

***“Fractured Science: Examining EPA’s Approach to Ground
Water Research: The Pavillion Analysis”***

**Testimony:
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February 1, 2012

Summary:

- Oil and natural gas producers are held to very strict regulatory and scientific standards that carry real legal and financial responsibilities to ensure operations protect air and water quality, and that risk of accident is minimized and properly controlled.
- Because civil or criminal penalties can be levied on producers who fail to fulfill regulatory requirements, it is imperative that EPA and other regulators are also held to high scientific standards.
- As a democratic society, the legal culpability inherent in our regulatory system is not the only consideration - the court of public opinion is also important. Without public support, oil and natural gas development would not be possible, and energy security and the economy would suffer.
- Outrageous information in the public arena overstates industry's environmental impact and propagates blatantly false information about hydraulic fracturing (HF).
- This misinformation has caused local communities and citizens to fear a process that is safe. This fear leads to development roadblocks, if not outright bans, depriving state economies of tens of thousands of jobs and billions of dollars in economic activity, and threatening American energy security.
- Unfounded fears about HF divert limited federal and state regulatory resources away from activities that truly pose a threat to underground sources of drinking water.
- The public trusts EPA to protect the environment, follow the law, and use sound science as the foundation of its regulatory work. When EPA releases a report concluding that hydraulic fracturing may be the source of contamination, the public expects accurate information.
- However, in the case of the Pavillion report, EPA's own data and methods have raised serious questions about the validity of the report. EPA's broader HF study has also led to concerns about unscientific methods, and lack of transparency and peer review.
- Better oversight is needed of EPA science. There is an inherent conflict between EPA's regulatory and compliance roles and its ability to conduct objective science. Given that conflict, it is especially important that EPA science be properly peer reviewed. Western Energy Alliance recommends that standards for EPA-conducted science be tightened so that all studies are peer reviewed by credible third parties before that science can be used for regulatory or compliance purposes.
- HF is vital to the supply of American energy. If we lose the public's confidence and cannot continue to develop oil and natural gas in the United States because of unfounded rumors and invalid science, America will deprive itself of significant job and economic growth, and will continue to import energy from unfriendly nations.

Full Testimony:

Mr. Chairman and Members of the Committee—thank you for the opportunity to appear before you today. I appreciate the opportunity to talk about the need for rigorous scientific standards in the regulatory arena.

There is no failsafe process. Human error and unforeseen circumstances can cause accidents with potential safety and environmental implications. The role of environmental regulation is to ensure that the risk of exposure is managed properly, that appropriate procedures are in place to prevent exposure, and in the event of an accident, correct the problems and bring operations back into compliance.

Oil and natural gas producers are held to high scientific standards to ensure operations are properly designed, executed and controlled. These high standards are intended to ensure that operations protect air and water quality, and that risk of accident is properly managed and controlled. Operators are held to very strict regulatory standards that carry real legal and financial responsibilities, and can even be held criminally liable in certain circumstances.

These strict standards require industry to use accepted practices and scientific methods to ensure compliance. Ensuring compliance with thousands of detailed regulatory requirements every day requires rigorous quality control and adherence to strict protocols and procedures.

Because civil or criminal penalties can be levied on producers who fail to fulfill regulatory requirements, it is imperative that regulators are also held to high standards. Regulators are required to show that sound science and correct procedures were followed when establishing regulations and when determining if a company failed to meet a regulatory standard. If sound science and accepted regulatory practices are not followed, findings cannot stand up in court, and arbitrary regulatory practices sow uncertainty in the industry.

Stable government and regulatory certainty in the marketplace enable industries to engage in productive economic activity on a large scale that creates jobs and national wealth. Since wealthy societies are those best able to protect the environment, we all have a stake in making sure our regulatory environment is predictable, based on sound science, and encourages responsible economic development.

As a democratic society, the legal culpability inherent in our regulatory system is not the only consideration - the court of public opinion is also important. Without public support, activities like oil and natural gas development would not be possible. My industry struggles against outrageous information in the public arena that overstates our environmental impact and propagates blatantly false information about hydraulic fracturing (HF) and other technical aspects of our industry. Every day we hear the media and unaccountable environmental groups make statements about supposedly thousands of cases of contamination from HF. Never mind that U.S. Environmental Protection Agency (EPA) Administrator Lisa Jackson and most regulators from large oil and natural gas producing states have felt compelled to issue statements about the lack of any cases of contamination from HF. Once misinformation gets out into the public, it takes on a life of its own and is impossible to completely correct.

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This misinformation has caused local communities and citizens to fear a process that is safe given the safeguards, procedures, and monitoring that are required and implemented by industry. This fear leads to development roadblocks, if not outright bans as in New York State, depriving state economies of tens of thousands of jobs and billions of dollars in economic activity. Since wealth is the key to public and personal health, safety and the environment, these roadblocks are counterproductive to the very local communities that seek to protect their water resources.

Furthermore, unfounded fears about HF divert limited federal and state regulatory resources away from activities that truly pose a threat to underground sources of drinking water. HF presents a very low risk to drinking water, and has been safely conducted over 1.2 million times since 1949 with no documented cases of contamination. The Ground Water Protection Council considers HF low risk, especially compared to other threats to groundwater such as abandoned mines, agricultural runoff, septic systems, sewer lines, wastewater treatment sources and landfills.¹

The public trusts EPA to protect the environment, follow the law, and use sound science as the foundation of its regulatory work. When EPA releases a report concluding that hydraulic fracturing may be the source of contamination, the public expects accurate information. However, in the case of the draft Pavillion Report, EPA's own data contained within the report don't support the conclusions presented up front.² The report clearly has deficiencies that should have been addressed first with the state regulators who have intimate knowledge and technical experience with the aquifer in question. In addition, a conclusion with such broad implications should have first been tested through a scientific peer review of the work.

We have seen EPA jump to conclusions before - in the case of Range Resources in Parker County, Texas. EPA ignored historic data about the methane content of the drinking water aquifer, and rushed to blame Range Resources and HF. Later geochemical testing clearly showed the methane in domestic water wells was naturally occurring from the shallow formation near the aquifer, and not methane from the Barnett formation that Range was producing from.

We are left wondering why EPA would jump to conclusions? I believe that most EPA employees are dedicated to doing the right thing to protect the environment. In a situation like Pavillion where the conclusions were rushed out without proper review and verification, it raises the question of undue political influence. Why would EPA release the report without state input and scientific peer review? What's the rush to conclude something before independent verification is complete? Why does EPA refuse to release to the state of Wyoming information to back up the results of the Pavillion study?

These are disturbing questions to ask about an agency that should have the public trust, and points to the fact that, like it or not, EPA is a political body, not a disinterested scientific

¹ [Ground Water Report to the Nation: A Call to Action](#), Ground Water Protection Council, 2007.

² *Draft: Investigation of Ground Water Contamination near Pavillion, Wyoming*, U.S. EPA, December 2011.

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institution. As this committee knows, fundamental standards of science include objectivity, repeatability, transparency, and peer review. It's hard to call something scientific if it doesn't include these basic elements, yet we've seen examples from EPA that do not.

Industry is particularly concerned since Congress has charged EPA to conduct a scientific study of hydraulic fracturing. EPA's recent actions raise questions in our minds about the quality of the science for the broader HF study.

In fact, some companies participating in EPA's HF study have already noticed questionable procedures. For example, there is a lack of transparency on the detailed study design and plan. Without a rigorous, systematic plan, there are no clearly defined objectives, analytical methods, quality assurance and interpretation.

This lack of a rigorous plan is also leading to subjective selection of samples and study sites. A systematic plan should identify clearly how samples will be selected, and in the case of the HF study that means which sites will be selected for water sampling. In selecting sites and samples to test, objective criteria must be used. A study is scientifically invalid if samples are chosen not according to objective criteria but rather to fit the intended results or serve political ends. For the HF study, it appears that EPA is subjectively selecting sites outside of the study area rather than objectively according to a plan.

The Pavillion report and what we've observed so far in the HF study cause great concern to industry, as we see a lack of transparency, unscientific methods, and failure to perform peer review. Why is EPA so reluctant to provide to the public and state regulators detailed information on how it's conducting its study? How can the public be assured that EPA is conducting a correct, repeatable scientific study if it won't tell the public how it's going to ensure quality results?

I'd like to extend the issue a bit, as we've seen several regulatory efforts lately that are being rushed through without proper scientific basis. The recent combined NSPS/NESHAP rule for the oil and gas sector is a good example. In the proposed rules, EPA admits that certain scientific steps have been omitted, such as gathering air quality monitoring data, yet it proceeds with rules uninformed by that basic scientific data. Likewise, EPA grossly overestimates methane emissions from natural gas development by over 200% to justify the rule.³ Independent analysis demonstrates basic scientific errors and bad assumptions in EPA's technical support document that forms the basis of the overestimation.⁴ Clearly better independent peer review of EPA science is needed.

I ask this Committee to help ensure that the issues of scientific credibility are resolved, particularly as they relate to the HF study. I believe in general that better oversight is needed of

³ US Environmental Protection Agency, *Greenhouse Gas Emissions Reporting from the Petroleum and Natural Gas Industry: Background Technical Support Document*, 2010.

⁴ IHS CERA, [Mismeasuring Methane: Estimating Greenhouse Gas Emissions from Upstream Natural Gas Development](#), August 2011.

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EPA science. There is an inherent conflict between EPA's regulatory and compliance roles and its ability to conduct objective science. Given that conflict, it is especially important that EPA science be properly peer reviewed. Western Energy Alliance recommends that standards for EPA-conducted science be tightened so that all studies are peer reviewed by credible third parties before that science can be used for regulatory or compliance purposes.

HF is vital to the supply of American energy. If we lose the public's confidence and cannot continue to develop oil and natural gas in the United States because of unfounded rumors and invalid science, America will deprive itself of significant job and economic growth, and will continue to import energy from unfriendly nations.

Thank you for your time.

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