



Comments on final report, David Brown SWPA-EHP

1 message

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Mon, Sep 29, 2014 at 8:51 AM

Marcellus Shale and Public Health July 2014 University of Maryland Report.

My comments on the report follow. I am also attaching the power point used at the Baltimore meeting. I appreciate the opportunity to comment.

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Comments on Maryland Health Impact Assessment.

This report illustrates the difficulty in obtaining the factual information needed to assess the health and safety of Unconventional Natural Gas Development (UNGD). Four questions are raised:

1. Can Shale gas exploitation be done safely?
2. Is it possible to protect public health?
3. Role of public health agencies in Maryland?
4. Role of the public in Maryland?

The current structure of natural gas exploitation involves multiple subcontractors and light regulations with minimal enforcement, without structured follow up of health effects appearing in residents. That structure combined with strong national mining laws and strong national interest to develop energy plus aggressive industry confidentiality rules raise medical and public health concerns.

Those concerns are supported in this report. For example: it was necessary for the authors to perform a noise study because no quantitative information was available. But, there was not time or resources available to follow other health questions. Information from a meeting with API generated reports with little information and those reports are of questionable accuracy or value.

The answer to the safety question, number 1, is that UNGD can not now be determined to be safe because of the presence of plausible health effects and risks that are not being addressed.

Public Health Departments role.

The only option available to the State and Local Health Departments is to warn those close to the UNGD sites that they individually need to take personal actions to reduce their exposures the chemical and physical risks. Further, resources are necessary to assist those who become ill and those displaced who will require temporary shelter. It is not possible to prevent health damage but it should be possible to reduce the intensity of the impact on individuals and the community. This will require that the Departments of Health identify those of highest risk; children, the elderly, schools, hospitals, daycare etc. and provide them the clear instructions needed to protect themselves.

Ground water supplies and air can be pre-tested but current technology is not available to promptly determine when contamination occurs and take protective actions before human exposure takes place. At other UNGD locations such strategies have only led to prolonged and expensive litigation with no protection of the residents.

Role of the Public

In order for the public to have a significant role, the debate in the state would need to be recast from one of a political policy debate to one of community education. That has not been successful elsewhere and is unlikely to be successful in Maryland

Assessment of study recommendations and analysis of public health impacts of aspects of gas operations.

These comments address the recommendations in following sections of the report.

- a. CGDP
- b. Chemical disclosure
- c. Air,
- d. Water,
- e. Noise
- f. Earthquakes

There is also a "Best practices report".

Comments were requested on two aspects. Has the health case been made adequately? Are other measures needed?

General Points:

A. There is no follow up of any reported human health effects or systematic collection and assessment of the health impacts by any federal, state or industrial organization anywhere in the United States.

B. Investigations of human health effects and human exposures are “rule and regulations bound” with agencies strictly adhering to timelines, protocols, reference health standards and environmental exposure assessments approved under the Clean Air act or Clean Water acts. Neither the Clean Air Act nor the Clean Water Act are designed to support determination of human health impacts from nearby sources of toxics of partially characterized air mixtures toxic pollutants in air, water, soil and food.

C. Restriction of the analysis to peer reviewed reports is not appropriate in the assessment of health impacts when there is a rapidly developing industrial process with demonstrated human exposures. New information for policy decisions is delayed for several months or years of data analysis, manuscript preparation, peer review and publication schedules. Example Rabinowitz paper showing statistically significant respiratory and dermal actions in persons who live near gas wells was delayed two years.

a. Perspective is needed. The processing stations ,which prepare ‘pipeline quality gas’, expanded 30% in the two years from 2007 to 2009. Those stations are the highest emission sources of toxics to ambient air. Although there is some extraction of by products at some processing stations, much if not all of the contaminates in “raw shale gas” are released directly into the environment through flaring and fugitive emissions. It is difficult to obtain information either the scale of the emissions or the actual chemicals released into the air. Areas around processing stations are a major area of reports of human health effects.

b. The focus on the fracking processes and chemicals used in fracking , narrows the scope of the assessment of hazards from the UNGD too much. Tracking multiple sources of nearby human health complaints immediately reveals the broader nature of the hazards. The reports of health impacts are widely available and have been for several years. They are not however in the peer reviewed literature and never will be.

D. Recommendations in this report are generally supported the information in the reports but are not sufficiently detailed to assure that the process can be done safely.

a. Each stage in UNGD is conducted by a series of subcontractors ranging from the organizations the prepare the site drill vertical wells, cement the wells, drill the horizontal portion of the wells, deliver and insert frack chemicals and materials into each well, finish the well, maintain producing wells and remove the waste for disposal. Most contractors are only at the site for a few weeks or months. Many are limited liability corporations that have, by statute limited responsibility for the release from their processes. This group will be difficult to regulate or oversee without a large, experienced onsite staff.

b. Public disclosure R8 to R13 are especially problematic under such conditions. Accidents are a special problem with respect to the corporations involved with UNGD. The industry has a policy that stifles the very information needed to protect the overall public health. The industry encourages, or condones, the use of non-disclosure agreements and further require rigid compliance to rules of secrecy when providing water to residences with damages water wells. Instances have been reported where residents have been restricted from informing neighbors that the ground water is contaminated as a requirement for assistance from the industry. These policies are supported by aggressive legal teams to assure compliance with the UNGD contractor’s rules.

c. There appears to be an assumption that set back distances will protect from air emission

exposures. There is insufficient information in the report to support such an assumption. In fact the needed information to determine the safe distance does not appear to be available for any Site. In order to establish a set back distance, one would require quantitative and qualitative information on air releases including fugitive emissions. That level of information is only available for a few sites, none in the Northeast. Moreover the scale of the information would need to be consistent with the appearance human health responses acute, sub acute or chronic. However Nearly all of the data available are limited to estimates of yearly emissions in tons. Yearly statistics are calculated even when activity only takes a few months which under estimates the actual exposures. Thus R 14 would not be health protective.

d. There also appears to be an assumption that only diesel emissions are of concern. Diesel particulate is an uncontrolled emission at the sites but the limited monitoring near sites, see Earth Works Report and others, detected chemicals that are from another non diesel source. Halogenated alkanes are the most frequently detected chemicals after methane and particulates. Halogenated alkanes are not found in diesel emissions but in the flow back and raw natural gas from shale fracking. Electric engines are not a solution for these non diesel exposures.

e. R 16 All trucks and other engines used in the drilling and transportation of materials need to be regulated as a unit. Trucks major hazard is the emissions of diesel fumes. Those releases can be controlled using performance criteria used by other industries.

f. It is unlikely that a panel of the public and industry will be able to effectively deal with odors. That is the responsibility of the public health agency and must not be transferred from a body with standing to enforce decisions.

g. Air quality monitoring recommendations would require restructuring of current ambient air monitoring protocols. Oversight of the monitoring is important but the community lacks the necessary experience. The expertise is potentially found in local county environmental units. However such units have been shown to be vulnerable to 'regulatory capture'. Communities' expectations of what is achievable in air monitoring need to be defined in terms of options. For example: 1) No testing is available that will allow you to link a health effect to the UNGD emissions. 2) The default is the use inappropriate federal and state regional air standards that are only available for a limited number of the pollutants, 3) There will be undefined chronic exposures of an undefined level to agents, Those chemicals will induce chronic health effects such as birth defects, cancer and neurological damage.

E. Water, flow-back, production and NORM. The industry has not released, or possibly does not have, the information needed to address the concerns relative to flowback water anaNORM. Legal policies commonly present in UNGD preclude the evaluation of the water risks. The impact on water and soil is designated as confidential business information at most sites.

a. The federal mining law does not limit the placement of well pads or other activities. The laws excludes considerations necessary to evaluate the impact of UNGD development, processing and distribution of UNG/oil on water sheds. This lack of information prevents the scientifically based establishment of safe setback distances

b. The components in the flow back water have not been measured at enough sites to determine the potential exposures. When people have been injured through contaminated drinking water it has been impossible to obtain enough information to rule out a link to the gas development. The recommendations are sound but there is no data to support the implantation of them,

c. The radionuclides in flow-back water are known, as are the health effects. The radioisotopes, especially the radon daughters present are carcinogens. The monitoring plan should measure the carcinogens. If so the state will need to establish an acceptable cancer risk level.

F. Sound. R29 Establish a system to address sound complaints. Payments of residents impacted together with non-disclosure agreements should be forbidden and illegal. Noise is a public health hazard.

G. Social determinates of health go beyond traffic and empowering communities. The Local Public Health and

mental health agencies need to be provided the capacity to seek out and address the societal impacts of UNGD industrialization. The focus needs to be on the most at risk populations, the poor, the young and aged. Those with resources to do so leave, especially if there are children at risk. With loss of social capital the communities will fail to thrive. They will become poorer and the levels of education will fall. Their care will become a responsibility of the State Agencies.

H. Healthcare Implications. If other UNGD sites are an indication, the health care system will see and increase in Bricks and Mortar projects and a decrease in local health services at the level of general medical practice. Costs will be transferred to the low income populations as those families with resources leave.

I. Schools, daycare centers and nursing homes. There needs to be a consideration of the impacts on these and other susceptible populations. Exposures will not be restricted to the fracked well sites but to the entire infrastructure created in UNGD. Processing plants pipelines, metering stations, underground storage sites need to all considered as locations of human exposures. Animal and forage products need to be considered as exposure pathways.

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