

August 23, 2012

U.S. Environmental Protection Agency
Mailcode: 4606M
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels

Docket ID No. EPA-HQ-OW-2011-1013

The Environmental Working Group respectfully submits the following comments on the U.S. Environmental Protection Agency's draft permitting guidance for oil and gas hydraulic fracturing activities using diesel (Guidance).¹ EWG is a non-partisan, non-profit organization that for nearly two decades has marshaled the power of information to protect public health and the environment.² As part of that endeavor, EWG conducts original research and reports on a range of issues related to U.S. oil and natural gas drilling. In particular, EWG has focused on the consequences of using a method known as hydraulic fracturing to exploit this country's energy reserves.³

Drilling companies engaged in hydraulic fracturing inject a mix of water, sand, and chemicals into the ground under high pressure to break open rock formations and allow oil and/or natural gas to flow to the surface. EWG's review of the science shows that hydraulic fracturing is inherently risky and may seriously compromise drinking water supplies.⁴ In 2009, EWG conducted a months-long investigation and found that some of the chemicals used in hydraulic fracturing fluid can be highly toxic.⁵ Specifically, EWG found that drilling companies are routinely "injecting natural gas wells with millions of gallons of fracking fluids laced with petroleum distillates that can be similar to diesel and represent an equal or greater threat to water supplies."⁶ A state regulator in Wyoming who spoke to EWG on the condition of anonymity acknowledged that drillers used "diesel" in their hydraulic fracturing injections.⁷ Diesel and other petroleum distillates typically contain toxic chemicals such as benzene, toluene, ethylbenzene, and xylene that are known to cause serious health problems.⁸ The presence of

¹ Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels — Draft: Underground Injection Control Program Guidance #84, 77 Fed. Reg. 27,451 (May 10, 2012) (deadline to submit comments extended to Aug. 23, 2012).

² Env'tl. Working Group, <http://www.ewg.org/> (last visited Aug. 22, 2012).

³ E.g., Env'tl. Working Group & Physicians, Scientists & Engineers for Healthy Energy, Ten Problems with New York's Shale Gas Drilling Plan (2012), <http://static.ewg.org/pdf/Top-Ten-NY-Drilling-Problems.pdf>; see also Dusty Horwitt, Env'tl. Working Group, Cracks in the Façade: 25 Years Ago, EPA Linked 'Fracking' to Water Contamination (2011), <http://www.ewg.org/reports/cracks-in-the-façade>.

⁴ Id.

⁵ Dusty Horwitt, Env'tl. Working Group, Drilling Around the Law (2010), <http://static.ewg.org/files/EWG-2009drillingaroundthelaw.pdf> [hereinafter Horwitt, Drilling Around the Law]

⁶ Id. at 2.

⁷ Id. at 3.

⁸ Id. at 7.

benzene is perhaps most troubling because it is a known carcinogen and can contaminate drinking water supplies at concentrations as low as 5 parts per billion.⁹ EWG estimates that in a worst-case scenario the petroleum distillates used to hydraulically fracture a single well could contain enough benzene to render unsafe more than 100 billion gallons of drinking water.¹⁰ EPA has previously found the use of diesel fuel in hydraulic fracturing fluid is the “greatest threat” to underground sources of drinking water.¹¹

Use of diesel and diesel-like chemicals in hydraulic fracturing operations is not only hazardous to public health and the environment, but also appears to be widespread. In 2011, U.S. Reps. Henry Waxman (D-Calif.), Edward Markey (D-Mass.), and Diana DeGette (D-Colo.) reported that “between 2005 and 2009, oil and gas service companies injected 32.2 million gallons of diesel fuel or hydraulic fracturing fluids containing diesel fuel in wells in 19 states.”¹² And last week, Energy & Environment Publishing (E&E) reported that dozens of wells have been fractured with diesel in the past year and a half based on information obtained from FracFocus, an online registry of hydraulic fracturing chemicals maintained by the drilling industry.¹³

These injections appear to be illegal under the federal Safe Drinking Water Act (SDWA).¹⁴ Congress largely exempted hydraulic fracturing fluid from the requirements of the SDWA in 2005.¹⁵ However, Congress made clear that drilling companies have to obtain a permit under the SDWA if companies’ fluid contains diesel.¹⁶ Yet, according to Reps. Waxman, Markey, and DeGette, not one single drilling company obtained a permit for the diesel injections made

⁹ U.S. Env’tl. Prot. Agency, Basic Information About Benzene in Drinking Water, <http://water.epa.gov/drink/contaminants/basicinformation/benzene.cfm> (last visited Aug. 22, 2012).

¹⁰ Horwitt, *Drilling Around the Law*, *supra* note 5, at 2.

¹¹ U.S. Env’tl. Prot. Agency, *Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs 4-11* (2004) (“The use of diesel fuel in fracturing fluids poses the greatest threat to [underground sources of drinking water] because [benzene, toluene, ethylbenzene, and xylene] compounds in diesel fuel exceed the [maximum contaminant level] at the point-of-injection . . .”).

¹² Letter from U.S. Reps. Henry Waxman, Edward Markey & Diana DeGette to Lisa Jackson, Adm’r, U.S. Env’tl. Prot. Agency (Jan. 31, 2011), <http://democrats.energycommerce.house.gov/sites/default/files/documents/Jackson.EPADieselFracking.2011.1.31.pdf> [hereinafter Congressional Letter on Diesel].

¹³ Mike Soraghan, *Diesel Still Used to ‘Frack’ Wells, FracFocus Data Shows*, *Env’t. & Energy Publ’g*, Aug. 17, 2012, <http://www.eenews.net/energywire/2012/08/17/1> [hereinafter Mike Soraghan, *Diesel Still Used*].

¹⁴ Safe Drinking Water Act, 42 U.S.C. §§ 300f-300j-26.

¹⁵ Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005) (codified in scattered sections of 26 U.S.C. and 42 U.S.C.). In relevant part, Section 322 amended Section 1421(d)(1) of Safe Drinking Water Act, 42 U.S.C. § 300h(d), to read as follows:

(1) UNDERGROUND INJECTION.—The term “underground injection”—

(A) means the subsurface emplacement of fluids by well injection; and

(B) excludes—

(i) the underground injection of natural gas for purposes of storage; and

(ii) the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities.

¹⁶ *Id.*; U.S. Env’tl. Prot. Agency, Regulation of Hydraulic Fracturing Under the Safe Drinking Water Act, http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/wells_hydroreg.cfm (last visited Aug. 22, 2012) (“While the SDWA specifically excludes hydraulic fracturing from [underground injection control] regulation . . . the use of diesel fuel during hydraulic fracturing is still regulated by the UIC program. Any service company that performs hydraulic fracturing using diesel fuel must receive prior authorization . . .”); 40 C.F.R. Part 144.

between 2005 and 2009,¹⁷ potentially exposing companies fracturing with diesel to civil and/or criminal liability.¹⁸ EPA has yet to show a willingness to address these apparent violations. If anything, this Guidance raises more questions about whether EPA is serious about enforcing the SDWA in this context. As “guidance,” this document will be legally non-binding.¹⁹ Further, it will apply only where EPA has primary authority for enforcing the SDWA’s underground injection control program,²⁰ which is limited to just a few states.²¹

In view of that, EWG would like to make the following points with respect to this Guidance:

(1) EPA’s proposed definition of diesel is far too narrow in scope to adequately protect public health and the environment.

In the Guidance, EPA proposes to limit its definition of diesel to six Chemical Abstracts Service Registry Numbers (CASRNs) as the basis for determining whether diesel fuels are used in hydraulic fracturing fluid.²² According to EPA, a broader definition would be inappropriate in part because it “would include some compounds that are not suitable to run in a diesel engine.”²³ EWG questions why the ability for these compounds to run in an engine is relevant here when drilling companies are injecting these compounds into the ground under high pressure. The downside of taking that view of diesel is clear, as EPA acknowledges. The proposed definition invites drilling companies to use or develop compounds that have similar characteristics as diesel and favorable properties for fracturing but fall outside of the scope of EPA’s proposed definition.²⁴

EWG believes diesel should be defined broadly as it is in the federal Toxic Substances Control Act Inventory: “Diesel fuel is a complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C20 and boiling in the range of approximately 163°C to 357°C (325°F to 675°F).”²⁵ This definition would cover new compounds brought to market with these characteristics even if they are labeled as something other than diesel. EPA also should incorporate into its definition any petroleum distillate or diesel-like compound marketed as diesel or diesel equivalent to drilling companies. By adopting these recommendations, EPA will be in a better position to mitigate risks posed by hydraulic fracturing as drillers expand operations in more populated, water-rich areas.

¹⁷ Congressional Letter on Diesel, *supra* note 12.

¹⁸ 42 U.S.C. § 300h-2.

¹⁹ Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels — Draft: Underground Injection Control Program Guidance #84, 77 Fed. Reg. 27,451, 27,452 (May 10, 2012).

²⁰ *Id.*

²¹ U.S. Env’tl. Prot. Agency, UIC Program Primacy, <http://water.epa.gov/type/groundwater/uic/Primacy.cfm#who> (last visited Aug. 22, 2012).

²² U.S. Env’tl. Prot. Agency, Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels — Draft: Underground Injection Control Program Guidance #84 1 (2012), <http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/hfdieselfuelsguidance508.pdf>.

²³ Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels — Draft: Underground Injection Control Program Guidance #84, 77 Fed. Reg. at 27,454.

²⁴ See *id.* at 27,454.

²⁵ *Id.* at 27,453.

(2) With or without this Guidance, EPA must fully enforce the SDWA’s permitting requirements for hydraulic fracturing fluid containing diesel and diesel-like compounds or else drilling companies will continue to defy the law, threatening drinking water supplies.

Even if EPA adopts a narrow definition of diesel, evidence suggests that companies will continue to inject diesel and diesel-like compounds into the ground as part of their hydraulic fracturing operations. For one, the drilling industry pushed back hard on Reps. Waxman, Markey, and DeGette’s report about diesel being used in hydraulic fracturing.²⁶ One prominent spokesman for the industry responded by asserting that “no incidents of groundwater contamination have been reported — with or without diesel fuels being used.”²⁷ This argument is misleading. In 1987, EPA reported to Congress that hydraulic fracturing can — and did — cause such contamination.²⁸ According to EPA, “during the fracturing process, fractures can be produced, allowing migration of native brine, fracturing fluid, and hydrocarbons from the oil or gas well to a nearby water well. When this happens, the water well can be permanently damaged and a new well must be drilled or an alternative source of drinking water found.”²⁹ Further, even if one applies the industry’s own definition of diesel, the above-referenced E&E article suggests that drilling companies will continue to use such compounds unless EPA finally decides to enforce the SDWA, providing companies with a strong incentive to find alternatives.³⁰ According to E&E, companies fractured at least 138 wells with diesel in the past year and a half.³¹

Drilling and hydraulic fracturing have the potential to compromise drinking water supplies for generations to come. That is why EWG finds it unfortunate that drilling companies have used their influence to ensure that EPA can regulate only one of the dozens of compounds used in hydraulic fracturing fluid. EPA should not have to engage in an arcane discussion of what diesel is to avoid inadvertently regulating other fluid components. Congress should end the exemption for hydraulic fracturing under the SDWA and ban diesel and diesel-like compounds from fracturing fluid altogether. Until Congress shows such leadership, EPA must resist pressure from drilling interests to relinquish authority it already has under the SDWA. That requires adopting the broadest definition of diesel possible for the purposes of this Guidance.

²⁶ Mike Soraghan, Fracking Companies Injected 32M Gallons of Diesel, House Probe Finds, N.Y. Times, Jan. 31, 2011, <http://www.nytimes.com/gwire/2011/01/31/31greenwire-fracking-companies-injected-32m-gallons-of-die-24135.html?pagewanted=all> (“Industry officials derided the lawmakers’ announcement, saying it was long on sensationalism and short on substance.”).

²⁷ Id.

²⁸ E.g., U.S. Env’tl. Prot. Agency, Report to Congress: Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy (1987), http://cfpub.epa.gov/ols/catalog/catalog_display.cfm?&FIELD1=SUBJECT&INPUT1=Natural%20gas%20United%20States&TYPE1=EXACT&item_count=12.

²⁹ Id. at IV-22.

³⁰ See Mike Soraghan, Diesel Still Used, *supra* note 13.

³¹ Id.

In addition, EPA must compel drilling companies to obtain permits before injecting diesel into the ground and take robust enforcement action against anyone who ignores or flouts this requirement. Anything short of these actions jeopardizes drinking water supplies across the country.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas Cluderay', written in a cursive style.

Thomas Cluderay
Assistant General Counsel
Environmental Working Group

A handwritten signature in black ink, appearing to read 'Dusty Horwitt', written in a cursive style.

Dusty Horwitt
Senior Counsel
Environmental Working Group