Comments by WV-SORO on Marcellus Bill "Final Revised" Draft, November 18, 2011

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Provisions in the bill that need improvement, include:

•**Surface Owner Agreement Provisions:** Negotiations with the surface owner should be mandatory before well te and access road locations are surveyed. The proposed bill says the driller "may" notify the surface owner "of the planned operation" "no later than the date for filing the permit application." The fact that this is voluntary is a problem. Also, the filing date of the application is too late. The driller will have already surveyed for the well site and access road(s) and will not want to change their plans.

If the surface owner sues the driller under the statute the damages are decided by the "court," so there is no clear right to a jury trial. Worst, the surface owner could have to pay attorney's fees if the driller counterclaims that the surface owner "willfully and knowingly violates" the surface compensation agreement. Driller's lawyers draft these agreements. Their lawyers will put in provisions to trip up surface owners so they can counter-sue any surface owner that sues the driller. *Why does an operator spending $18 million or more to drill multiple wells on a pad need attorney's fees?*

We support incentives to encourage drillers to work with and negotiate agreements with surface owners, but we would prefer that drillers be required to post an individual well bond to guarantees the surface owners' compensation for damages, if no agreement can be reached. If the proposed provisions are adopted without changes, our advice to surface owners may well be to not sign an agreement since it will expose them to attorney's fees.

•**Well Location Restrictions:** The setback from homes and domestic water supplies should be increased to at least 1,000 feet.

Distance from Homes: The proposed legislation says, "The center of well pads may not be located within 625 feet of an *occupied* dwelling, " but there is no requirement that the gas wells be at the center of the well pad. These wells are drilled 15-25 feet apart and 6 to 12 wells were drilled on a pad. The noise from the edge of the pad could be very, very close to the surface owner's or a neighbor's home. We know some surface owners that are 655 feet from a well site and they cannot sleep in their homes at night. **This is unacceptable.** Additionally, the word "occupied" is not defined. What about rental or second homes? Would they be covered?

The World Bank, Colorado and California have determined that the maximum decibel level for a residence measured at the residence should be 45 decibels at night and 55 decibels during the day. These standards should be used. This would eliminate the need for a variance in some respects, if the driller did the things that are necessary to prevent homeowners from having their windows rattled. However, it does not address the concerns about the air and other pollution from the sites and the State does not have data to confirm whether or not the proposed setback is protective of human health.

Even if the safety of persons could be assured, the proposed set back doesn't protect property values, marketability, etc. A study conducted for the Town Council of Flower Mound, TX found that negative impacts on property values generally dissipated at a distance of 1,000 to 1,500 feet. In response, Flower Mound adopted an ordinance that makes it "unlawful to drill, re-drill, deepen, re-enter, activate or convert any oil or natural gas well, for which the closest edge of construction or surface disturbance is located … within one thousand five hundred feet (1,500') of any residence."

Distance from Water Wells and Springs: Adequate setbacks are needed for the protection of all water supplies (public and private), yet the proposed legislation provides a more protective setback for public water intakes than it does for private water wells and springs. WV-SORO shares the concerns of public water supply managers and users that their water be protected, however, it is unfair and unjust that the Select Committee chose not to extend the same protections to those whose water supplies are most likely to be affected and who have fewer resources available to them to deal with the contamination if it occurs.

At one of the recent meetings of the Select Committee, an industry official testified that a typical well site is 300 feet by 400 feet. Based on these figures, if the well head is in the center of the pad, a water well or spring that is 250 feet measured horizontally from the well head would, at most be 100 feet from the well pad. Moreover, if the well pad were larger, the water well or spring would be located on the well pad.

Additionally, the 250 foot setback from water wells and springs may be less protective than the existing setback of 200 feet, because the proposed legislation allows drillers to seek a variance. However, under current law drillers cannot locate a well less than 200 feet from a water well without the written consent of the owner.

Finally, there is no consistency in how the setback distances will be measured or what they will be measured from. Measuring all setbacks from the edge of the well pad or site or, as the Flower Mound ordinance suggests "the closest edge of construction or surface disturbance" would be most protective of the places and drinking water sources the bill is trying to protect.

•Protection of Water Supplies and Presumption of Liability:
WV-SORO supports and appreciates extending the operator's presumptive liability for water contamination to 2,500 feet and the clarification of water replacement requirements. However, **there should not be a limitation of six (6) months**. If there is a spill of fracturing fluid or flowback onto the well site, it could take that long or much longer for it to work its way down into the groundwater and 2,500 feet away to ruin your water well. When a contaminant plume enters an aquifer it may take years, or decades, to pass by an individual well. A 2006 study by the U.S. Geological Survey found that groundwater in aquifers of West Virginia ranged in age from 5.9 to 56 years, with a median age of 19 years. The study concluded that because most of the groundwater sampled and analyzed in the study is young (geologically speaking), the potential for human activity to adversely affect ground water quality in West Virginia is high. According to the report, the ages indicate, "that the State's aquifers are vulnerable to contaminant sources in a time span of less than 30 years."

Additionally, **pre-drilling testing parameters should be expanded**. Currently drillers are required to test for constituents in drilling muds and fluids, but not for chemicals or chemical compounds used in hydraulic fracturing, or naturally occurring radioactive materials (NORMs) known to exist in the Marcellus Shale.

•Disposal and Handling of Drilling Waste:
The committee amended the bill to say, "The operator shall remove and dispose of any waste pit liner and liner wastes at a landfill that is approved by the Secretary to receive liner and liner wastes." But the amendment was not clearly carried out through the rest of the bill and still appears to allow the disposal of cuttings at the well site. **On-site burial of drilling waste should be prohibited.**

The bill would allow the use of "flowback recycle impoundments" which "shall be designed and constructed using a single liner system." There have already been problems with leaks from torn liners. The result was pollution of ground water. This pollution may have been avoided if there was a dual liner system with a leak detector.