a question of whose ox is gored.

Mr. Bunker asked why the focus was more on diesel exhaust instead of the VOCs associated with the well pad. Dr. Milton said that there was much more data on traffic than on VOCs. The emissions of VOCs and hydrogen sulfide vary across well pads. He also noted that setbacks should not be applied rigidly, but rather adjusted depending on the topography and wind direction. The setback could be shortened in one direction and lengthened in another.

Commissioner Weber asked where Dr. Milton stands on a public health registry and disclosure issues. Dr. Milton said that registries are passive and he thinks a more active system is called for. He said he would argue against trade secret protection, and thinks that any agreement that prevents people from reporting problems should be illegal.

Commissioner Kupfer asked if Dr. Milton was comfortable with the weight given to the different studies. He thought that there were problems with some of the studies used, and that some other valid studies were ignored. Dr. Milton said that his team included everything they could find in the peer reviewed literature. He looked at the weight of accumulated evidence. He recognized the strengths and weaknesses of each study, but most of them had similar findings.

Chairman Vanko noted that MIAEH looked at the original data. Were there instances where MIAEH disagreed with the authors? Dr. Sapkota said that their analysis was not very different, but that some of the West Virginia data had not been included in the article. The MIAEH team added information on benzene concentrations in air. Dr. Sapkota said that air pollution is episodic. It could be high during flaring and lower at other times.

Commissioner Weber pointed out that episodic releases can result in high short term exposures that may not be reflected in monitoring that is averaged over time. Dr. Sapkota agreed that peak exposures need to be measured. Peak exposures may be important for acute health impacts while averages are important for chronic effects.

Commissioner Bunker asked for clarification about whether the health report considered any best practices except for setbacks. Dr. Milton said MIAEH considered only setbacks. This differs from the approach used in the RA Mr. Rowe described this morning. Also, the MIAEH team rated “unknown” risks as lower than “known” risks, and there are many risks related to water that are unknown.

Dr. Mitchell asked if population vulnerability was evaluated. Vulnerability of populations can be an important factor. Older people and young children may be more vulnerable. Mr. Rowe said that the RA addressed the consequences to the population in general.

Commissioner Bunker said that there is no exposure if you break the pathway. Some exposures may be more diffuse. Dr. Milton said that people on well water may face a different risk, but MIAEH was not able to determine which populations were more vulnerable based on their source of drinking water.

Commissioner Bristow thanked the MIAEH team and said she attributed any shortcomings in the report to the time constraints. She said she advocated for more time, but her pleas fell on deaf ears. Table 10-17 contains an error; the score should be 16, not 15. The risk for social determinants of health should have included sexually transmitted diseases and domestic violence. This would have raised the risk rank. She is concerned about air emissions. Setbacks are the only applicable best practice and she does not think the best practices will reduce air impacts. Even with more stringent setbacks, there are still air quality impacts. Best Available Control Technology should be defined as allowable emissions. There is too little data for water quality. Risks associated with water came out lower because we know so little about water, especially

in western Maryland. If there is an air emissions problem, the source can be shut down or controlled. Not so for water; once it is contaminated it stays contaminated. The risk ranking should be higher for water to alert policy makers that we don't have the data. She was pleased to see noise monitoring for compressor stations, but the Accident Storage Field compressor station is not in the report and should have been included. It could be important from a "source differentiation" point of view. That storage facility is accepting wet gas from the Marcellus. She sees more compressor station in the future because gas pipelines are being built. Pipelines have a compressor station every 40 miles.

Senator Edwards said that the problem of being medically underserved already exists and will continue to exist whether or not drilling in the Marcellus shale occurs or doesn't occur. Population growth may help alleviate it. He suggests that the health report and the RA use the same terminology. He questioned why "moderate" was changed to "moderately high." Dr. Milton said that he consulted with peers at the University and "moderately high" seemed to better communicate the meaning; some people understood "moderate" to mean that no need to be concerned.

Delegate Mizeur said that it seemed to her that the lack of data was the factor that prevented a "moderately high" from being a "high." She said the report should be clear on this point. She said that water pollution and cumulative exposure were the two areas she particularly noticed. Dr. Milton agreed that lack of information is a concern, but that he thought noise is correctly designated as moderately high.

Commissioner Bristow said that noise and air pollution are synergistic, possibly because stress can impair the immune system. She said that because we know about synergy in one case, we should assume it in all others. She suspects that because of synergy, the cumulative risks would be sky high – off the charts.

Commissioner Bender said that the Commissioners will need to evaluate how the best practices will reduce the impacts. Dr. Milton said that he doesn't know whether the practices will be effective and enforced. He said that the report identifies the areas where the State needs to concentrate its efforts if it goes forward to make the public as safe as they can be.

Public comment followed.

Roger Birenbaum, a resident of Frostburg, asked where the water for hydraulic fracturing will come from and where the flowback water will be stored. He said it would be dangerous to store in old mines. Chairman Vanko said that the Commission had been briefed on the water appropriation process and that he thought it is unlikely that water would come either from ground water or headwater streams. He was less certain about the likelihood that lakes would be a source. Flowback must be stored in tanks or containers before it is either recycled or disposed of.

Rebecca Ruggles asked about the different radionuclides; how big a job is it to identify the appropriate suite of radionuclides? Dr. Sapkota said that researchers may have been looking at too limited an array and that the radionuclides vary with location. Different methods detect different types of radioactivity. Ms. Ruggles said this was an example where there should be interagency coordination. Ms. Kenney said that MDE's Air and Radiation Management Administration (ARMA) was still looking at the issue of radioactivity. She noted that EPA had recently released an analytical method for detecting gross alpha and gross beta activity concentration in flowback and produced waters from hydraulic fracturing operations. The test can be completed in less than 24 hours. It does not identify the specific radionuclides, but if there is a high reading, more testing could be done. State agencies will coordinate to review the health recommendations.

Commissioner Weber asked if the Departments had considered a policy for the use of depleted uranium and other radiological substances. He thinks large quantities could be brought to Maryland and used. Chairman Vanko mentioned that he had skimmed some recently proposed Illinois regulations that require that all radiological devices be disclosed and accounted for. Perhaps a similar approach would work in Maryland. In response to a question from the audience, Commissioner Weber explained that depleted uranium could be used in the explosive charges used to perforate the casing and cement. He said that up to 20 grams can be used in a single charge, and that thousands of charges could be used.

Will Candler of Frostburg said that the result of extracting and burning natural gas is more carbon dioxide in the atmosphere, leading to worse global climate change and impacts on human health.

Nadine Grabania, a member of the Garrett County shale Gas Advisory Committee said that setbacks will not mitigate impacts such as crime or sexually transmitted diseases. Were setbacks used across the board? Dr. Milton said that some risks are alleviated by setbacks and some are not. A rigid application of circular setback distances may not be appropriate, and setbacks could be adjusted for topography, for example. This could be addressed in the CGDP. Ms. Grabania said that wells were proposed in an area of Garrett County near her home, and the roads the drillers proposed to use would never bear the truck traffic. She also asked about Recommendation 23 in the health report: Require identification and monitoring of "signature" chemicals in fracturing fluids to allow for future identification of ground water infiltration/contamination. Is a signature chemical a tracer or something else? Dr. Milton said the report did not specifically recommend tracer chemicals but did suggest that the fracturing fluids be analyzed so that everyone would know what chemicals to look for. Tracers can be effective, but the selection of tracer chemicals can be tricky. Ms. Grabania expressed her appreciation for the recognition of risks to surface water. She said, however, that a moderately high cancer risk is as unacceptable as a high cancer risk. The lack of data seems to affect the risk ranking. Would it be fair to say that the people of Maryland are being

experimented on? Dr. Milton said that people in Pennsylvania and West Virginia have been the guinea pigs, and that we are trying to ensure that this does not happen in Maryland. He said that we should monitor and make improvements as needed. He mentioned that the OSHA silica standard has been on the books for decades, but NIOSH found that the standard was exceeded at some well sites. There are simple fixes to some problems. We must inspect to be sure the right procedures are followed.

Bill Neil asked if Maryland could say no to hydraulic fracturing unless trade secrets are abolished, non-disclosure agreements are forbidden and tracers are used. He worries about the long term problems. He noted how hard it has been at Superfund sites to identify the responsible parties, and that pollution can migrate.

Eric Robison thanked the study team and said that he could follow the reasoning in the report. He sees more work needed at the local level. He said we should get out in front of the issue – we don't need another acid mine drainage problem.

Dr. Mitchell reported that he had received about 900 email comments on the health report about 24 of which could be identified as coming from western Maryland residents, but many of them were the same form email. He discouraged people from sending more form letters or form email, but encouraged the submission of substantive comments. The comment period closes October 3. He will include today's oral comments.

Commissioner Bristow provided handouts, including a list of websites compiled by NGOs that can be a resource for understanding and commenting on the health report. She noted that calls for more health research have come from many entities. She said that what had started as a collaboration with the public had fallen apart because of time pressures. She thinks a GIS map showing vulnerable populations, buffers, the locations of existing mineral leases, etc. are essential. She noted that twelve of the recommendations in the health report involve the public, but that it will be hard for the public to respond.

Ms. Kenney then advised the Commission of the status of the work. ARMA is still looking at the issue of radioactivity and the use of depleted uranium. The risk assessment document needs a lot of editing, since it was written by eight different people. Some information on the traffic issues will be in the RA, but we are still trying to get some data on accident rates in the counties to complete the work. Staff will begin drafting the third and final report that weaves together the results of the work we have done over the last three years. She reminded the Commissioners and the public that it will be the Departments' report. The Advisory Commission will be consulted, as with the first two reports. She anticipates a draft in the fall and a final by the end of the year.

Delegate Mizeur asked to be reminded about the traffic study. Ms. Kenney described the various sources of data and how they would be used. Delegate Mizeur asked if the Commissioners will vote on the final recommendations. Ms. Kenney said that the

Commissioners will be asked to weigh in on the report and that their comments will appear in an appendix as in the previous two reports. As before, changes could be made by the Departments in response to the Commission comments.

Chairman Vanko said that the Commission may want to consider a subset of the 66 risks as it did the best practices and discuss the level of agreement or concern at the next meeting. This could be documented as it was for best practices, in an appendix. There may not be an actual vote, but he will make sure all points of view are noted.

Rebecca Ruggles noted that a cost estimate has not been made for the costs of improving the healthcare infrastructure. Ms. Kenney said that some additional information may be included in the final report, using data such as injury rates among oil and gas workers. Chairman Vanko asked if there are any experts who could put a price on infrastructure needs. Commissioner Bristow said that the Affordable Care Act may complicate the question; health insurance from policies issued to out of state residents may cover only emergency care. Dr. Mitchell said that county health professionals are best positioned to address the healthcare infrastructure and that the question of insurance is very complex. Commissioner Bristow asked if we should invite the County Health Officers to a Commission meeting. Eric Robison said that the Garrett County Shale Gas Advisory Committee will be discussing local health care issues at an upcoming meeting on September 25 at 7:00 pm.

Commissioner Bristow provided information about a systematic attempt to ask the public about their concerns, hopes and thoughts on shale gas development, using a grant from the Appalachian Regional Commission. Frostburg University students will be trained to listen and document responses to questions. Most of the work will be done in Frostburg. Commissioners are invited to submit questions. A station will also be set up at the Frostburg State University Appalachian Festival, which runs from September 18 to 20. Cathy Powell, Cheryl DeBerry and Paul Durham will present a panel on the economic study on Friday from 2:00 to 3:00, and there will also be a session on the Frostburg source water protection plan, which is being developed following the release in 2013 by MDE of a new Source Water Protection Program report for Frostburg.

Derek Johnson spoke to the choice of words in the health report. He said there is a difference between a concern and an impact. He thinks moderately high sounds higher than moderate. He referred to an analogy Senator Edwards sometimes uses, comparing the economy of Garrett County to a three legged stool: agriculture, tourism and business/ industry. He said the business/ industry leg is the shortest. Sometimes a company comes in for awhile and props that leg up like inserting a block of wood. But if that block of wood has termites, it will affect the whole stool and it will collapse.

Commissioner Weber said that Trout Unlimited is naming the Savage River as one of the special places in the Marcellus shale region. He will distribute the press release.

The meeting adjourned at about 3:30.