

Minutes of September 25, 2013, meeting of the Marcellus Shale Safe Drilling Initiative Advisory Commission

Approved October 23, 2013

The Commission held its 21st meeting at Allegany College on September 25, 2013 at 10:00 am. In attendance were Chairman David Vanko and Commission members Senator George Edwards, Commissioner James Raley, Commissioner William Valentine, Mayor Peggy Jamison, Stephen Bunker, Dr. Cliff Mitchell, Paul Roberts, Nicholas Weber and Harry Weiss. Also in attendance were staff of state agencies and members of the public.

Minutes of the August 23, 2013 minutes were approved without change.

Dr. Christine Conn reported on the responses to the survey Commissioners had been asked to complete. Seven Commissioners had responded, and one additional set of comments had been received from a Commissioner. She briefly summarized some highlights of the completed surveys. There was general agreement that a Comprehensive Gas Development Plan (CGDP) should be adopted, but a considerable number of the respondents doubted that it should be required for exploratory wells. Commissioner Raley said that he thought exploratory wells might be addressed in either of two ways: no exploratory well should be allowed within a 2.5 mile radius of another; or choose a maximum number of allowable exploratory wells, perhaps 10. Commissioner Roberts asked if there was any peer reviewed literature on the effectiveness of CGDPs. Dr. Conn replied that there was not; the only literature consisted of descriptions and examples. Commissioner Weber opined that exploratory wells should not be needed in Maryland because the Marcellus formation had already been explored nearby in Pennsylvania and West Virginia. Dr. Conn also noted that some Commissioners wrote that the CGDP could be wrapped into the individual well permit; otherwise it would be too onerous. Commissioner Roberts asked about forced pooling, and Commissioner Weiss noted that pooling would complement a CGDP. Commissioner Roberts asked if an alternative to the CGDP might be to cap the amount of impervious surface in a watershed, for example, to 2% of the total land area. Commissioner Weiss responded that it may be.

Dr. Conn continued that there was general support for location restrictions and setbacks, but that various Commissioners expressed concern that some were too restrictive or not restrictive enough. Specific comments include a) setbacks from existing wells should be re-evaluated because it would prohibit multi-well pads, b) setbacks should be adjustable based on meeting defined performance standards and specific site conditions, c) setbacks from aquatic habitat and cultural/historic/public sites and lands should be extended to 600 feet rather than 300 feet, d) private well setbacks should be extended to 2,000 feet rather than 1,000 feet, e) questioning whether the setbacks from property boundaries are measured from the vertical borehole, the lateral borehole, or both.

Comments on the Section V and VI regarding plan requirements and engineering, design and environmental controls and standards include a) avoid a one size fits all approach, b) zero stormwater discharge standards should only apply to areas of the pad where contaminants or hazards exist, c) pits and ponds should be used for freshwater storage only, d) pipeline standards should be more stringently regulated through the PSC, should engage local government review and should address methane leakage issues, e) transportation planning and mitigation plans should be consistently applied across all

local industries that rely on road use and should be coordinated through both local and state agencies, f) in general, preference should be given to electrically powered equipment only where it is feasible or where noise pollution is a problem, g) dry fracking should be encouraged to reduce water management concerns, h) central recycling of wastewater should be an option, i) all plans and proposed engineering work must meet appropriate performance standards to ensure that risk of well failure has been minimized to the best extent practicable and that if an accident were to happen, adequate measures would be in place to ameliorate the impacts, j) avoid on-site disposal of drill cuttings. On the issue of the disclosure of trade secret chemicals to a treating physician under a confidentiality agreement, a Commissioner wondered whether the physician could inform the patient. Dr. Mitchell noted that sometimes it was not the identity of the chemical but the percentage of the chemical in the commercial product that was secret. Might there be a way to disclose the chemical without disclosing the formulation? Chairman Vanko also noted his objection to the disposal on site of any drill cuttings. He thought these should be disposed of in a permitted landfill.

There was a discussion of whether the county or state could impose a cap on impervious surfaces that would apply to the gas exploration and production business. Reference was made to two letters of legal advice from different lawyers in the state government who seemed to give contradictory answers. It was agreed that staff would convene a meeting or conference call among staff, lawyers for the state, representatives of the Maryland Department of Planning and the County Attorneys to try to clarify the legal issues. Information would be shared with the Commission so that County Commissioners and State legislators could consider how to proceed. If there were a cap on impervious surface, Senator Edwards and Mayor Jamison noted that it could be modeled on coal mining regulations where, as land was reclaimed, additional land could be disturbed. Commissioner Weber asked about the scale of the cap: county, watershed, subwatershed?

Ms. Kenney reported that approximately 4,200 comments had been received, and that MDE was in the process of organizing them in a format that matched the draft report to facilitate consideration of the comments and response. She said that the comments addressed, among other things, the setback from drinking water wells, whether the CGDP should be required for exploratory wells, water withdrawal, methane releases, and concern about the vertical migration of fracking chemicals.

The next agenda item addressed was public health. Dr. Mitchell explained that MDE had entered into an MOU with the Department of Health and Mental Hygiene (DHMH) and transferred money from a budget appropriation so that DHMH could engage a consultant for a public health evaluation. DHMH engaged the University of Maryland Institute for Applied Environmental Health. Dr. Sacoby Wilson from the Institute introduced himself and two other members of his team, Laura Dalemarre and Meleah Boyle. The Institute is directed by Dr. Donald Milton. Dr. Amir Sapkota, and Dr. Thurka Sangaramoorthy may also participate in the study. The work can be divided into two phases: scoping and assessment.

The team had held its first scoping meeting the night before at Frostburg University and was pleased at the turnout and participation. Several themes emerged from that meeting: concerns about air quality, water quality and quantity, the current health status of the population, the capacity of the current health care infrastructure, the possible benefits of gas production to employment and agriculture, the secondary impacts related to an influx of workers, and traffic disruption and damage to roads and other infrastructure. The second scoping meeting will be held on Saturday October 5, 2013, from 1:00 pm to

4:00 pm in the auditorium of Garrett College. The themes developed at the first meeting will help shape the discussion at the second meeting.

Dr. Wilson emphasized that the work will be conducted with transparency and community involvement. The Institute will establish a webpage. There may be in-person and internet-based surveys to gather current information about health status, percentage of the population with health insurance, etc. Dr. Wilson noted that the assessment will have value beyond the specific issue of gas development. Commissioner Weber suggested that the team contact local health providers. Commissioner Roberts noted that the health assessment should include impacts ancillary to drilling and fracking such as pipelines and compressors. Commissioner Weber noted that the impacts could be different depending on the number of wells per pad, and that refracking should be considered. At this point, there was a discussion of the need for the economic study and the public health study to use the same scenarios for the pace and density of gas development, so that the results could be harmonized. Dr. Mitchell endorsed this idea and indicated that steps were already being taken to share data and results. Commissioner Roberts strongly urged Dr. Wilson to interview persons who have been affected by drilling in nearby states, and requested that Commissioners be allowed to participate in those interviews.

Members of the public were allowed to ask questions and make comments on the health presentation, because the team from the Institute could not stay for the entire meeting.

- Rebecca Ruggles, Director of the Maryland Environmental Health Network, asked if an external review committee could be established. Dr. Mitchell said that he was exploring the possibility and would report back at the next meeting. Ms. Ruggles also asked if there would be a formal comment period on the scope of the study. Dr. Wilson answered that there would be an opportunity to comment on the scope after October 5.
- Eric Wilson of CitizenShale expressed appreciation for the meeting of the previous evening.
- Nadine Grabania asked if members of the public could submit information to add to or complement the literature review. Could the information be posted so anyone could access it? She said that, as someone with asthma, she worried about living near a compressor station.
- Woody Getz said that at last night's meeting, he had argued for limiting outreach to a website, but that on further reflection, he also favored email blasts and other means of communication.

As an update to the economic study, Ms. Kenney described the three scenarios that the Regional Economic Studies Institute (RESI) was considering, and invited the Commissioners and the public to comment and make suggestions for improvement. Using USGS estimates for the undiscovered shale gas reserves in the Interior Marcellus Assessment Unit, the Maryland portion of the Interior Marcellus Assessment Unit, the estimated ultimate recovery for an Interior Marcellus Assessment Unit well, RESI proposed to use three scenarios: no drilling, drilling a sufficient number of wells to extract 25% of the available gas, and drilling enough wells to recover 75% of the available gas. Other assumptions were identified, such as 8 wells per pad, drilling all wells in the first 10 years of the 20 year study period, and an assumed 20 year production lifetime for each well. Ms. Kenney said that she could not immediately share the full scenarios because errors had been discovered in the write-up that morning, but that she would post them on MDE's Marcellus Shale webpage once those errors were corrected. Chairman Vanko asked about the difference between the numbers of wells that had been estimated earlier (1600 in Garrett County alone) and the numbers estimated in the scenarios. Ms. Kenney explained that the

1600 estimate was a sort of a “back of the envelope” calculation made by an employee of Samson Resources and widely distributed by the University of Maryland Extension Agent. Commissioner Roberts noted that the County had used it as a working assumption for a long time. Commissioner Weber noted that the amount of land disturbance should include not only the pads but also the gas lines and compressor stations.

Following a break, Ms. Kenney briefly explained the draft work plan for the risk assessment that had been distributed to the Commissioners in advance of the meeting and that would be made available on MDE’s website. The work plan was based on the advice of Dr. Charles Yoe and the presentation he gave at the August 26 meeting. She proposed to start with the 41 risk pathways that had been identified among the top 20 of each of four groups of experts (academia, industry, non-governmental organizations and government) in the Resources for the Future (RFF) 2013 study entitled “Pathways to Dialogue: What the Experts Say about the Environmental Risks of Shale Gas Development.” Entries could be added to or deleted from this list and the Commissioners and the public were invited to submit suggestions. She explained that a team of subject matter experts from state agencies, supplemented if necessary by outside experts, would be convened. Based on evidence or, in the absence of evidence, best professional judgment, the team would detail the sequence of events that would lead to the impact and assign a probability (low, medium, high) to each. Each impact would also be characterized as low, medium or high. If appreciable risks appeared, the team would consider whether additional measures could be employed to reduce the risk or mitigate the consequences.

Commissioner Valentine asked whether the short-term and cumulative risks would be evaluated. Ms. Kenney said that was the intention. Commissioners Weiss and Weber noted that leaks from compressor stations should also be evaluated. Commissioner Weber asked for clarification about risks that could be eliminated because they were not appropriate to Maryland. Ms. Kenney gave as an example the requirement that only fresh water be stored in impoundments. In that case, risks associated with storage of flowback in impoundments would not be necessary. Commissioner Weber asked whether the risk assessment would be peer reviewed. Ms. Kenney said that she had not planned for peer review, but that the document would be available for public comment. The public could also be helpful in providing data. In response to a question, Ms. Kenney said that it might be possible to have RFF or Dr. Yoe review the report.

Dr. Conn noted that a chart had been handed out that identified the specific study topics listed in the Executive Order and the status of work on each. It was suggested that the chart be shared with everyone taking part in the studies. In response to Commissioner Weber’s question about the regulation of pipelines and compressors, Ms. Kenney said that an engineer from the Maryland Public Service Commission had agreed to attend the October Commission meeting to give a presentation and answer questions. A discussion ensued regarding the Executive Order item that there be a recommendation for appropriate changes to the laws or regulations concerning oil and gas. Previous recommendations for a Surface Owners Protection Act and a state-level severance tax had not resulted in legislative changes. It was agreed that the Commission’s legislative work group would be reconstituted to further discuss these recommendations.

Dr. Conn noted that the DNR staff were planning the first Recreational Use Study to identify recreational uses (kayaking, fishing, hunting, hiking, etc.) in Western Maryland to aid in future analysis of drilling locations, if Marcellus Shale moves forward, to minimize impacts to these resources. About 25 local

guides, park personnel and business leaders will be invited to conduct the study and map out these areas. Some Commissioners expressed an interest in seeing a demonstration of the existing GIS mapping layers for sensitive areas. Dr. Conn mentioned that some GIS layers were available online. The Commission expressed an interest in learning more about the shale gas development toolbox.

Staff agreed to set up a meeting among MDP and Garrett County attorneys to discuss performance standards in the absence of zoning and to report back to the Commission. Senator Edwards said he would consider sponsoring a bill to establish performance standards if the County could not do so.

The public was then invited to comment.

- James “Smokey” Stanton noted that the Youghiogheny River Watershed Association had received a grant from the West Virginia Water Institute to hire someone to coordinate the volunteer sampling. He asked the Commissioners whether the agreed-upon set of scenarios would remain stable. Commissioners agreed that it was important to use a consistent set of scenarios.
- Commissioner Valentine asked about monitoring data from DNR’s sampling points downstream of West Virginia drilling sites, and Dr. Conn agreed to check on the availability of data.
- A further discussion of the scenarios ensued. Chairman Vanko asked if there were some way to relate the pace of drilling in Pennsylvania or West Virginia counties near Maryland to refine the scenarios. Commissioner Roberts suggested it would be useful to learn what estimates industry would use. It was agreed that the scenarios adopted should be used consistently in the studies and not varied. Chairman Vanko said that if the impacts were linear, then only two scenarios would be needed, 0% development and 100% development and everything else could be extrapolated; but this assumption of linearity is most likely incorrect. Commissioner Weiss noted that 100% of the gas would not be extracted because not everyone would lease mineral rights. Commissioner Roberts said that if we wanted to use an aggressive scenario, we should use a higher estimate of gas, perhaps the amount with a 5% probability rather than a 95% probability.
- Commissioner Weber asked if the economic study would evaluate health costs. Staff replied that it probably would not, but that the studies would feed into each other. For example, if the economic study estimated how many new workers would come to Maryland, their health needs could be considered in the health report.
- Peter Versteegen expressed concern about using the FRR study because it was done by consensus and he questioned the statistical validity of the study, as well as the expertise (or lack thereof) of the survey respondents.
- Marsha Tirocke suggested that gas development poses a risk to soil quality and asked that that be included in the risk assessment.
- John Quilty, chair of the Marcellus Committee of the Deep Creek Lake Property Owners Association, also counseled that we not rely too much on the RFF study. He suggested that we look at all 200+ risks that were on RFF’s initial list and see how we would filter them. He suggested that we look at other risk assessments for ideas of risks to add. He also asked whether there is some experience to be tapped on rate of development in Pennsylvania.
- Rebecca Ruggles said that it appeared there would be a gap between the economic study and the health report in that neither would evaluate the costs of the public health impact.

Dr. Mitchell said that we may be able to identify the impacts but not quantify them. She said that a hospital in Pennsylvania lost money because it had to treat so many uninsured gas field workers. Ms. Kenney noted that the economic study would predict the number of workers under the different scenarios, and the team doing the health study could take that into account.

- Eric Robeson requested that all the materials discussed today be posted on line.
- Nadine Grabania suggested that RESI review the production curves produced by David Hughes. We should be careful not to look only at the best case scenario.
- Commissioner Weber asked whether the model RESI is using figures in the taxes that would be paid as a result of income from gas development. Ms. Kenney agreed to check.
- Eric Robeson said that he thought MDE could be designated as the Maryland agency with responsibility over pipelines.

The meeting adjourned about 1:20.