Hydraulic Fracturing Project Status
03-03-04

Remand

Delegation of authority (if necessary)
Does Ben want to sign the FR

Report
Soften conclusions and ES
Chapter 3 review and work on
Response to comment document – about 80% complete. Need to address Leslie's comments
Printing – paperwork, talk to guys in print shop
Will get a camera ready from Cadmus as soon as report is complete
Chapter 4 – Roy's summary changes

FR Notice
Jim's comments (still need)
e-mail from OGC saying they are okay with action (will receive after report is complete)
Transmittal memo – Leslie
Certification letter – Jeff
Type-setting request form
Disc containing FR
Communication strategy
Add: Regions work with GWPC and States to convey MOA conditions
Work with industry representatives
Press release/desk statement

Jeff to review endangerment table and Sept 17 package that went to the Hill

HYDRAULIC FRACTURING FLUID QUESTIONS AND ANSWERS
Updated 3-3-04

What is hydraulic fracturing?

Hydraulic fracturing is a procedure used in the oil and gas industry to enhance subsurface fracture systems to allow oil or natural gas to move more freely from the rock pores where they are trapped to producing wells that can bring the oil or gas to the surface.

The goal of hydraulic fracturing is to improve or maximize the flow of fluids in oil and gas production well by connecting many pre-existing fractures and flow pathways in oil and gas containing rocks (reservoir rock) with a larger fracture. This larger, man-made fracture starts at the well and extends out into the reservoir rock for as much as several hundred feet. The man-made or hydraulic fracture is formed when a fluid is pumped down the production well at high pressures for short periods of time (hours). The high-pressure fluid (usually water with some specialty high viscosity fluid additives) exceeds the rock strength and opens a fracture in the rock. A propping agent, usually sand carried by the high viscosity additives, is pumped into the fractures to keep them from closing when the fracturing pressure is released.

What is coalbed methane?

Coalbed methane is a gas formed as part of the geological process of coal generation, and is contained in varying quantities within all coal. Coalbed methane is exceptionally pure compared to conventional natural gas, containing only very small proportions of "wet" compounds (heavier hydrocarbons such as ethane and butane) and other gases (hydrogen sulfide, carbon dioxide, etc.). Coalbed gas is over 90 percent methane, and is suitable for introduction into a commercial pipeline with little or no pre-treatment.

Where does HF for coalbed methane occur in the country?

Hydraulic fracturing for coalbed methane occurs primarily in the 11 coal basins in the United States. Those coal basins are located primarily in Appalachian and Rocky Mountain areas, and in some of the Midwest regions between the two zones. States underlain by the 11 major coalbed basins include: Pennsylvania, Maryland, Virginia, West Virginia, Ohio, Kentucky, Tennessee, Alabama, Indiana, Missouri, Arkansas, Iowa, Nebraska, Kansas, Oklahoma, Texas, New Mexico, Colorado Wyoming, Montana, and to a lesser degree Oregon and Washington.

Why are there concerns for underground sources of drinking water (USDWs) following hydraulic fracturing of coalbed methane wells?

In some cases the hydraulic fracturing process can result in the injection of hydraulic fracturing fluids into USDWs. Hydraulic fracturing service companies have developed a number of different oil- and water-based fluids and treatments for use in the fracturing

process. Water –based fracturing fluids have become the predominant type of coalbed methane fracturing fluid, however fluids can also be based on oil, methanol, or a combination of water and methanol. Many of the fluids and fluid additives may contain constituents of concern. Of primary concern is diesel fuel, which is sometimes used as a fluid component. Diesel fuel may contain contaminants such as benzene, toluene, ethyl benzene, and xylene (BTEX), which are regulated under the Safe Drinking Water Act. BTEX constituents in drinking water sources represent threats to public health if they exceed Maximum Contaminant Levels (MCLs).

Have sources of drinking water been contaminated by fracturing fluids?

The hydraulic fracturing impact study completed by EPA is the most thorough effort conducted to review any impacts to public health as a result of USDW contamination from hydraulic fracturing. If risks from hydraulic fracturing of coalbed methane wells were significant, the Agency would expect to find instances of water well contamination from the practice. Instead, thousands of coalbed methane wells are fractured annually, yet through review of States' responses to complaints, EPA did not find persuasive evidence that any drinking water wells had been contaminated by the injection of fracturing fluids into CBM wells.

Why are the companies agreeing to voluntarily remove diesel?

EPA does not have the authority to directly prohibit the use of diesel fuel as an additive to hydraulic fracturing fluids. Despite that, the hydraulic fracturing companies involved with the voluntary agreement recognize EPA's concerns with the injection of diesel fuel into USDWs. Much of the concern for hydraulic fracturing stems from the SDWA regulated contaminants that occur in diesel fuel (i.e., BTEX). Since diesel fuel represents the focus of EPA concern the service companies recognize it is in their best interest to voluntarily remove it as a hydraulic fracturing fluid additive.

What will EPA do to make sure that the companies fulfill the terms of the MOA?

The companies involved are bound by the terms of the voluntary agreement. EPA Regions will work with GWPC and their State UIC co-regulators to raise awareness of the conditions of the MOA so that they can be alert to any violations of the agreement.

The three service companies perform 95% of the fracturing jobs. Isn't EPA concerned about the other 5%?

Although, EPA believes the potential risk to USDWs from fracturing fluid injection is low, we recognize that it would be ideal to reduce risk all together from diesel fuel injection by addressing the other 5%. To that end, EPA is working with industry representatives

including the Domestic Petroleum Council, Independent Petroleum Producers of America, and the American Petroleum Institute to inform producers of the concern over injecting hazardous chemicals into USDWs for coalbed methane production and the MOA. We hope that raising awareness among producers will serve to further reduce the injection of diesel fuel.

Did EPA remove the calculations from the report because they made Halliburton look bad?

The concentration values presented in the draft report were very rough estimates that did not reflect actual concentrations. It became clear through public comment received on the draft report that the values presented indicated a level of precision that did not exist. EPA changed the analysis to the more appropriate qualitative discussion of fate and transport mechanisms that could potentially affect fluid behavior within a USDW. EPA cannot produce a quantitative analysis with the level of precision expected from our stakeholders (i.e., precision good enough to allow a comparison of concentrations to drinking water standards) without site-specific data and a formal risk assessment.