USING THE SAFE DRINKING WATER ACT TO PROTECT DRINKING WATER FROM HYDRAULIC FRACTURING

Summary: The U.S. Environmental Protection Agency (EPA) is developing permitting guidance for hydraulic fracturing operations using diesel. The guidance will be the first federal policy focused on protecting drinking water sources from hydraulic fracturing.

Hydraulic Fracturing: Hydraulic fracturing is a method of extracting natural gas and oil trapped inside shale or other rock formations. Water is mixed with sand and chemicals and injected into the earth at high pressure in order to fracture the rock around the well. The gas or oil released by this “fracturing” is then pumped out. Increased use of hydraulic fracturing along with horizontal drilling has dramatically increased the health and environmental impacts from drilling.

The Safe Drinking Water Act and Hydraulic Fracturing: The Energy Policy Act of 2005 (EPAct) exempts hydraulic fracturing from the Safe Drinking Water Act (SDWA) “… except when diesel fuel is used.” During the debate around the EPAct, concern about potential contamination of underground sources of drinking water when diesel is used in hydraulic fracturing led to this exception being written into the law. At the time, industry representatives claimed that diesel was no longer used in hydraulic fracturing operations, but there is increasing evidence that the use of diesel remains widespread. In early 2011, an investigation by members of the U.S. House of Representatives found that drilling service companies injected over 30 million gallons of diesel underground during hydraulic fracturing between 2005 and 2009.

Injecting diesel underground is problematic because of the toxic chemicals it contains, especially the “BTEX” compounds. “BTEX” refers to benzene, toluene, ethylbenzene and xylene. These chemicals are linked to numerous adverse health effects including cancer, kidney and liver problems and nervous system damage. They are toxic at very low levels and are soluble in water, which is of particular concern when injecting them into the ground in proximity to underground sources of drinking water.

The Safe Drinking Water Act’s Underground Injection Control Program: The Safe Drinking Water Act requires EPA to regulate underground injection of all fluids. The Underground Injection (UIC) Program is meant to protect underground sources of drinking water by setting requirements for injection wells in order to prevent violations of drinking water standards and adverse public health effects. In the United States, 750,000 billion gallons of hazardous and non-hazardous wastewater are disposed of in underground wells each year. There are an estimated 650,000 – 850,000 underground injection wells nationwide.

The UIC program uses six “classes” of permits; these classes are based on the type of activity and the type of waste involved. The existing “Class II” is used for oil and gas operations and is applicable to hydraulic fracturing operations. Since the EPAct mandates EPA to require a permit for hydraulic fracturing operations using diesel, the Class II program is the appropriate way to accomplish this. Because the BTEX compounds in diesel pose a clear threat to underground sources of drinking water, EPA could ban diesel use in hydraulic fracturing. If it does not do this, EPA needs to develop the strictest possible rules on how to issue permits that will provide for protection of underground sources of drinking water when diesel is used.

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What is the EPA doing? The EPA is expected to issue a guidance document in the near future to clarify what permittees need to do to comply with the law. EPA’s draft guidance will tell those who implement the UIC program (sometimes state agency staff and sometimes EPA regional staff) how to use the UIC program’s permitting provisions when a hydraulic fracturing operation is going to use diesel as part of the mix injected underground to “fracture” the rock and extract gas or oil. When EPA publishes the draft guidance, a formal public comment period will begin. This is an important part of the regulatory process when interested parties can comment on the Agency action.

What should EPA do? Clean Water Action calls on EPA to:

- Publish the draft “Guidance” upon completion of interagency review.
- Ban the use of diesel in hydraulic fracturing. Concern about diesel use in this method of gas extraction is warranted. The Department of Energy Secretary of Energy Advisory Board (SEAB) Shale Gas Subcommittee found that, in light of these risks and the available alternatives, “there is no technical or economic reason to use diesel as a stimulating fluid.” [Natural Gas Subcommittee, First 90-day interim report, (August 18, 2011), http://www.shalegas.energy.gov/resources/081811_90_day_report_final.pdf]
- If use of diesel in hydraulic fracturing is not banned, EPA should publish final Guidance and initiate formal rulemaking to put in place the strictest possible requirements in order to protect underground sources of drinking water.
- Initiate formal rulemaking, in order to give the protections the full force of the law. Because hydraulic fracturing operations using diesel are covered by the Safe Drinking Water Act and because the UIC program is an appropriate way to protect drinking water from these operations, a rule with the force of law is appropriate and necessary.
- Define diesel to include petroleum distillates and BTEX-containing compounds in order to most fully prevent contamination of drinking water from these hazardous chemicals.

Clean Water Action will also be commenting on technical details in the draft guidance once it is available to the public.

Taking action to control the use of diesel in hydraulic fracturing is an important step but is not enough. Hydraulic fracturing operations that do not use diesel should not be exempt from the Safe Drinking Water Act. Clean Water Action will continue to support legislation to remove this exemption.

For more information on diesel use in hydraulic fracturing and EPA’s draft permitting guidance, please visit www.cleanwateraction.org/fracking