



GROUP AGAINST SMOG & POLLUTION

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**Testimony of Joe Osborne
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Marcellus Air Issues Policy Committee Hearing
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Good morning, and thank you for inviting me to participate in this hearing. I'm Joe Osborne and I'm the legal director of the Group Against Smog and Pollution (GASP). GASP is a Pittsburgh-based environmental organization that has worked on air quality issues for over 40 years. In recent years an increasing amount of our work has focused on air pollution from Marcellus Shale activity.

When most people think of potential environmental or human health impacts of this industry, they think of water. This industry's potential threat to our air is no less significant. It's true that natural gas produces less pollution than coal when burned, but combustion isn't the whole story. Before natural gas can heat a home or generate electricity, wells must be drilled and fracked, and gas must be extracted, processed, compressed, and transported. Air pollution is generated at every step—diesel emissions from trucks, drill rigs, and frac pumps; volatile organic compounds (VOCs) from equipment venting and leaks; and nitrogen oxides (NOx) from compressor engines and flares.

When any one of these pollution sources is considered in isolation, its emissions may seem relatively small. In fact, in Pennsylvania many of these sources are permitted as minor sources or are entirely exempt from permit requirements as “sources of minor significance.”¹ However, this isn't a case of perpetually dissatisfied environmentalists finding something inconsequential to whine about: When emissions from these sources are combined the impact can be enormous. For example:

- A 2009 Southern Methodist University study found emissions of NOx and VOCs from the oil and gas sector in the Dallas-Fort Worth area exceed emissions from motor vehicles.²
- A 2008 analysis by the Colorado Department of Public Health and Environment concluded that NOx and VOC emissions from Colorado's oil and gas operations exceed vehicle emissions for the entire state.³

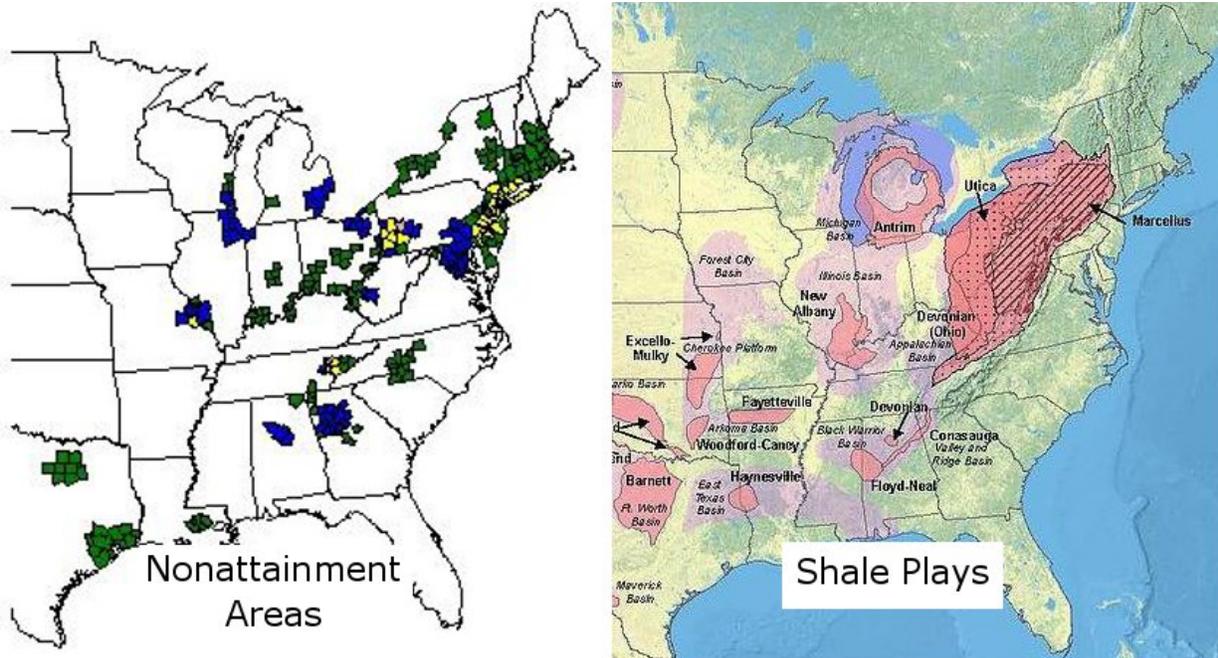
¹ PADEP, Air Quality Permit Exemption List, Category 38, pp. 6-7 (DEP ID#: 275-2101-003) (Jul. 26, 2003) available at: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-80104/275-2101-003.pdf>.

² Al Armendariz, Emissions from Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements (Jan. 26, 2009), available at: http://www.edf.org/documents/9235_Barnett_Shale_Report.pdf.

³ Attachment 1 - Colorado Dept. of Public Health & Environment, Air Pollution Control Division, Oil and Gas Emission Sources Presentation for the Air Quality Control Commission Retreat (May 15, 2008) at pages 3-4.

NOx and VOCs are pollutants in their own right, but they're of even greater concern because they transform into ozone in the ambient air. In 2009, for the first time in the state's history, Wyoming failed to meet the federal health-based standard for ozone. The Wyoming Department of Environmental Quality determined emissions from the state's growing oil and gas sector were to blame.⁴ Parts of Wyoming now experience higher ozone concentrations than Los Angeles.⁵

Unlike Texas, Colorado, or Wyoming, much of Pennsylvania has struggled to meet federal ozone standards even without significant oil or gas activity. We are now watching the



development of an industry here in Pennsylvania that managed to turn pristine Wyoming air into air that's worse than Los Angeles'—only here, we're adding this air pollution burden on top of an existing ozone problem. If air emissions from Marcellus operations are not subjected to more rigorous control, the human health consequences will be dire—not just for Pennsylvanians, but also for the many individuals living downwind in the high ozone areas stretching from D.C. to Boston.

It's a serious problem, but it's not a hopeless one. Newer compressor engines emit less NOx and VOCs; new proposed federal rules, if finalized, would require additional emission reductions from the oil and gas sector; and because many of the pollution control measures available to this industry reduce emissions by increasing the amount of natural gas that is recovered and sold, pollution controls are remarkably cost effective. Many even pay for themselves after just a few months of operation.

⁴ WYDEQ, Technical Support Document I for Recommended 8-Hour Ozone Designation For the Upper Green River Basin, WY, p. viii (Mar. 26, 2009), available at: http://deq.state.wy.us/out/downloads/Ozone%20TSD_final_rev%203-30-09_jl.pdf.

⁵ USA Today, Wyoming's smog exceeds Los Angeles' due to gas drilling (March 9, 2011), available at: <http://content.usatoday.com/communities/greenhouse/post/2011/03/wyomings-smog-exceeds-los-angeles-due-to-gas-drilling/1>.

However, while EPA is doing its part, and in many instances natural gas producers are voluntarily employing some of these pollution control measures, Pennsylvania is responding to this obvious, urgent problem by doing essentially nothing.

Among the problems with the existing regulatory scheme, DEP currently includes well sites on its list of “sources of minor significance” and exempts them from air permitting requirements. The exemption list is intended to allow DEP to avoid wasting its limited resources on permits for equipment that produces little pollution. In general it's a reasonable policy, and for conventional wells (which is what DEP had in mind when it created the well site exemption) the exemption probably still makes sense. But Marcellus wells are not conventional wells: Marcellus wells produce larger volumes of gas, production is more equipment intensive, and a single Marcellus well site often includes multiple wells. As a result Marcellus well sites are capable of producing far more pollution than conventional wells, but can continue to take advantage of the conventional well air permit exemption. There are currently over 1500 of these air-permit exempt Marcellus well pads in Pennsylvania.⁶

Because there is no air permit or notification requirement, well sites are effectively invisible to DEP's Bureau of Air Quality. The air quality program does not inspect these sites, does not know what equipment is present, what condition that equipment is in, or how much pollution it generates. DEP has no way to determine if these sources are operating in compliance with applicable state and federal requirements, including whether the well site actually meets the permit exemption requirements.

In May of 2010 DEP published a proposal to narrow the well site exemption.⁷ In February of this year DEP reopened the comment period.⁸ To date DEP has not taken any additional action on this proposal. Well sites are a significant source of air emissions, and currently these emissions are almost entirely unregulated. DEP should act as expeditiously as possible to narrow the well site permit exemption. DEP could follow Ohio EPA's lead by developing a well site general permit or incorporate well sites into GP-5—the general permit for natural gas compressor engines.

In the absence of a permit requirement, DEP could, at a minimum, require these sources to provide air emissions information on an annual basis.⁹ In the absence of such information, DEP must rely on general emission estimates to determine whether areas will meet or exceed health-based air pollution standards and when crafting control strategies to bring areas into compliance with these standards. Despite DEP statements that it has or will request this emissions information, which date at least as far back as September 2010,¹⁰ to my knowledge DEP has yet to do so.

There are other issues I could discuss, such as the lack of sufficient DEP air program inspectors, and the Department's failure to conduct appropriate major source aggregation analyses; however I don't want to take up too much time and will leave these topics to other speakers. Again, thank you for providing this opportunity to speak.

⁶ Jim Ladlee and Jeffrey Jacquet, *The Implications of Multi-Well Pads in the Marcellus Shale* (Sept. 2011), available at: http://devsoc.cals.cornell.edu/cals/devsoc/outreach/cardi/publications/upload/Policy_Brief_Sept11-draft02.pdf.

⁷ 40 Pa. Bulletin 2822.

⁸ 41 Pa. Bulletin. 1066.

⁹ 25 Pa. Code § 135.3.

¹⁰ PADEP Air quality Technical Advisory Committee, Meeting Minutes (Sept. 15, 2010) at 12, available at: http://www.dep.state.pa.us/dep/subject/advcoun/aqtac/2010/10-21-10/Minutes_AQTAC_09-15-2010.pdf.