

**Meeting Minutes of the
North Carolina Mining and Energy Commission
March 8, 2013
Ground Floor Hearing Room
Archdale Building
Raleigh, North Carolina**

1. Preliminary Matters– Chairman James Womack

Chairman Womack called the meeting of the North Carolina Mining and Energy Commission to order at 9:00 am. The meeting began with a moment of silence, followed by the Pledge of Allegiance. He welcomed Commission members and others attending the meeting.

Chairman Womack read the excerpt of the State Government Ethics Act, and asked Commission Members to consider whether or not they had a conflict of interest with respect to any action items on the agenda. No conflicts were raised.

Chairman Womack advised that the public would be allotted a specific time to present comments. He instructed that anyone wishing to do so would have to add his or her name to the public comment sign-in sheet and noted that two interested parties had already signed the sheet.

The following persons were in attendance for all or part of the meeting.

Commission Members

Mr. James Womack (Commission Chairman)
Ms. Charlotte A. Mitchell
Mr. Charles Taylor (via telephone)
Dr. Robert Mensah-Biney
Dr. Kenneth B. Taylor
Ms. Amy E. Pickle
Dr. Ray Covington
Mr. Ivan K. "Tex" Gilmore
Dr. Vikram Rao
Dr. Marva Price
Mr. George Howard
Ms. Jane Lewis-Raymond (via telephone)
Mr. Charles Holbrook

DENR Staff Members

Mr. Tracy Davis
Mr. Mell Nevils
Mr. Toby Vinson
Mr. Walt Haven
Ms. Katherine Marciniak
Mr. Ryan Channell
Ms. Trina Ozer
Ms. Brenda Harris
Ms. Debra Godwin

The Attorney General's Office

Ms. Jennie Wilhelm Hauser

Others in Attendance

See attached sign in sheets.

2. Approval of January 25, 2013 Minutes– Chairman James Womack
Dr. Kenneth Taylor made a motion, seconded by Dr. Robert Mensah-Biney, to approve the minutes of January 25, 2013 as presented. The motion passed with no dissenting votes.

3. Committee Reports– Chairman James Womack

Water and Waste Management Committee – Dr. Vikram Rao, Committee Chairman
Committee Chairman Dr. Rao stated his committee reviewed the draft water use rules that were presented by DENR staff and discussed the recommended amendments based on stakeholders input. The Committee has directed staff to make necessary changes to the draft rule to present at the next meeting in May. He further stated that DENR staff would research the following issues:

- (a) Solid waste disposal associated with water residue from fluids to include sludge and drill cuttings;
- (b) Drilling mud handling and disposal;
- (c) Proper disposal of the flowback water and produced water based on how other states operate;
- (d) Centralized treatment centers versus on-site treatment, and reuse of flowback water instead of disposal.

MEC Chairman Womack stated that there could be some confusion regarding the definitions and terms of reference and noted that the Rules Committee was in charge of making sure that terms would be consistent throughout the rules. He questioned the definition of “encountered water,” a term which was used during the Water and Waste Management Committee meeting the previous day.

Committee Chairman Dr. Rao explained that encountered water, although not commonly used by the oil and gas industry, referred to water that returned to the land surface prior to and during well completion (similar to flowback water). He explained that whenever fluids were injected to the rock, some of the liquid would flow back to the surface. After installation is completed and a well is in production, the water received is then called “produced water.” Dr. Rao advised that there are two environmental approaches to take: (1) to inject the fluid that returns from the well underground in an EPA certified manner and to monitor those injection activities or (2) treat the water in some manner for reuse. However, he noted that the possibility of wastewater injection was remote. Additionally, he stated his preference for water reuse and the consideration of alternative fluid sources besides potable water.

MEC Chairman Womack stated that Mr. Tom Reeder, Director of the Division of Water Resources, had addressed the Water and Waste Management Committee and that Mr. Reeder was unconcerned about the cumulative volume of water that would be withdrawn from local sources to support oil or gas operations.

Committee Chairman Dr. Rao anticipates that the revised water use draft rules will be debated and approved at his next Committee meeting, then presented to the MEC at its next meeting. The Committee also plans to move forward with waste disposal as its next set of draft rules.

Administration of Oil and Gas Committee – Charles Holbrook, Committee Chairman
Committee Chairman Holbrook advised the Commission that the Administration of Oil and Gas Committee had received a presentation on rule assignment grouping (“bucket”) #7 by DENR staff and reviewed regulation requirements related to Session Law 2012-143 involving regulation of pre-drilling exploration activities, including seismic and other geophysical and stratigraphic surveys and testing; and regulation of drilling, operations, casing, completion and plugging and abandonment of wells. The Commission directed staff to draft the well construction rules using staff’s well construction presentation as a starting point. These rules, at a minimum, are to include standards for casing and cementing sufficient to handle high pressure injection of hydraulic fracturing fluids into a well for the purposes of fracturing bedrock and

the extraction of natural gas. The construction standards for other gas production infrastructure, such as well head standards and storage pits and tanks, will be future topics for the Committee.

Chairman Holbrook stated that the rules are to have a multi-layered approach, with the American Petroleum Institute (API) being the standards for equipment and hardware, while installation standards would exceed that of the API. Related to this are the cementing standards and procedures which should be formulated onsite for optimal formulation and setting time. The Commission discussed if the compressive strength tests conducted on concrete as industry standard were appropriate.

MEC Chairman Womack stated that in Pennsylvania, well installation involved a standard of four levels of casing: (1) conductor casing, (2) surface casing; (3) intermediate casing and (4) production casing. MEC Chairman Womack further stated that there were reports of contamination due to poor construction of the wells and poor cement quality. Chairman Holbrook and Dr. Rao explained that DEMLR's proposed method of "top to bottom" annular space cementing and subsequent testing of the cement would provide for a high level of protection.

Dr. Marva Price asked if hydraulic fracturing along faults could potentially cause increased earthquake activity. Committee Chairman Holbrook stated that areas within the Triassic Basins were not classified as seismically active. While he acknowledged that the lubrication of a fault from deep well drilling could cause minor fault slippage, he does not consider it a significant risk in North Carolina.

Dr. Rao stated that a greater risk could occur from fluid induction through disposal wells, as opposed to fracturing fluid. He suggested that a geological analysis to determine the presence of active faults within a given area before well installation would be prudent.

Committee Chairman Charles Holbrook stated the diabase dikes in the Triassic basin have no permeability or porosity at depth, and essentially cannot be hydraulically fractured.

Environmental Standards Committee – George Howard, Committee Chairman

Committee Chairman Howard stated that the Environmental Standards Committee discussed draft rules on chemical disclosure requirements and holding of trade secrets. Amendments from three Committee members had been received by staff and had been distributed to the rest of the Committee. Chairman Howard provided a "Chairman's mark" document to facilitate the acceptance of many of the submitted amendments and discussion. The discussion of outstanding amendments was facilitated by DENR staff and edits were made following unanimous motions for editing made by the Committee. Due to time constraints, Committee work on the chemical disclosure rule was not completed. Therefore, a follow-up meeting has been scheduled for March 25, 2013 to continue discussions on draft rule modifications and to allow for DEMLR presentations concerning "baseline sampling" and the use of diesel constituents in hydraulic fracturing fluids.

Committee Chairman Howard stated that the trade secret disclosure rule would require all companies to submit a master chemical family name list of fracturing fluid additives before being permitted for operations. Emergency responders and health professionals would be notified within two hours of a request for trade secret information via telephone. Chairman Howard advised that he had a conversation with Mr. Tom Clark, Colorado Oil & Gas Conservation Commission, regarding the number of trade secrets being held by the state and number of legal challenges to those trade secrets. According to Mr. Howard, Mr. Clark stated that Colorado currently had no challenges. Additionally, Mr. Clark explained that hydraulic fracturing fluids are increasingly composed of non-toxic chemicals, but these types of non-toxic hydraulic fracturing formulas are often considered trade secrets because they are new.

Committee Chairman Howard posed a legal question regarding the keeping of trade secret information and whether or not DENR should hold this information. The Commission discussed that under Session

Law 2012-143, the MEC and DENR are not authorized to hold trade secret data. Dr. Rao said that the State should encourage industry to make fracturing chemicals "greener."

MEC Chairman Womack asked Dr. Price to identify any gaps in the information that is already available through the "FracFocus" reporting website that medical professionals may need for the diagnosis and treatment of an individual who might have been exposed to fracturing fluids.

Mining Committee - Ivan K. "Tex" Gilmore, Committee Chairman

Committee Chairman Gilmore explained that his Committee had received information presentations addressing DEMLR's Mining Program along with mining statistics and a report detailing the Mining Program's permitting and enforcement actions. Committee Chairman Gilmore also described a presentation from Dr. Jeff Reid, senior geologist with the N.C. Geological Survey, on emerging minerals in North Carolina and their potential economic values. Committee Chairman Gilmore stated that North Carolina had approximately 860 active mines covering 132,000 acres.

Dr. Kenneth Taylor stated that helium had been found to be associated with the natural gas in North Carolina and that it might be worth billions of dollars. As a result, the helium content within the gas would serve as a great enticement for new industry.

4. Study Group Reports – Chairman James Womack

Local Government Regulation Study Group - Charles Taylor

Study Group Director Taylor explained that his Study Group had been considering setback requirements and the need to balance those requirements with the ability for oil and gas operations to properly function. Additionally, he explained that the Study Group was also examining local government obligations related to the delegation of federal regulations and State rules to counties and municipalities.

Study Group Director Taylor addressed the Commission on the legislative update of SB 76 and stated that local government authorities must have provisions to handle road impacts, rights-of-way, taxing, setbacks for safety purposes, and how federal and state entities would provide funds to local governments for enforcement. He also mentioned a need for local taxation authority and financial assurance for local governments.

Dr. Ray Covington stated that Study Group research was "beginning to cross-over" from each Study Group into the others. As a result, he requested that DENR staff try to coordinate Study Group meetings so that they occur on the same dates.

Study Group Director Taylor said that his Study Group would meet again on March 22 and April 26 and would focus on setbacks. Mr. Howard stated that after baseline testing, the Environmental Standards Committee would begin researching and considering setback rules. MEC Chairman Womack provided direction to the groups and committees for setbacks: the Local Government Study Group will look into how setbacks and waivers will be handled locally, and the Administration of Oil and Gas and the Environmental Standards Committees will handle distances assigned to setbacks.

Compulsory Pooling Study Group - Dr. Ray Covington

Study Group Director Covington stated that the Study Group has been comparing key issues with Arkansas, West Virginia, and other states. He explained that North Carolina already had a compulsory pooling law in place, but that the Study Group was researching the best pooling practices throughout the nation. Ultimately, this Study Group is trying to develop the best recommendations possible regarding compulsory pooling.

Study Group Director Covington stated that the Study Group was compiling recommendations for the Commission. MEC Chairman Womack stated that within any Study Group there does not need to be an

official vote on the recommendations that they pose to the Commission. However, any opinions which differ from the Study Group majority should be reported to the Commission. Based on this guidance, Study Group Director Covington offered the group's first recommendation, (although a quorum of official study group members was not present at the meeting, so the recommendation was considered tentative pending the next meeting of the Compulsory Pooling Study Group): "The pooling of mineral rights will in no way have the authority to also pool the surface owners' rights, unless a surface owner and operator agree otherwise."

MEC Chairman Womack directed that the Compulsory Pooling Study Group study the methods and techniques we might use to form drilling units and make appropriate recommendations to the Commission. This topic spurred discussion on the proper jurisdiction for rulemaking on local gathering lines, which was assigned to the Administration of Oil and Gas Committee to resolve.

Funding Levels and Potential Funding Sources Study Group – Jane Lewis-Raymond

Study Group Director Lewis-Raymond stated that her Group had focused on Pennsylvania's impact fee structure, severance taxes, and bonding. Additionally, the Study Group was studying cost impacts resulting from oil and gas operations (i.e. emergency services impacts, costs to upgrade roads and bridges, etc.). Study Group Director Lewis-Raymond explained that her Study Group was in the "fact-finding mode" and had developed a draft outline for its report. The Study Group has planned to have a final draft to the Commission during July. Study Group Director Lewis-Raymond stated that even though SB 76 proposes a severance tax schedule, the group would still study this area to determine adequate and appropriate severance tax and impact fees.

Dr. Rao stated that impact fees would cover impacts in the communities to the roads and bridges that are damaged from heavy vehicles.

Study Group Director Lewis-Raymond stated that her Group would try to reschedule the March 22 meeting due to all three study groups being scheduled to meet on that day in different locations.

5. Legislative Update, Senate Bill (SB) 76 – Trina Ozer

Ms. Trina Ozer explained that SB 76 had been passed by the Senate and was currently in the House of Representatives. She explained that the bill, if passed and ratified in current form, would:

- a. Allow DENR to begin permitting oil and gas sites for hydraulic fracturing as soon as March 1, 2015, however, DENR would not be required to issue permits;
- b. Remove the State Geologist from the Mining and Energy Commission;
- c. Change the requirement that the local government representative on the MEC be from a local government within the Triassic Basin, to requiring that a local government representative be from an area with the potential to produce oil or gas;
- d. Eliminate the requirement for a "landman" registry;
- e. Eliminate the requirement for a member of the Environmental Management Commission to sit on the MEC, and replace this requirement with a person who has expertise in the principles of water and air resources management;
- f. Establish severance taxes for dry gas, gas condensates, and oil.

Dr. Rao questioned the SB 76 language regarding commission members and stated that such changes would affect Dr. Taylor's and Ms. Pickle's participation. Chairman Womack stated his support for keeping the positions on the MEC and said that he had discussed with House members changes to the legislation that would retain these individuals.

Dr. Covington stated that the definition for a "landman" was legally vague. His opinion is that the registry is a good idea but the definition needs to be clear. Chairman Womack expressed his opinion that, if the registry is to be maintained, it should be maintained by the Secretary of State rather than DENR.

Addressing the MEC rule writing process, Chairman Womack stated that rules should be written in the context of current, supporting statutory authority. However, he advised Study Groups and Committees to develop recommendations for statutory changes if such changes are necessary to achieve an effective and efficient regulatory framework for oil and gas development. He also expressed his support of SB 76 establishing a date for permitting of oil and gas operations as a "target date" that provides a definitive timeline in which to work toward rule development. Chairman Womack stated that he continues to discuss with legislators a compromise in which they might establish appropriate conditions on the March 1, 2015 date so that the public would not incorrectly perceive the timeline as a rush to issue permits. Dr. Rao agreed and stated that if the time limit were too constraining to develop proper rules, the MEC could recommend a waiver for the March 1, 2015 date. He reiterated the MEC's goal of maintaining public involvement and transparency throughout the rule development process.

Ms. Pickle stated that the Commission had been working hard to meet the October 2014 deadline for a final rules draft. She further stated that permits could not be in place until the rules were established. Chairman Womack added that the permitting process should be developed early along with rule development.

Commission conversation turned to the time commitment required for DENR staff to develop an economic analysis for all MEC oil and gas rules and the Office of State Budget and Management's (OSBM) review of this analysis. The OSBM analysis would be an extensive review of fiscal impact on industry, the public, and government resulting from rule implementation.

Chairman Womack stated that he had asked the General Assembly for funding to hire consultants to write fiscal notes and to complete the fiscal analyses as the rule sets are written. In view of DENR's need to make adjustments to its permitting procedures in advance of our completing the rule writing process, Chairman Womack recommended that the Committees prioritize their work to ensure early completion of all rules related to issuance of a consolidated site, well pad, well drilling, and water management permit. This should allow DENR to make the necessary internal adjustments for permit issuance on or before the March 1, 2015 date.

Chairman Womack stated his desire to have a nearly complete set of rules drafted by November 2013 to allow ample time for fiscal note analysis and the rules review process. He continues to have discussions with legislative staff addressing the efficiency of the rule writing process. Specifically, he is concerned with the lengths of time consumed for the required public comment periods and formal rule analysis by the Rules Review Commission. Mr. Womack explained that the MEC may be compelled to request waivers or relief from certain public comment or RRC activity if the General Assembly believes time is of the essence. Alternative strategies might include streamlining or waiving Rules Review Commission involvement or eliminating the need for formal public hearings.

6. State of State Shale Gas Regulations – Nathan Richardson, Resources for the Future (RFF)
Mr. Richardson stated that his organization is a non-profit research group that had spent over two years researching shale gas rules in other states. He noted that RFF had written a new report, scheduled to be published in mid-March, titled, "Surface Water Quality: Study and Findings." As part of this report, RFF surveyed over 200 experts, across 31 states, involved with shale gas operations on a variety of topics including development risks, funding, and responsibility.

Mr. Richardson explained that in the course of his study he found different types of regulating and enforcement styles, from state to state. As a result, he said it is difficult to establish a numerical ranking to determine which state had "the best" set of regulations. Mr. Richardson also explained that some states had established prescriptive rules, while others were implementing more general "performance" rule requirements. Dr. Rao asked about the advantages or disadvantages of using prescriptive rules. Mr. Richardson stated that prescriptive rules were easy to implement and to measure with established rule-

based standards. However, prescriptive rules could become too detailed and not flexible enough for reasonable implementation in the field.

Mr. Howard asked about any information RFF had discovered related to public perception, rule development, and industry operations. Mr. Richardson explained that the RFF survey found that air quality protection and surface and ground water impacts due to spills of fracturing fluids aboveground were higher concerns than some other environmental impacts within the oil and gas industry and with regulators. However, despite these survey results, both he and Mr. Howard agreed that groundwater concerns due to hydraulic fracturing itself seem to resonate most with members of the public and media. Finally, Chairman Womack reiterated that no documented case of groundwater contamination from hydraulic fracturing had been found.

7. Multi-State Regulation Matrix – Daniel Raimi, Duke University

Mr. Raimi described a Microsoft Excel spreadsheet which he and other colleagues had developed to organize regulatory information related to oil and gas operations. He explained that the spreadsheet was set up to display a rule topic (called an "Enforcement Descriptor"), along with equivalent rules addressing that topic from other states. Thus, a user could look up a topic from the Committee rule assignments (or "buckets") and then view the rules that other states had implemented to address that topic.

Ms. Mitchell asked about the frequency of spreadsheet updates and the ability to access the most recent spreadsheet versions. Mr. Raimi explained that he could provide updates to the MEC for posting on the Commission website.

8. Administrative Update – Mr. Walt Haven, DEMLR Energy Program Supervisor

Mr. Haven reminded Commissioners to provide advance notice when making special requests (i.e. conference call numbers, electronic media needs, etc.) prior to official meetings. Mr. Haven also noted that staff has parking passes available to Commissioners who need them. Lastly, he introduced the newest Energy Program employee, Mr. Ryan Channell. Mr. Channell addressed the Commission and thanked all members for the opportunity to work with them.

9. Public Comment – Chairman James Womack

Ms. Sharon Garbutt, a Chatham County resident, addressed the Commission about her concerns related to groundwater contamination. She presented her comments by reading a pre-written narrative (see attached statement). Specifically, she mentioned the following concerns:

- a. Protection of groundwater;
- b. Her own use of a private drinking water well;
- c. The potential for "rogue" fractures to occur during hydraulic fracturing operations;
- d. The proximity of the Cumnock Formation to the water table;
- e. Lack of industry knowledge as to how hydraulic fractures might interact with natural fractures.

Ms. Mary Maclean Asbill, attorney with the Southern Environmental Law Center, thanked the Commission for its transparency in the rules development process. However, she stated she had concerns about the Commission potentially seeking waivers of public comment periods during the rules review process.

10. Concluding Remarks – Chairman James Womack

Commission members thanked DEMLR for their presentations and research efforts. Additionally, the MEC expressed appreciation to members of the public for their comments.

Chairman Womack stated that additional meetings likely will be needed as we increase the rule writing pace to meet the October 2014 rule writing deadline. He asked members to reserve the following meeting dates on their calendars for committee and commission meetings: April 4 and 5, June 27 and 28, August 9, September 26 and 27, and November 21 and 22, 2013.

11. Adjournment

Dr. Kenneth Taylor made a motion, seconded by Mr. Gilmore, to adjourn the meeting. The motion passed unanimously.

The meeting was adjourned at 1:52 p.m.

Respectfully Submitted,

Debra W. Godwin
Division of Energy, Mineral, and Land Resources

Tracy E. Davis, PE, CPM
Director, Division of Energy, Mineral, and Land Resources