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BEFORE THE
SUBCOMMITTEE ON WATER AND POWER
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

October 20, 2011

Good afternoon, Madame Chairman, Ranking Member Lee, and Members of the Subcommittee. I am pleased to be here today to discuss the EPA's role in ensuring that public health and water quality are protected during natural gas extraction and production activities.

Natural gas can enhance our domestic energy options, reduce our dependence on foreign supplies, and serve as a bridge fuel to renewable energy sources. If produced responsibly, natural gas has the potential to improve air quality, stabilize energy prices, and provide greater certainty about future energy reserves.

While natural gas holds promise for an increased role in our energy future, the EPA believes it is imperative that we access this resource in a way that protects drinking water sources and surface waters.

As we listened to citizens at public meetings across the country last year, we heard the concerns many have for their families, their communities, and their water resources. We also heard from citizens who expressed how much their communities sorely need the income that could be gained from natural gas production.

We believe that this important resource can be – and must be – extracted responsibly, in a way that secures its promise for the benefit of all. If improperly managed, natural gas extraction and production, including hydraulic fracturing, may potentially result in impacts to public health or our water resources. If we look at water across the entire shale gas extraction process, from water acquisition to wastewater treatment and disposal, some of the impacts on our water resources may include:

- stress on surface water and its uses and groundwater supplies from the withdrawal of large volumes of water used in drilling and hydraulic fracturing;
- potential contamination of drinking water aquifers resulting from faulty well construction and completion;
- compromised water quality due to challenges with managing and disposing of contaminated wastewaters, known as flowback and produced water, where contaminants could include organic chemicals, metals, salts and radionuclides

The EPA has an important role to play in protecting water resources and in working with federal and state government partners to manage the benefits and risks of shale gas production. We must effectively address the potential consequences of shale gas development on water resources using the best science and technology. To this end, we are working in the following areas and under the following authorities, among others, with stakeholders, including other federal and state agencies, the oil and gas industry, and the public health community, to evaluate and address the potential public health and water quality issues related to shale gas extraction. These actions are important pieces of the Administration's broader effort to ensure that natural gas production occurs in a safe and responsible manner, as laid out in the President's Blueprint for a Secure Energy Future. They are also consistent with the Secretary of Energy Advisory Board's recently released recommendations on steps to support the safe development of natural gas resources.

Research

At the direction of Congress, the EPA launched a study last year to better understand the potential impacts of hydraulic fracturing on drinking water resources. As part of this study, the EPA has engaged thousands of Americans across the country who currently live in areas where hydraulic fracturing is taking place. When complete, this peer-reviewed research study will help us better understand potential impacts of hydraulic fracturing on drinking water resources and factors that may lead to human exposure and risks, while reducing scientific uncertainties about environmental impacts from those processes.

As part of this effort, the EPA has used information gathered from oil and gas companies conducting hydraulic fracturing and from the many stakeholder outreach meetings the EPA held during development of the study plan. The draft study plan was recently reviewed by the EPA's Science Advisory Board, is in the last stages of being finalized, and is expected to be released soon. The EPA plans to release two reports, one in 2012 that will summarize existing data, intermediate progress regarding retrospective case studies, scenario modeling and laboratory studies; and one in 2014 that will provide additional scientific results on these topics and report on prospective case studies and toxicological analyses.

Examples of Authority to Protect Water Resources

While Congress specifically exempted selected oil and gas production activities from several environmental laws, a number of environmental protections continue to apply. The Safe Drinking Water Act (SDWA)'s Underground Injection Control (UIC) program and Sections 301(b) and 402(a) of the Clean Water Act (CWA) are two examples of laws the states and EPA use to regulate certain oil and gas

production activities to protect public health and water quality. For example, the Energy Policy Act of 2005 contains an exclusion from the SDWA UIC program's permitting requirements for hydraulic fracturing for oil and gas, but this exclusion does not extend to oil and gas production activities when diesel fuels are used in fracturing fluids. The SDWA also regulates underground injection of flowback and produced water. The EPA and authorized states have the authority to regulate waste waters from oil and gas wells under Sections 301(b) and 402(a) of the CWA when they are discharged into publicly owned treatment works (POTWs) and surface waters. Under these two examples of authorities, the EPA has a number of activities underway, which I would like to outline for you.

Examples of Activities to Protect Water Resources

Under the CWA and SDWA, the EPA works with states to ensure that gas extraction is carried out consistent with CWA and SDWA regulations to protect surface water and drinking water. This year, the EPA produced a frequently asked questions (FAQ) document to assist state and federal permitting authorities within the Marcellus Shale region in addressing treatment and disposal of wastewater from shale gas extraction.[1] The document covers oil and gas extraction, centralized waste treatment, acceptance and notification requirements for publicly owned treatment works, pretreatment, and storm water. The FAQs have assisted the EPA and state personnel as we have worked with the regulated community to address shale gas extraction wastewater. In addition, the EPA is developing guidance to help states address water quality issues related to Centralized Waste Treatment Facilities or POTWs that accept oil and gas wastewater. As part of its effluent guidelines planning process under CWA section 304(m), the EPA is considering whether to initiate a rulemaking to revise these regulations to address natural gas extraction flowback waters.

[1] This document is available at http://cfpub.epa.gov/npdes/hydrofracturing.cfm

Under SDWA's UIC program, the EPA is working expeditiously to ensure the SDWA programmatic requirements related to hydraulic fracturing when using diesel fuels are implemented appropriately. The EPA is developing guidance to provide information to the states and regulated community on permitting wells that inject diesel fuels during hydraulic fracturing. With regard to flowback and produced water, we are coordinating with our state and tribal co-regulators to ensure proper management of flowback and produced water disposed of via underground injection.

Conclusion

In conclusion, the EPA is committed to using its authorities, consistent with the law and best available science, to protect communities across the nation from impacts to water quality and public health associated with natural gas production activities. Where we know problems exist, the EPA will not hesitate to protect Americans whose health may be at risk.

We remain committed to working with state officials, who are on the front lines of protecting water resources and regulating natural gas production activities. By helping manage environmental impacts and addressing public concerns, natural gas production can proceed in a responsible manner, which protects public health and enhances our domestic energy options. We believe that as a Nation, we can provide for the safe and responsible development of this significant domestic energy resource whose use brings a range of other important national security, environmental and climate benefits.