



**Oral Comment to U.S. Environmental Protection Agency,  
Science Advisory Board Environmental Engineering Committee,  
Augmented for Advice on EPA's Research Program Related to Hydraulic Fracturing**  
*April 7, 2010*

My name is Chad Bradley, and I represent Chesapeake Energy Corporation on governmental affairs issues here in the nation's capitol. Chesapeake is the most active explorer for clean domestic natural gas in the U.S. and currently the largest producer of natural gas in the country. On behalf of Chesapeake, I would like to thank the Committee for offering this opportunity to comment briefly on ORD's planned research approach to studying the potential public health and environmental protection issues that may be associated with the well completion process commonly called hydraulic fracturing.

Hydraulic fracturing (or fracing) to the natural gas industry is not revolutionary or new technology. While it is often referred to by laypersons as a drilling technique or process, fracing is actually a well completion technique used to establish production from wells after the drilling process has been completed. Having been utilized commercially by the natural gas industry for over 60 years, recent technological advancements in fracing make the continued use of this stimulation technique safer than ever. Approximately 1.7 million wells have been drilled over the past four decades in the United States, and today there are approximately 900,000 currently producing wells onshore in the United States. The vast majority of these wells have utilized hydraulic fracturing – in fact, more than one million wells in the U.S. have been fraced in the past 60 years. This process has created a widely recognized abundance of natural gas for our nation that can provide energy security through reducing reliance on foreign fuel sources can provide a much needed solution to the health problems created by coal-fired power plants, and can address most economically and quickly the greenhouse gas emission concerns facing our nation today.

As a proven technology that has been utilized safely and effectively one million times over the past six decades, particularly in the context of deep shale gas drilling, where thousands of feet and millions of millions of tons of hard rock separate the targeted deep geological formations from shallow fresh water zones. This process is currently being utilized in parts of the country that are less familiar with the technology than in the traditional energy producing states of the Southwest and West, and Chesapeake acknowledges the importance of this study to clarify and correct the misconceptions about the technology by some who are unfamiliar with the process. For these reasons, Chesapeake welcomes this study and in particular welcomes the insights of an independent board like the Science Advisory Board (SAB), which can and will play a critical role in ensuring that the study is grounded in sound science.



Chesapeake offers the following observations on the scoping materials that are the subject of this meeting:

1. **Mission Creep in the Study Scope.** Chesapeake perceives a certain amount of mission creep in the proposed scope of the fracking study. The House Appropriation Conference Committee urged EPA, and I quote, "to carry out a study on the relationship between hydraulic fracturing and drinking water." The scoping materials have expanded this mandate to include analyses of the risks of hydraulic fracturing chemicals through ingestion, inhalation, dermal exposure through air, food and other environmental exposure, the capacity of water reclamation facilities that receive produced water, ambient water quality of receiving streams, etc. Various commenters have provided written statements in support of this sort of "life-cycle" analysis of hydraulic fracturing, arguing that it provides a more complete picture of the environmental impact of the practice.

Chesapeake could be supportive of this approach if the study takes into account the mitigating effect of existing state and federal regulation of the natural gas industry. No industrial activity takes place without risk, and all laws and rules are based on maintaining acceptable risks. There are risks associated with transporting, storing and using the chemicals included as additives in hydraulic fracturing, and there are risks associated with storing, treating and disposing of produced water. These risks are managed through state oil and gas regulations, through hazardous materials transportation laws, through effluent limits under the Clean Water Act, through the Safe Drinking Water Act's Underground Injection Control program, and others. To characterize risk without acknowledging these safeguards is to paint an incomplete and therefore unfair picture and, ultimately, would undermine the credibility of the study.

2. **Perceived Lack of Specialized Knowledge.** The study must not only be properly scoped, but must also be grounded in good science. Good, sound science requires the involvement of individuals with the appropriate expertise and with intimate knowledge of the processes being studied. This study triggers a number of specialized areas of earth science: deep subsurface geology, the deposition and migration of subsurface gas, geophysics, petrophysics, rock mechanics, etc. It is essential that EPA and the SAB employ, either internally or through third-party contracts, staff with the necessary depth and breadth of expertise and experience.
3. **Meaningful Industry Participation Is Essential.** This leads Chesapeake to conclude that this study cannot be undertaken without the active participation of the natural gas industry. Such participation is necessary for a number of reasons. First, meaningful industry participation is crucial to accurately characterize the technology being studied;

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hydraulic fracturing, as a loose term, can be used to describe a number of different well stimulation and completion techniques that are deployed in different contexts. Second, meaningful industry participation is crucial to delineate those contexts, which include deep shale gas thousands of feet below potential drinking water resources, other unconventional natural gas projects which are generally found at shallower depths, and conventional gas, which occurs at greatly varying depths.

Third, and perhaps most importantly, meaningful industry participation is crucial to EPA's data collection efforts. Put another way, EPA cannot go out to a gas field and simulate hydraulic fracturing activities. It cannot drill a well. These activities require specialized knowledge and expertise and are, of course, capital-intensive, and primarily reside within the industry. The \$1.9 million that EPA has dedicated thus far to the study amounts to only 25-50% of the cost of drilling a deep shale gas well today. This observation is indicative of two facts: (1) Congress needs to appropriate sufficient additional funds to EPA to conduct this study more thoroughly; and (2) EPA will need to piggy-back the study to a large extent on existing natural gas operations. During its development of the Shale Gas Primer in 2009, the Department of Energy bolstered the accuracy of their evaluation by involving industry experts, Chesapeake suggests that the same must be true as EPA moves forward with this study.

Chesapeake would like to publicly state its willingness to serve as a resource to EPA and to offer reasonable access to information or facilities as EPA moves forward. Chesapeake expects that such partnership will be met with criticism from certain corners; indeed, some comments entered into the record here today are critical of other government reports on shale gas drilling simply because those reports match up with facts otherwise publicized by industry. Notably, those comments also include incorrect statements about the fundamentals of hydraulic fracturing, such as how many times a single well is fraced. Chesapeake offers its partnership to those groups as well. People in companies like Chesapeake, on the ground, actively involved in this process every day, are the first and best source of information on hydraulic fracturing. Chesapeake believes that a credible study would be impossible to complete without meaningful participation from industry stakeholders.

4. **Notions of Risk.** Finally, Chesapeake would like to provide a brief reflection on risk. Some commenters have stated that the natural gas industry bears a burden of providing that their activities, and here I quote, "will not be harmful." No energy produced, whether in or outside of the United States, is produced without risk and without some environmental cost. There is no zero-risk, zero-cost means of producing energy. Accordingly, this study cannot establish that hydraulic fracturing will never be harmful. All that can be accomplished scientifically is to characterize the risks and environmental



costs so that policymakers can weigh them against the benefits. Chesapeake believes that this study will demonstrate that hydraulic fracturing can be done and has been done safely and responsibly and that its use provides our nation with enormous supplies of clean, affordable energy that can create high-paying domestic jobs, reduce our foreign oil imports, lower consumers' energy bills and reduce pollution and GHG emissions. Such a result would comport with the public statements of Department of Energy Secretary Chu and senior EPA officials, and with the decades of experience of the natural gas industry.

Chesapeake welcomes EPA's study and would like to reiterate its appreciation of the Committee's involvement in the scoping process. Chesapeake believes it is necessary to produce a report that can be relied upon to address misperceptions, advise the Agency on its policies and rulemakings, and to inform congressional leaders as to whether legislative changes are warranted to address actual, not perceived, risks associated with hydraulic fracturing. Chesapeake looks forward to working with EPA in the process in any way it can. Thank you.

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