

ASSEMBLY STANDING COMMITTEE ON ENVIRONMENTAL CONSERVATION

ASSEMBLY STANDING COMMITTEE ON HEALTH

NOTICE OF PUBLIC HEARING

SUBJECT: Health Impacts of Hydraulic Fracturing Techniques

PURPOSE: To review the potential health effects of hydraulic fracturing techniques used in natural gas and oil drilling.

ALBANY, Thursday, May 26, 2011, 9:30 a.m.

Hamilton Hearing Room B, 2nd Floor

Legislative Office Building

(Oral Testimony by Invitation Only)

Hydraulic fracturing involves the high-pressure injection of water and chemicals into rock to stimulate the production of oil and gas. There are a number of concerns regarding the potential health effects of exposure to such chemicals. This hearing will examine those potential health effects.

Oral testimony will be accepted by invitation only. Ten copies of any prepared oral testimony should be submitted at the hearing registration desk. The Committees would appreciate advance receipt of prepared statements.

In order to meet the needs of those who may have a disability, the Assembly, in accordance with its policy of non-discrimination on the basis of disability, as well as the 1990 Americans with Disabilities Act (ADA), has made its facilities and services available to all individuals with disabilities. For individuals with disabilities, accommodations will be provided, upon reasonable request, to afford such individuals access and admission to Assembly facilities and activities.

Richard N. Gottfried, Member of Assembly
Chairman, Committee on Health

Robert K. Sweeney, Member of Assembly
Chairman, Committee on Environmental Conservation

PUBLIC HEARING REPLY FORM

Name: **Bernard Goldstein, MD and staff of the Center for Healthy Environments and Communities, University of Pittsburgh Graduate School of Public Health**

Persons invited to present oral testimony at the public hearing on the health impacts of hydraulic fracturing to be held on May 26, 2011, or who wish to submit written testimony, are requested to complete this reply form as soon as possible and mail, email or fax it to:

Michael Szydlo
Committee Assistant
Assembly Committee on Environmental Conservation
Room 520 - Capitol
Albany, New York 12248
Email: szydlom@assembly.state.ny.us
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- I plan to attend the public hearing on hydraulic fracturing to be conducted by the Assembly Committee on Environmental Conservation on May 26, 2011.
- I have been invited to make a public statement at the hearing. My oral statement will be limited to ten minutes, and I will answer any questions which may arise. I will provide 10 copies of my prepared statement.
- I will address my remarks to the following subjects:
 - **I do not plan to attend the above hearing.**

- I would like to be added to the Committees' mailing list for notices and reports.
- I would like to be removed from the Committees' mailing list.
- I will require assistance and/or handicapped accessibility information. Please specify the type of assistance required: _____

NAME: **Bernard Goldstein, MD and staff**

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**Center for Healthy Environments
& Communities**
University of Pittsburgh | Graduate School of Public Health

**Written Testimony Prepared for the New York Assembly
Standing Committee on Environmental Conservation
June 6, 2011**

Summary of Challenge: Public Health Implications of Marcellus Shale Activities

1) General Issue: full disclosure of all slick water fracturing chemicals used and their amounts

Central to all of the issues related to chemical safety is the full release of information concerning the chemical, including its chemical structure and physicochemical properties. This is necessary for effective protection through early detection of potential adverse toxicological effects to human health and the environment, and through training of local emergency responders as to the potential for fire and explosion events. Dosage is an important component of understanding the risk of chemicals, whether to cause toxicity or to cause fire and explosion.

2) Physical Environment and toxicity Issues

a. Water pollution and surface water withdrawals

Marcellus Shale activities provide multiple threats to water sources. The threats come from diverse sources including the fracking chemicals; high volume hydraulic fracturing; the natural gas and related hydrocarbon production products; and the release of naturally occurring subsurface and surface contaminants such as arsenic, bromide and radionuclides. Activities related to the production of natural gas, such as removal of wastewater to treatment plants, also pose threats. Production failures and spills have already led to substantial releases that have contaminated and closed water sources used by the public.

b. Air pollution

As with water pollution, diverse activities can lead to local air releases. These include the fracking chemicals; volatile organic compounds (VOCs) such as benzene, a known cause of human leukemia; diesel emissions; and fugitive releases of pipelines, compressor stations, and all other natural gas extraction processes from extraction to production. Contribution to ground level ozone through the release of oxides of nitrogen and hydrocarbons is also a threat

c. Soil pollution

Physical disruption to surface and subsurface areas are also potential health problems, especially due to the legacy pollution existent in the Marcellus Shale region. Toxicity due to persistent, or persistently-released chemicals can be of concern. Uptake of chemicals into agricultural produce, or future land use activities that might site a children's playground, are among the scenarios that need to be considered.

3) Safety Issues

a. Fires and explosions

Natural gas is flammable – which is its ultimate use. Explosions and fires affecting the public have already occurred and are a continuing menace.

b. Traffic incidents

Many of the Marcellus Shale related activities increase heavy truck traffic, especially on unsuitable secondary roadways, thereby increasing the likelihood of traffic incidents. Roadway degradation and loss of structural integrity also increases the risk of traffic incidents.

c. Criminal activities

An increase in criminal activities, including violence and substance abuse, has been observed in association with hydrocarbon drilling activities elsewhere in the country and already has been reported in Pennsylvania. For example, failure of out-of-state workers to register under Megan's Law has been an issue.

Recommendations:

- 1) Full disclosure of information about all chemicals used in all activities related to the Marcellus Shale is an absolute necessity to protect public health and the environment. It is also in the best interest of the Commonwealth and of industry. As has been amply demonstrated following the recent Gulf Oil disaster, secrecy about chemicals strongly intensifies public anxieties. It enhances the likelihood of lawsuits and legislation that limits Marcellus Shale activities. Note that any competitor can easily analyze any chemical used by other companies – so only the public and government officials responsible for emergency response or to respond to public health issues are being kept ignorant.
- 2) Physical and chemical measurements by New York State of air and water pollutant concentrations and of soil contamination need to be increased dramatically. To sufficiently monitor changes and needs, adequate resources should be made available to the state and municipalities where drilling activities may occur. The cooperation of citizens groups and academic programs should be enlisted, but this must be considered to be a state responsibility. The focus should be on chemical and physical agents of potential health and environmental concern.
- 3) A holistic approach to health and safety issues is required. Thorough analysis of all risks, including those related to safety and criminal activities, should be part of any decision.

Summary of Challenge: Regional Public Health Implications of Marcellus Shale Activities

Marcellus Shale activities, particularly if extended to the many thousands of wells that are projected, are likely to present a significant increase in ozone precursors. If so, it is likely that more of the state will not be in compliance and will have a limitation on industrial activities in order to prevent childhood asthma and other significant health effects caused by ozone.

Recent evidence also indicates that the contribution of methane, a greenhouse gas, to global climate change (GCC) is greater than previously appreciated. GCC is a direct and indirect public health threat for many reasons, including increasing the likelihood of weather patterns that potentiate ozone formation.

Recommendation:

It is in the best interest of the state to analyze and regulate Marcellus Shale activity as if it were a single pollution source rather than multiple small sources, particularly in relation to ozone formation. Methane (natural gas), the goal of Marcellus Shale activity, should be considered to be a valuable product and its release highly restricted.

Summary of Challenge: Worker Health Implications of Marcellus Shale Activities

Worker safety translates into community safety for two reasons. First, as was exemplified by the Deepwater Horizon event, 11 workers died in the acute event that should have been prevented through consideration of worker safety. Also, in the Marcellus Shale situation, community growth is assumed to occur through the addition of workers to the population. Thus, anything affecting workers will also affect the community. The observation by CHEC that there is a wide range in violations per well in Pennsylvania per company suggests major disparities in the extent of a safety culture that would protect workers and the community.

Recommendation:

In order to protect workers and the public, strict enforcement of worker safety standards is necessary. Companies with a poor record in this regard should lose their ability to participate in Marcellus Shale activities.

Summary of Challenge: Coordinating of State Resources Involved in Preventing and Responding to Health and Environmental Threats

Many state agencies are involved in protecting workers and the public and in responding to threats related to Marcellus Shale activities. Gaps in coverage, as well as unbalanced oversight functions, are likely to occur.

Recommendation:

A coordinating council of state agencies involved in preventing and responding to Marcellus Shale activities needs to be established. It should be chaired by the NY State Department of Environmental Conservation Commissioner and report to the Governor. Its goals should include development of clear pathways for oversight and response. Public health should be a major responsibility of this Council.

Summary of Challenge: Well Pad location

The current limit of 200ft from a building in PA does not appear to be adequate to protect from noxious gases, fumes, or intense long protracted noise levels (i.e. flaring, truck traffic, compressors). The result of this close proximity is creating complaints from neighbors who have not leased or agreed to the industry operating in such close proximity to their residence. This creates tension and stress due to what is perceived as invasion of privacy. Reports of illness due to fumes and noxious gases, lack of sleep and proper rest are frequent. Well pads only 200' from a residence also is a threat due to explosion related to gas leakage incidents, which happen occasionally with this type of industry.

Recommendation

Distance from well pad to a building should be increased to 1500ft from a residence with the ability to obtain a waiver if the well pad siting must be closer to a residence and that waiver will be dependent on additional sound and environmental controls. When there is not enough distance or an ability to locate a well pad in a proper location with enough distance from a neighbor's residence, every effort should be made to apply sound controls (i.e., sound walls, and controls on compressors and generators), and environmental controls to capture gases, and fugitive emissions. Industry may have to consider in these special locations that are in very close proximity to neighbors, offering to house the residents in a hotel or other facility for the period of time there is intense industry activity.