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Sent: Friday, July 30, 2010 6:35 PM
To: McClung, Lisa A; Martin, James A; Benedict, John A; Boggs, Kristin A
Cc: Williams, Jerry
Subject: WVDEP-OOG REVIEW-- WETZEL COMMENTS & EXHIBITS

To: Randy Huffman, Sec. WVDEP and James A Martin, Chief OOG
From: William J Hughes on behalf of Wetzel County Action Group
Re: OOG Review

These comments were assembled from the input, experience and opinions of many residents who live in the NE area of Wetzel County. The attached map, **Exhibit 1** shows the locations of many of the Marcellus Shale gas drilling well pads and proposed compressor stations. We have reviewed the previous submissions by WVSORO organization and the WVEC and concur with their concerns and suggestions. Our comments here are under three sections.

1. Assumptions
2. Complex Challengers
3. Suggestions and Solutions

ASSUMPTIONS

1. The Marcellus Shale natural gas (MSG) recovery activities are having a significant effect on much of West Virginia and will continue for many years to be a major challenge for all WV State government and regulatory agencies. Due to this, there is major impact on our air quality, water supplies, waste disposal, roads, bridges, etc. Our entire infrastructure is stretched beyond its design limits.
2. Existing framework of old regulations were primarily designed for earlier, much smaller, conventional shallow gas and oil wells and are not adequate to control and regulate Marcellus shale gas (MSG) drilling, and all the ancillary item like holding ponds, tank farms, compressor stations, pipelines, et cet.
3. One of the many concerns of the Wetzel County Action Group is our deteriorating air quality problem. There appears to be a significant black hole in our State's oversight of air quality with regard to all well drilling activities. I have been told by the WVDEP-DAQ that they neither monitor nor keep inventories of, or regulate **any** air quality parameters at **any** oil or gas well. I have been told that neither does OOG do this. This seems to be a black hole to me, filled with diesel fumes and VOC. This must change. An excellent example of a detailed emissions inventory is **Exhibit 2**, an excel sheet from Wyoming which requires all emissions at any well sited to be listed.
4. The Office of Oil and Gas is part of WVDEP – the **EP** is Environmental Protection. It follows that the role of **OOG** is also to protect the environment with regard to any and all oil and gas activities. The responsibility of the **OOG's** is not to foster, encourage and promote economic development by oil and gas groups. That job belongs to all the oil and gas corporations who do that job well. The state's job is to control and regulate activities in order to protect communities and the environment. The job of the oil and gas companies seems at times to be to push the limits and test our enforcement abilities. A more collaborative and cooperative relationship might be possible.

5. Drilling activities in our area of Wetzel and Marshall Counties have already degraded our air quality. Due to the ongoing and planned expansion of MSG activity, areas with good air quality are getting worse. Areas that already have air quality problems are deteriorating even more. If we wait years to address these problems, we will both increase environmental health problems and will need to add additional restrictions later to other economic development. It is easier and less expensive to all to prevent deterioration now than to try to improve air quality later.
6. We are all part of the problem. The hot water in my bathroom shower is heated by natural gas. My vehicles use gasoline. My electric power comes from coal. My tractor uses diesel fuel. And, most importantly, more imported oil does not benefit national security or economic balance of payments. Natural gas has the potential to help – if it is done right.
7. Final assumption: Answers, solutions, regulatory framework – all are available to us. Other states have tackled similar issues. Assistance and experienced advice is readily available. Please see **Exhibit 3**, which is a complete guidance document for all oil and gas operations in WY.

COMPLEX CHALLENGES

1. The first challenge here is that some complex chemistry is involved in analyzing air quality problems and solutions. Trained professional skills are required. Of course, the same is true for understanding the mix of hydraulic fracturing chemical recipes that are used.
2. Unless we immediately install some air monitors in active MSG drilling areas it will be difficult for us to get a baseline of air quality measurements for comparison since there are daily increases in emissions from many sources in oil and gas operations. Decisions about air quality trends would benefit from baseline data. At this time we have no air monitors in active MSG drilling areas nor do we have any inventories for an accurate computer model. Given the daily increases in VOC. NOx and HAPs we are getting further behind daily.
3. Some EPA rules and regulations are confusing, to say the least, and it is not uniformly understood when and how to implement them. A good example it the concept of aggregation. Colorado has been told by the EPA to aggregate all emissions from all the wells feeding a given compressor station. See **Exhibit 4**. Colorado does not agree. Wyoming seems to accomplish the intended clean air act (CAA) goals, but does not depend on aggregation to get there. See **Exhibit 5** for Wyoming’s reasons for not using the aggregation process. The approach in Wyoming seems to be very collaborative with both industry groups and community environmental groups support. It seems that a gas company can either go through a lengthy traditional permitting process---or implement **BACT**--Best Available Control Technology (see **Exhibit 6**) right off and then use a very streamlined permitting process which allows them to start earlier than the standard permitting process. In Wyoming every emission at every well is inventoried and monitored and regulated, at lease initially, to **BACT** standards.
4. Aggregation procedures require common ownership, the same industrial classification, and to be “contiguous and adjacent.” Contiguous and adjacent are very much open to interpretation. Being interdependent and interconnected by a pipeline seems to fulfill the need for being adjacent.

5. We can use our MSG drilling area here in Marshall and Wetzel counties as an application example of aggregation. The attached map (**Ex. 1**) shows two existing and two proposed (already being built under draft permits) compressor stations. Implementing aggregation in our situation, as the EPA directed Colorado to perform, it might go like this. The air polluting emissions of the three compressor stations (located in Marshall County, a nonattainment county, see **Exhibit 7**) which are all under common ownership and control would be totaled. (VOC and NO_x, HAP's et cet.) Then all the emissions of regulated pollutants from all the feeder wells and all their condensate storage tanks, dehydration units, pipelines, separators, and fugitive emissions would all be added up – i.e. aggregated. Then a determination would be made about the type of controls required to reduce emission to an acceptable level. This might get complicated quickly. Doing this might also put some gas producers at a competitive disadvantage compared to others.
6. Another completely relevant complication is the State of Pennsylvania – specifically, Greene County, in the SW corner. Greene County is immediately east of Marshall County and NE of Wetzel County, seven miles from the two new compressor stations. Greene county is classified as is either “out of attainment” or “moderately out of attainment” for 8 hour ozone. **See Exhibit 8.** Ozone is a secondary pollutant formed from oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) in the presence of sunlight.” Ozone concentrations tend to peak during periods of extreme heat, which also is occurring at the same time of the greatest amount of emissions of VOCs from the many condensate storage tanks. Ozone transport describes the movement of ozone created in one location carried by weather systems to downwind locations. Pennsylvania has found that “ozone transport has a significant effect in the Greene County eight-hour ozone nonattainment area.” Pennsylvania’s trajectory studies “indicate a substantial number of upwind trajectories originated outside of Pennsylvania and the Ozone Transport Region (OTR) on days when Greene County’s ozone concentrations exceed the eight-hour ozone standard. The bulk of the upwind trajectory start points lie to the west and south of Greene County.” West and south of Greene County are Marshall and Wetzel Counties in WV, and therefore we are likely contributing to Greene County’s ozone problem now. Our contribution will continually increase. We are also adding to our own problems.
7. A final complex challenge is a document titled the **West Virginia State Implementation Plan (SIP)**, see **Exhibit 9** which addresses just these types of situations where one state, like Ohio or Kentucky, might have power plants whose emissions affect West Virginia’s air; likewise, we affect downwind states. The SIP plan must contain adequate provisions to prohibit emissions activity within one state from emitting any air pollution in amounts which will contribute significantly to nonattainment in, or interfere with maintenance by any other state with respect to any such national primary or secondary ambient air quality standard. We as a state are required by this SIP to seriously consider these interstate issues. The SIP indicates the Secretary of the DEP has both the authority and responsibility to enforce these provisions of the CAA.

SOLUTIONS – SUGGESTIONS

1. In order to adequately assess and control emissions form MSG operations the WV – **DAQ and OOG** need to join their professional skills and experience here and find a way to collaborate in this endeavor rather than risk triggering bureaucratic turf wars

about who will have final word which would only impede progress. Harmful gas emissions will continue; some controls are needed.

2. West Virginia should continue research into Best Management Practices available and in use in other states. We can learn from the experiences and mistakes of other states. We don't want to adopt other states' regulations wholesale. Steal the best – discard the rest. A helpful resource from Texas Barnett Shale is provided in **Exhibit 10**, which gives some cost effective solutions. Another resource is the EPA's Gas Star program. One example is **Exhibit 11** on dehydration units. All their cost saving suggestions are available at: <http://www.epa.gov/gasstar/tools/recommended.html>
3. West Virginia could work with Pennsylvania on the common MSG issue to develop joint Best Management Practices. There are differences between MSG in PA and here in WV. However, there are enough similarities to spread the work among the air and water professionals in both states. This might result in a more level playing field and not give a competitive advantage to one group of gas producers over another.
4. Particular consideration should be given to the long-standing and apparently effective regulation for air quality gas programs in Wyoming. This link: <http://deq.state.wy.us/aqd/oilgas.asp> provides access to all of Wyoming's O & G permitting. See **Exhibit 12 & 13** also.

IN CONCLUSION:

We request that the WV DEP-DAQ and OOG start monitoring and inventorying emissions at all well sites and jointly implement Best Available Control Technology immediately across the board, at the very least, for all aspects of all gas and oil operations; in particular, for the Marcellus Shale operations. This might incrementally increase costs now, but it's not likely to ever decrease profits.

We request that comprehensive permitting be started ASAP and that until that is possible that a moratorium on new permits be put into place.

We request that the total quantity of condensate produced at each well be tracked and detailed records be made available.

We guarantee that 10-20 years from now, no one, especially our grandkids, will complain that in West Virginia, our almost heaven, that there's too much clean air and water. Gas booms come and go, but we do not want to leave the quality of West Virginia's environment or community health poorer as a result.

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