August 21, 2012

Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels—Draft
Environmental Protection Agency
Mailcode: 4606M
1200 Pennsylvania Ave. NW.
Washington, DC 20460.

Re: EPA–HQ–OW–2011–1013; FRL–9671–1

These comments are filed on behalf of the Independent Petroleum Association of America (IPAA), the Association of Energy Service Companies (AESC), the International Association of Drilling Contractors (IADC), the International Association of Geophysical Contractors (IAGC), the National Stripper Well Association (NSWA), and the following organizations:

Arkansas Independent Producers and Royalty Owners Association
California Independent Petroleum Association
Coalbed Methane Association of Alabama
Colorado Oil & Gas Association
East Texas Producers & Royalty Owners Association
Eastern Kansas Oil & Gas Association
Florida Independent Petroleum Association
Illinois Oil & Gas Association
Independent Oil & Gas Association of New York
Independent Oil & Gas Association of West Virginia
Independent Oil Producers Agency
Independent Oil Producers Association Tri-State
Independent Petroleum Association of New Mexico
Indiana Oil & Gas Association
Kansas Independent Oil & Gas Association
Kentucky Oil & Gas Association
Louisiana Oil & Gas Association
Michigan Oil & Gas Association
Mississippi Independent Producers & Royalty Association
Montana Petroleum Association
National Association of Royalty Owners
Nebraska Independent Oil & Gas Association
New Mexico Oil & Gas Association
New York State Oil Producers Association
North Dakota Petroleum Council

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Northern Montana Oil and Gas Association
Ohio Oil & Gas Association
Oklahoma Independent Petroleum Association
Panhandle Producers & Royalty Owners Association
Pennsylvania Independent Oil & Gas Association
Permian Basin Petroleum Association
Petroleum Association of Wyoming
Southeastern Ohio Oil & Gas Association
Tennessee Oil & Gas Association
Texas Alliance of Energy Producers
Texas Independent Producers and Royalty Owners Association
Utah Petroleum Association
Virginia Oil and Gas Association
West Virginia Oil and Natural Gas Association
Western Energy Alliance

Collectively, these groups represent the thousands of independent oil and natural gas explorers and producers, as well as the service and supply industries that support their efforts, that will be the most significantly affected by the proposed actions in these regulatory actions. Independent producers drill about 95 percent of American oil and natural gas wells, produce about 56 percent of American oil, and more than 85 percent of American natural gas.

In addition to the specific comments made herein, we support those comments submitted separately by the participants in these comments.

As detailed in these comments, we believe that EPA should retract both its website assertion of an Underground Injection Control (UIC) permitting requirement under the Safe Drinking Water Act (SDWA) and the Draft Guidance document. Instead, EPA should revisit its use of this authority in the context of (1) the current state regulatory programs and (2) the mandates of the SDWA prohibiting regulations that would impede or interfere with American oil and natural gas production unless such requirements are essential to assure that underground sources of drinking water (USDW) will not be endangered by such injection. Since EPA and other federal officials have repeatedly verified that hydraulic fracturing has not created adverse consequences for USDWs, these new EPA actions violate its overarching SDWA mandate. Additionally, EPA's Draft Guidance seeks to expand its authority beyond a clear reading of the statute. EPA's authority is limited to use of diesel fuel in the context of hydraulic fracturing and no further. Moreover, EPA proposes regulation of chemical products that are not diesel fuel. Similarly, EPA's current and proposed actions threaten the well balanced federal-state primacy structure.

Background On Diesel Fuel Issue

Hydraulic fracturing has been used as a well stimulation technology since the late 1940s for oil, natural gas, geothermal and water wells. Diesel fuel was used in the fracturing process since its inception. Fracturing regulations were developed and have been implemented by state oil and natural gas regulatory agencies through well construction and completion requirements. These regulations have effectively managed the limited environmental risks of the fracturing process. Over the 60 plus years since the earliest use of hydraulic fracturing, there have been no incidents

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where the use of diesel fuel in the fracturing process suggests the existence of a systemic environmental management problem.

When the SDWA was enacted in 1974, it never envisioned hydraulic fracturing as underground injection. However, in the mid-1990s an environmental group petitioned EPA to regulate coal bed methane (CBM) fracturing under the UIC program. EPA rejected the petition, rightfully arguing that the SDWA was not intended to regulate fracturing. The environmental group appealed the decision and the 11th Circuit Court determined – without assessing Congressional intent or the risk to the environment from fracturing – that the plain reading of the SDWA covered fracturing. In a subsequent case, EPA argued that the UIC program – specifically the Class II UIC program – was inappropriate to manage hydraulic fracturing but was compelled to act by the court. Following these actions, Congress began to consider whether to revise the SDWA to address its scope, as it had done with regard to natural gas storage injections in 1980. As this debate progressed, the issue of diesel fuel use in fracturing became a factor.

In reality, the entire array of issues associated with diesel fuels is based on allegations and conjecture – not facts. The initial identification of diesel fuel as an issue results from a false assertion that the use of diesel fuel in fracturing could result in the introduction of MTBE into USDWs due to an error in a document where the author confused gasoline and diesel fuel. Environmental opponents of fossil fuels trumpeted this allegation during debates on energy policy until the obvious falseness of the allegation was recognized.

The subsequent focus on diesel fuel occurred following the release of EPA's 2004 study on hydraulic fracturing associated with CBM production. EPA evaluated the potential impact of fracturing on ground water in the context of CBM production because those formations are the closest to drinking water sources. EPA reasoned that if no problem existed with CBM, no problems would occur with deeper formations. It found no problems and no incidents where diesel fuel use had created any unmanaged risk. Nevertheless, under pressure from fossil fuel opponents, EPA generated a hypothetical risk. EPA postulated a concern that – if diesel fuel migrated from a fractured CBM formation – EPA would be concerned about the benzene, toluene, ethylbenzene and xylene that naturally occurs in diesel fuel moving into drinking water sources.

In the Congressional debate, fossil fuel opponents distorted this hypothetical concern into allegations that fracturing injected benzene into drinking water. Ultimately, Congress chose to exclude hydraulic fracturing from the scope of the SDWA UIC program except when diesel fuel is used in limited circumstances associated with hydraulic fracturing.[1]

The Scope Of EPA's Response

By its action, Congress granted EPA the authority to create a regulatory program for this narrow circumstance; it is not a mandate. The language of the 2005 Energy Policy Act did not direct EPA to take specific action associated with the new authority it granted to regulate hydraulic

[1] (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.

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fracturing when diesel fuel was used. Neither a time for action nor a specific action was required. Instead, EPA was only given the authority to act if and when EPA determined that hydraulic fracturing operations using diesel fuels posed a risk to the environment and warranted EPA regulation because the SDWA limits EPA's authority to impose new requirements on oil and natural gas development under the SDWA UIC program unless it can show that new regulations are essential to protect underground sources of drinking water. However, EPA has not undertaken any analysis relating to current industry practice nor has EPA considered the robust regulatory programs in place at the state level.

Instead, EPA took no regulatory action for five years after the 2005 amendments were adopted. In early 2010, EPA initiated action on a Congressionally requested study on the potential impacts of hydraulic fracturing on drinking water – creating the appearance that it would follow a scientifically based approach to determine if future regulation was needed. Then, suddenly, in July 2010, EPA interpreted the new authority as a mandate and acted precipitously by posting on its website an interpretation of the law instead of proposing and promulgating regulations. EPA's circumvention of the normal rulemaking process is resulting in an expanding and unnecessary regulatory morass that should be restarted.

Rather than proceed under the current convoluted process EPA should address its regulatory authority in a manner that reflects the lack of need for any action for the following reasons:

1. The current concept poses serious implications to interfere with or impede American oil and natural gas production in contravention of the mandate under the SDWA. At a minimum in the states where EPA operates the Class II UIC program, EPA's action compels a second permit that impedes action and imposes requirements that are inconsistent with the state well construction and completion regulations. In view of EPA's statements that fracturing has not threatened USDWs, these impediments violate the mandate of the SDWA.
2. As EPA recognized in the *LEAF v EPA* litigation, Class II UIC regulation was inappropriate for managing hydraulic fracturing. When Congress provided authority for EPA to regulate hydraulic fracturing when diesel fuels were used, its grant was narrowly limited. EPA cannot use this narrow authority to wedge its regulatory activities into fracturing either as a concept or through its definition of "diesel fuels".
3. The use of a website notice rather than the normal rulemaking process prevents the consideration of alternatives that would be appropriate. The use of guidance instead of regulation circumvents the regulatory process. While EPA has opened its Draft Guidance Document for comment, this action fails to meet the full rulemaking process that should have been addressed at the outset of EPA's effort to address its authority under the SDWA. Creating a process comprised of a website publication without notice or comment followed by the development of a Guidance Document that (1) addresses only a portion of the authority EPA is asserting under the website publication and (2) can be ignored by permit writers or revised at will is a pale shadow of the rulemaking process required by the Administrative Procedure Act (APA).
4. State regulatory systems managing hydraulic fracturing do not operate under UIC regulations. Consequently, proceeding under the UIC program creates an immediate and incontrovertible conflict with the state programs that have effectively managed the risks of the fracturing process since well before the SDWA was enacted. EPA's use of the UIC

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program will call into question the state regulatory program in states with primacy delegation.

5. EPA's draft guidance is specifically directed at oil and natural gas hydraulic fracturing activities despite the fact that the 2005 Energy Policy Act granted EPA the authority to regulate the usage of diesel fuels in hydraulic fracturing activities for oil and natural gas production as well as geothermal energy production. The hydraulic fracturing processes used to develop oil and natural gas wells are the same hydraulic fracturing processes used in geothermal energy production. For example, in a study sponsored by the U.S. Department of Energy's Office of the Geothermal Technology Program, the Massachusetts Institute of Technology (MIT) determined that hydraulic fracturing is essential for the commercial viability of geothermal energy production.[2] The MIT study specifically states that "[i]n all cases, certain conditions must be met before one has a viable geothermal resource. The first requirement is accessibility. This is usually achieved by drilling to depths of interest, frequently using conventional methods similar to those used to extract oil and gas from underground reservoirs." The study continues that "[h]oles then would be drilled deep enough to encounter useful rock temperature to further verify and quantify the specific resource at relevant depths for exploitation. If low-permeability rock is encountered, it would be stimulated hydraulically to produce a large-volume reservoir for heat extraction and suitably connected to an injection-production well system."

Despite the commonality of hydraulic fracturing processes, EPA has shown little interest in addressing geothermal energy production. However, shallow geothermal production can occur, in some cases, within a few hundred feet of the earth's surface. The proximity of development is far closer to USDWs than oil and natural gas operations which, generally, are targeting deeper hydrocarbon bearing shale formations thousands of feet below any potable water supply.

Also problematic is the fact that "[i]n contrast to oil and gas wells, which are often over-pressured [(e.g. forcing released hydrocarbons back into the wellbore for transit to the earth's surface for capture)] . . . geothermal wells are often under-pressured. This means that the formation pressure is less than the drilling fluid head."[3] If the geothermal formation pressure is under less pressure than the wellbore, then one could assume that fluids may migrate from the wellbore out into the formation and, potentially, into USDWs.

Nevertheless, despite the commonality of technique EPA exempts geothermal hydraulic fracturing activities from the scope of the guidance. This is troubling since the same hydraulic fracturing techniques, fluids and propping agents are used in oil and natural gas as well as geothermal production activities.

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[2] Massachusetts Institute of Technology, "The Future of Geothermal Energy: Impact of Enhanced Geothermal Systems (EGS) on the United States in the 21st Century," (2006) available at http://geothermal.inel.gov/publications/future_of_geothermal_energy.pdf

[3] John Finger and Doug Blakenship, "Handbook of Best Practices for Geothermal Drilling," Sandia National Laboratories (December 2010) at 57.

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EPA should initiate a full blown rulemaking process that includes examination of the following issues:

A. Whether the authority of the SDWA needs to be used or do existing state regulatory programs effectively manage the risks of diesel fuel use in hydraulic fracturing;

B. If the authority is used, what is the appropriate structure under the UIC program;

C. To what extent is diesel fuel used in the fracturing process and to what extent will it continue to be used if a new federal requirement is created; and,

D. How the creation of new requirements will affect American oil and natural gas production within the mandates of the SDWA

Following are detailed comments on how these issues reflect the full scope of EPA's flawed approach to assert its authority under the SDWA related to hydraulic fracturing when diesel fuel is used.

SDWA Mandate

EPA's response should be consistent with the reality that no problem has occurred when diesel fuel has been used in hydraulic fracturing and the "solution" should not create unnecessary burdens to the development of American oil and natural gas. In particular, Congress has mandated that the SDWA UIC program "...may not prescribe requirements which interfere with or impede—

> (A) the underground injection of brine or other fluids which are brought to the surface in connection with oil or natural gas production or natural gas storage operations, or
>
> (B) any underground injection for the secondary or tertiary recovery of oil or natural gas,

unless such requirements are essential to assure that underground sources of drinking water will not be endangered by such injection." [4]

We believe that EPA's actions to date have failed to meet or even consider this requirement of the SDWA. To put the importance of this issue in context, we need to first look to the limited risk to USDWs from the fracturing process. Federal officials have consistently stated that there is no evidence of hydraulic fracturing – with or without diesel fuels – creating environmental damage to USDWs. Following are examples of these statements:

> "EPA did not find confirmed evidence that drinking water wells have been contaminated by hydraulic fracturing fluid injection…"
>
> *–"Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs," U.S. Environmental Protection Agency (executive summary, p. ES-16, 2004)*

[4] Section 1421(b)(2) and Section 1422(c)

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"In no case have we made a definitive determination that the fracking process has caused chemicals to enter groundwater."

> – *Lisa Jackson, U.S. Environmental Protection Agency Administrator (April 30, 2012)*

"I'm not aware of any proven case where the fracking process itself has affected water."

> –*Lisa Jackson, U.S. Environmental Protection Agency Administrator (May 24, 2011)*

On hydraulic fracturing: "From my point of view, it can be done safely and it has been done safely."

> – *Interior Secretary Ken Salazar (February 15, 2012)*

Even where EPA has deployed significant resources targeting investigations toward fracturing related sites in Dimock (PA), Parker County (TX) and Pavillion (WY), it has failed to develop evidence of any systemic failure of the current regulatory systems in managing the environmental risks of fracturing. Moreover, EPA must recognize that an isolated incident – if one can be found – does not suggest a regulatory system failure.

Consequently, for EPA to meet its mandate under the SDWA, it must form a regulatory system that would have no adverse impacts on oil and natural gas production permitting. We believe that EPA has failed to meet this standard and has initiated and proposed actions that can significantly interfere with or impede American oil and natural gas production.

EPA Authority On Diesel Fuel Is Tightly Limited

Congress' Exclusion of Fracturing From Scope of The SDWA Does Not Create An Open Opportunity For EPA Regulation

EPA must assure that its actions with regard to regulating hydraulic fracturing when diesel fuel is used do not expand to impact other uses of diesel fuel in the drilling or production process. This restriction is inherent in the context of the language added to the SDWA in 2005. The years following the *LEAF v EPA* cases demonstrated the challenges of wedging hydraulic fracturing into the UIC program – a point that EPA made during its defense of its interpretation of the SDWA. Using the Class II UIC regulatory structure results in contorting the interpretation a regulatory system that was never designed to manage fracturing. The Class II UIC regulatory process is designed to manage produced water from oil and natural gas production operations. Produced water is deposited into formations over a long period of time for permanent disposal or secondary recovery. Hydraulic fracturing is a temporary injection of a water/proppant mixture into a well bore to release oil and natural gas; it takes place over a few hours or days and the fluid is removed in the form of produced water. The Class II regulations contain provisions that are inconsistent with managing fracturing – forcing EPA to contort its interpretation of these regulations in a flawed attempt to apply them to fracturing. Given that UIC was never intended to cover hydraulic fracturing, Congress moved to exclude it from the definition of underground injection.

Unfortunately, the phony issue of diesel fuel use impinged on the creation of a clear, unambiguous clarification of the SDWA. EPA's use of its authority to regulate fracturing when diesel fuel is used must be viewed in the context of Congressional intent to exclude fracturing

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from the scope of the SDWA UIC program. The arguments associated with diesel fuel use spin out of EPA's statement in its 2004 study that:

> The use of diesel fuel in fracturing fluids poses the greatest potential threat to USDWs because the BTEX constituents in diesel fuel exceed the MCL at the point-of-injection. Given the concerns with the use of diesel fuel, EPA recently entered into agreements with three major service companies to eliminate diesel fuel from hydraulic fracturing fluids injected directly into USDWs to stimulate coalbed methane production.[5]

Significantly, EPA couches its characterization of diesel fuel use as a "potential threat". Its phrasing is significant because it found no instances where diesel fuel use created USDW damage.

Consequently, EPA must recognize that Congress' action to provide EPA with authority to regulate hydraulic fracturing if diesel fuel is used was intended to allow for federal action if EPA found evidence of USDW damage related to diesel fuel use. Rather than a mandate for action, Congress provided a pathway if action – based on real scientifically determined events – was needed. Nothing in any statement by EPA suggests that it has found the current use of diesel fuel in the fracturing process posing a real situation that warrants regulation – particularly in the context of the SDWA requirement not to interfere with or impede American oil and natural gas production unless action was essential. The only statement EPA makes to this effect occurs in the Federal Register Notice accompanying the proposed guidance whereby EPA claims "[hydraulic fracturing] using diesel fuels *may* pose a number of unique risks to USDW" (emphasis added). The fact that EPA posits a risk to USDW may occur is a far cry from providing evidence that the establishment of regulatory requirements by EPA under the SDWA are essential to ensure that underground sources of drinking water will not be endangered by such injection. For EPA to take a provision of the SDWA that was clearly intended to limit the scope of federal authority and use it as a basis for active regulation is wholly inappropriate.

Similarly, for EPA to infer that this narrow exception to a prohibition on regulation opens a door to expand its regulation beyond hydraulic fracturing borders on the absurd. EPA's Draft Guidance is written to apply to the use of diesel fuel as a carrier fluid. In addition to assuring that EPA limits its authority on diesel fuel to this specific use, EPA must clearly assure producers and service companies that it will not try to expand its jurisdiction beyond hydraulic fracturing. For example, diesel fuel used for the purposes of freeze protection of wellbores and equipment, or used for pressure testing lines in Arctic climates could be displaced down hole during hydraulic fracturing treatments. Diesel fuel can also be used to manage drilling fluids' effectiveness in extreme cold conditions where water-based fluids are likely to freeze. Furthermore, the SDWA grants no authority to expand its regulation into drilling activities that are not related to hydraulic fracturing.

The Definition Of Diesel Fuel Must Be Tightly Written

Because EPA's authority is limited to instances where diesel fuel is used in fracturing, the definition of diesel fuel is a pivotal factor in determining the sweep of EPA's regulatory

[5] Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs, June 2004

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authority. Producers and service companies need to know whether their operations are within the scope of the EPA authority. Since diesel fuel is not specifically defined in the SDWA, a clear and precise definition in needed in the rulemaking process. The definition needs to meet three tests:

1. The definition needs to be easily understood;
2. The definition needs to be certain; and,
3. The definition needs to be stable.

EPA's proposed use of Chemical Abstracts Service (CAS) numbers to define diesel fuel is appropriate. CAS numbers are attached to chemical products and can be manifested as part of the fracturing process. Both producers and service companies will be able to determine if the fracturing job is covered by the EPA SDWA authority.

However, EPA's proposed CAS numbers defining diesel fuel are beyond the scope of the SDWA authority. EPA has listed six chemical product CAS numbers as diesel fuel; only two are really diesel fuel. Several of the CAS numbers offered by EPA are based on synonyms rather than the primary names of the product. CAS numbers are principally related to the primary name of the product; synonyms that are listed are frequently outdated names for the same chemical product. For example, a synonym for the CAS number of Sulfuric Acid is Oil of Vitriol. It is a name that is clearly outdated.

The plain reading of the SDWA limits the scope of EPA's authority to diesel fuel; it does not grant EPA unfettered authority to shove any chemical product under the definition of that term. Consequently, EPA's use of synonyms to broaden the scope of its authority is inappropriate and inconsistent with the plain reading of the statute.

EPA should trim the number of CAS Numbers to the two that are diesel fuel – **CAS Number 68334–30–5 and CAS Number 68476–34–6**. These two CAS numbers are consistent with the definition of diesel in 40 CFR 80.2(x):

> (x) *Diesel fuel* means any fuel sold in any State or Territory of the United States and suitable for use in diesel engines, and that is—
>
> > (1) A distillate fuel commonly or commercially known or sold as No. 1 diesel fuel or No. 2 diesel fuel;
> >
> > (2) A non-distillate fuel other than residual fuel with comparable physical and chemical properties (*e.g.*, biodiesel fuel); or
> >
> > (3) A mixture of fuels meeting the criteria of paragraphs (1) and (2) of this definition.

The other four chemical products are not diesel fuel and exceed the limited authority granted by Congress to EPA. Congress did not grant EPA the authority to regulate "diesel-like" chemical products – only diesel fuels according to the plain reading the statute. Examining the other four chemicals demonstrates that they are not diesel fuels:

1. CAS number 68476–30–2 Primary Name: Fuel Oil No. 2 is more frequently known as home heating oil and is used routinely for fueling houses in northern climates where natural gas has not been provided or where the infrastructure is competitive compared to natural gas.

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2. CAS number 68476–31–3 Primary Name: Fuel Oil, No. 4 is typically known as Jet Fuel or Marine Fuel and is designed to be used in those engines. Consequently it is significantly more viscous than true diesel fuel[6]. This higher viscosity reflects a composition that is heavier than true diesel fuel.
3. CAS number 8008–20–6 Primary Name: Kerosene is the lightest or lowest temperature boiling fraction of distillates (all distillate fuels broadly overlap in boiling range) and is used for commercial jet turbine engines fuels, for small heaters and for wick-fed illuminating lamps.
4. CAS number 68410–00–4 Primary Name: Distillates (Petroleum), Crude Oil is not diesel fuel. Instead, it would be the feedstock from a crude oil distillation process. It would have to be further refined into specific products. It is the source of kerosene, diesel fuel, home heating oil and similar products, but it is not a specific product.

In addition to limiting the number of products covered under the scope of the diesel fuel definition, EPA must assure that the definition is stable and reliable. Therefore, once the diesel fuel product list is narrowed, it must be static and unalterable unless a full rulemaking is undertaken to explain the addition of a new diesel fuel product and why it needs to be added. Any proposal in that regard must be justified based on evidence that a new diesel fuel product would be used in hydraulic fracturing operations and that its use presents an endangerment to USDWs.

EPA's should modify the statement in proposed permitting guidance which states "[w]hen assessing whether an [hydraulic fracturing] activity is subject to UIC permitting requirements under the SDWA, EPA UIC permit writers consider *whether any portion of the injectate has any of the following* CASRNS, *or is referred to by its primary name or any of the associated common synonyms*" (emphasis added) to clearly state that only those hydraulic fracturing operations using products with the primary name "diesel fuel" are subject to EPA's regulatory scheme. Under an expansive reading of this sentence, EPA permit writers could require a UIC Class II permit for any hydraulic fracturing operations using any additive that contains of any of the common synonyms listed in the six presented CASRNs. A definition of diesel fuel using this type of expansive definition would far exceed the limited authority granted to EPA by Congress.

EPA should include a de minimis percentage of diesel fuel in the total fracturing fluid mixture before the regulation would apply setting it at one percent of the total volume of intentionally added chemicals. This approach would be consistent with similar approaches for establishing reporting under Material Safety Data Sheets (MSDS) which are source documents for reporting chemical compositions of hydraulic fracturing operations.

Moreover, EPA should not adopt alternatives that would not utilize the CAS number approach such as direct testing or carbon chain ranges because these approaches are unworkable, costly, uncertain and – most significantly – expanding the scope beyond diesel fuel. Several of these issues are addressed in the comments related to specific questions below.

[6] Diesel fuel viscosity specifications are a minimum of 32.6 SUS to a maximum of 40.1 SUS; Fuel Oil No. 4 viscosity specifications are a minimum of 45 SUS to a maximum of 125 SUS.

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EPA Cannot Abuse The Regulatory Process Through A Simulated Process Developing Guidance

In general, the use of guidance instead of regulation circumvents the regulatory process. In this instance, EPA's total actions must be considered. While EPA has opened its Draft Guidance Document for comment, this action fails to meet the full rulemaking process that should have been addressed at the outset of EPA's effort to address its authority under the SDWA. Creating a process comprised of a website publication without notice or comment followed by the development of a Guidance Document that addresses only a portion of the authority EPA is asserting under the website publication – only the states where EPA is the permitting agency for Class II wells – is a pale shadow of the rulemaking process required by the Administrative Procedure Act (APA).

"A substantive regulation must have sufficient content and definitiveness as to be a meaningful exercise in agency lawmaking. It is certainly not open to an agency to promulgate mush and then give it concrete form only through subsequent less formal "interpretations." " (*Paralyzed Veterans v. D.C. Arena L.P.*, 117 F.3d 579, 588 (D.C. Cir. 1997)) By any measure, EPA's actions with regard to its authority under the SDWA for regulating hydraulic fracturing when diesel fuels are used falls well short of reaching the status of "mush".

EPA's Website Statements Fail To Meet The Standard Of Regulations

Before addressing EPA's proposed draft Guidance Document, it is essential to delve into EPA's website regulatory action. EPA's initial website action failed to meet the requirements of promulgating a regulation. It is well-established that Section 553 of the APA requires agencies to promulgate legislative rules using specified procedures. 5 U.S.C. § 553; *see also Paralyzed Veterans,* 117 F.3d at 587-88. Ignoring these well-established procedural requirements, EPA abruptly changed its long-standing application of its own regulations and did so without providing any opportunity for notice and comment in violation of Section 553 of the APA.

The key factor in determining whether an agency statement is a legislative rule subject to APA notice-and-comment rulemaking requirements is whether "the agency action binds private parties or the agency itself with the 'force of law.' *General Elec. Co. v. EPA,* 290 F.3d 377, 382 (D.C. Cir. 2002) *("General Elec.").* As the DC Circuit Court has stated:

> If a document expresses a change in substantive law or policy (that is not an interpretation) which the agency intends to make binding, or administers with binding effect, the agency may not rely upon the statutory exemption for policy statements, but must observe the APA's legislative rulemaking procedures.

Id. at 382-83 (quoting Robert A. Anthony, Interpretive Rules, Policy Statements, Guidances, Manuals, and the Like - Should Federal Agencies Use Them to Bind the Public?, 41 Duke L.J. 1311, 1355 (1992)). Here, EPA's website statements constituted a legislative rulemaking because EPA changed its long-standing application of its regulations and, in so doing, engaged in a rulemaking with the force of law that should have, but did not, satisfy the APA's notice-and-comment requirements in Section 553.

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There can be little doubt here that EPA intended its stated position on permitting of hydraulic fracturing activities involving diesel fuel under the SDWA to be binding. This intent is plainly evident in the wording of the website:

> Any service company that performs hydraulic fracturing using diesel fuel must receive prior authorization through the applicable UIC program.

This statement is couched in mandatory terms and suggests no room for discussion or any exercise of discretion. The website "reads like a ukase. It commands, it requires, it orders, it dictates." *Appalachian Power Co. v. EPA,* 208 F.3d at 1015, 1023 (D.C. Cir 2000). Because EPA's position is binding, the first requirement for a legislative rulemaking is satisfied.

In addition to being binding, EPA's website statements also display the second hallmark of a legislative rulemaking because they specifically "express[ ] a change in substantive law or policy." *General Elec.,* 290 F.3d at 382. These statements were an abrupt reversal of EPA's long-standing view that hydraulic fracturing activities were not subject to EPA's UIC regulations and that those regulations — including those applicable to Class II wells — do not account for the unique characteristics of hydraulic fracturing. Simply stated, prior to the issuance of EPA's website statements, persons conducting hydraulic fracturing operations were not required to obtain UIC permits and now, for the first time, they are – if the operations involve the use of diesel fuel. Under the circumstances, EPA's action clearly amounted to a change in substantive law or policy that is characteristic of a legislative rulemaking.

EPA's effort to implement a legislative rulemaking via informal means – posting on a website – is simply one more in a long line of such cases where EPA has been deemed to have violated the APA notice-and-comment procedures. For example, in *American Petroleum Institute v. Johnson* 541 F. Supp. 2d 165 (D.C.C. 2008), the court ruled that EPA's proposed new definition of "navigable waters" of the United States for the oil spill program was invalid because EPA failed to comply with the APA. The court vacated EPA's new definition and directed EPA to reinstate the 1973 definition of "navigable waters" of the United States. Accordingly, EPA could not use guidance to modify the 1973 definition of "navigable waters" of the United States without going through a rulemaking.

Additionally, in *CropLife America v. EPA,* EPA had announced in a press release that in evaluating the safety of pesticides under the Federal Insecticide, Fungicide and Rodenticide Act, EPA would not consider or rely on studies conducted on human subjects. The DC Circuit Court rejected EPA's argument that the directive contained in the press release did not constitute a binding regulation, finding that the directive was "directly aimed at and enforceable against the petitioners." 329 F.3d 876, 881 (D.C. Cir 2003). The Court stated that EPA's language was "clear and unequivocal" and reflected "an obvious change in established agency practice," creating a "'binding norm' that is finally determinative of the issues or rights to which it is addressed.' Similar cases echo this assessment – *Appalachian Power,* 208 F.3d at 1028 (EPA guidance had in effect amended existing regulations, which the Agency could not do without complying with required rulemaking procedures) and *General Elec.,* 290 F.3d at 385 (guidance document specifying acceptable risk assessment techniques under the Toxic Substances Control Act was a legislative rule promulgated without notice and comment). As in these cases, EPA's website language is clear and unequivocal and reflects a change in established practice that imposes obligations on members of the regulated community, and therefore constitutes a legislative rule that can only be adopted in accordance with the applicable APA requirements.

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In an attempt to demonstrate that its website statements did not represent a substantive change in law or policy (and thereby escape the requirements attendant with a legislative rulemaking), EPA argued its statements merely represented a restatement of existing law. This is simply not the case. For example, EPA has argued that the Energy Policy Act of 2005 provided EPA with the authority to regulate hydraulic fracturing activities involving the use of diesel fuel as "underground injection" under the SDWA. If, however, this provision required EPA to establish a permitting program for such activities as EPA suggests, EPA failed to heed that purported congressional mandate for five years and would have still been required to undertake this regulatory initiative in accordance with the applicable procedural requirements.

Moreover, the Energy Policy Act does not contain any language providing the slightest suggestion that EPA must classify wells being hydraulically fractured as Class II wells under its regulatory scheme in the first place; indeed, the Act says absolutely nothing about well classification. The only possible source of any existing law in that respect is the Eleventh Circuit's decision in *LEAF II.* However, that decision applied only within the Eleventh Circuit and for many years EPA did not apply it nationwide. In addition, EPA made multiple statements both in court and elsewhere over the course of years that EPA's Class II regulations do not apply to hydraulic fracturing operations and are not designed to do so. Thus, EPA's classification of wells receiving diesel fuel as a hydraulic fracturing additive as Class II wells simply cannot be considered a restatement of existing law. EPA itself has previously acknowledged that the implementation of its authority to regulate hydraulic fracturing operations would require a rulemaking process with extensive involvement by members of the public. In other words, EPA contemplated a notice-and-comment process, which is necessary only for legislative rulemakings. EPA apparently changed its mind. However, EPA's capricious change in position is precisely the sort of government behavior that the APA was intended to discourage by requiring agencies to notify the public of planned changes before they are made and giving the public a chance to comment on those changes.

Similarly, EPA cannot avoid notice-and-comment rulemaking requirements by pleading that EPA was merely issuing an interpretive rule (or engaging in no rulemaking at all). *See Orengo Caraballo v. Reich, 11* F.3d 186, 195 (D.C. Cir. 1993) *(citing National Family Planning and Reproductive Health Ass 'n v. Sullivan,* 979 F.2d 227, 236 (D.C. Cir. 1992)). EPA's website statements "express[] a change in substantive law or policy (that is not an interpretation) which the agency intends to make binding," and such changes are legislative rulemakings. *See General Elec.,* 290 F.3d at 382-83.

In posting the statements on its website, EPA created new rights and duties *(i.e.,* engaged in a legislative rulemaking) by amending its prior position on regulating certain hydraulic fracturing operations under its UIC program to create new binding requirements. EPA cannot seriously contend that it complied with any of the key notice-and-comment provisions of 5 U.S.C. § 553. For example, Section 553 requires EPA to publish notice of its proposed rulemaking in the Federal Register. 5 U.S.C. § 553(b). EPA must also provide interested parties with an opportunity to participate in the proposed rulemaking by submitting data or argument. 5 U.S.C. § 553(c). There is no evidence that EPA complied with either of these requirements or any other substantive requirement of Section 553. Therefore, EPA violated Section 553.

In addition to violating the APA, EPA's website posting also violated the specific procedures established by Congress in the SDWA itself for expanding the states' permitting and enforcement obligations by imposing new requirements on states that administer their own UIC programs.

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Once EPA approves a state's UIC permitting program, EPA cannot simply change that program by fiat. Rather, Congress established a specific, detailed process under the SDWA that EPA is required to follow if it wants states to add new requirements to their UIC programs. For example, under the SDWA, if EPA amends any regulation imposing new requirements on previously approved state programs, a state has 270 days to submit a notice to EPA demonstrating that the state program satisfies the new requirement. 42 U.S.C. § 300h-1(b)(1)(B). EPA must then approve or disapprove of the program's compliance with the new requirement through a rulemaking process. 42 U.S.C. § 300h-1(b)(2). If EPA determines that the state program does not meet EPA's minimum requirements, then EPA must withdraw its approval of the state program, a process that requires EPA to hold a public hearing and allow any interested members of the public to comment. 40 C.F.R. § 145.34(b)." EPA must then propose its own alternative UIC regulations to be effective in that state. 42 U.S.C. § 300h-1(c), *see also* 45 Fed. Reg. 42,473 (June 24, 1980).

EPA's website statements on their face apply in all states, even those in which the state administers the UIC Class II program. However, there can be no dispute that EPA has not adhered to these SDWA procedures that must be followed before this Class II UIC permitting requirement for hydraulic fracturing operations involving the use of diesel fuel can be made effective in the states with primacy. Indeed, EPA does not appear to acknowledge that those procedures even apply. As noted below, there is no record evidence establishing that EPA performed any sort of inquiry into whether the SDWA's rulemaking procedures *might* apply. Moreover, there is no indication that EPA has taken any steps to require that state UIC programs reflect these requirements regarding the regulation of hydraulic fracturing activities involving the use of diesel fuel. As a result, EPA's action violated Section 1422 of the SDWA, and its directives may not be applied in states that administer their own permitting programs unless and until EPA follows the procedures laid out by Congress in the statute.

EPA's action in posting the statements on its website was arbitrary and capricious, regardless of whether it was a legislative or interpretive rulemaking. The DC Circuit Court has stated that in evaluating agency action in light of the "arbitrary and capricious" test of the APA, its primary task is to ensure that the agency has examined the relevant data and articulated a satisfactory explanation for its action, including a rational connection between the facts found and the choice made. *See, e.g., Kristin Brooks Hope Center v. FCC,* 626 F.3d 586, 588 (D.C. Cir. 2010). In this case, EPA has not provided *any* explanation for its action, much less a satisfactory one, because its action was unsupported by any administrative record. Moreover, EPA's decision to require that hydraulic fracturing operations involving the use of diesel fuel be covered by Class II UIC permits was not a product of reasoned decisionmaking, but it is instead burdensome and produces absurd results that EPA cannot justify. These facts individually and collectively establish that EPA's decision was arbitrary and capricious.

EPA has conceded that there is no administrative record supporting its website statement. EPA's failure to create an administrative record is critical where, as here, the SDWA limits regulations that unnecessarily interfere with or impede oil and natural gas production activities. The SDWA prohibits EPA from prescribing any "requirements which interfere with or impede . .. any underground injection for the secondary or tertiary recovery of oil or natural gas, unless such requirements are essential to ensure that [USDWs] will not be endangered by such injection." EPA successfully argued in *LEAF II* that hydraulic fracturing operations are analogous to secondary and tertiary recovery of natural gas and that states could therefore avail themselves of

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the alternative regulatory process available under Section 1425 of the SDWA for approval of state UIC programs related to such recovery operations. Moreover, EPA has previously taken the position that this congressional directive regarding interference with certain oil and gas related activities applies to hydraulic fracturing. *See* 69 Fed. Reg. at 42,343. Consequently, EPA could argue now that its new requirements were not subject to the congressional directive that UIC regulations not "interfere with or impede" such processes unless they are essential to protecting USDWs.

Yet, as we described above, EPA failed to present any record evidence that the posting of the website statements was essential to protect USDWs. EPA cannot impose any regulatory requirements that might impede oil and gas production unless it makes a finding to this effect. *See* 42 U.S.C. § 300h(b)(2). By admitting that its decision to require that hydraulic fracturing operations using diesel fuel be permitted as Class II UIC wells was not supported by any administrative record, EPA effectively conceded that it had not demonstrated, even in the most cursory manner, that it even considered the requirements of Section 1421(b)(2), much less satisfied them.

EPA's actions also were arbitrary and capricious because they were not a product of reasoned decisionmaking. Indeed, even a brief analysis of EPA's Class II UIC regulations reveals they are unduly burdensome and produce absurd results when applied to hydraulic fracturing activities. The unduly burdensome aspect of EPA's Class II UIC regulations is evident from the monitoring requirements imposed on such wells. *See* 40 C.F.R. § 146.23. The UIC regulations require operators of Class II wells to submit reports annually (if not more frequently) throughout the life of the well; these reports are to contain monitoring data and other information about injection activities. These reporting requirements are entirely appropriate where the injection activity continues throughout the life of the well. However, if these requirements were imposed on hydraulic fracturing activities, such reporting concerning, for example, the amounts of fluid injected would serve little purpose if the injection activity — the hydraulic fracturing operation — had long since ended, as would no doubt be the case. Imposing such obligations on hydraulic fracturing activities would be unreasonable.

In addition to these burdens, applying the Class II UIC regulations to hydraulic fracturing operations also has the potential to produce absurd results, effectively eliminating the well operator's ability to obtain the valuable natural gas that it sought in the first place. For example, those regulations currently require that Class II wells be plugged and abandoned once the injection activity has ceased. 40 C.F.R. § 146.10. This requirement makes perfect sense in the context of a typical injection well, where the injection activity continues throughout the life of the well. However, in the case of oil and gas production wells being hydraulically fractured, the injection activity takes only a few hours to a few days and is done at the beginning, rather than at the end of the well's life. Under these circumstances, it would make no sense to require a production well to be plugged and abandoned when oil and gas production has barely begun, simply because the "injection activity" — the hydraulic fracturing — had ceased. Therefore, the imposition of this regulatory requirement would lead to absurd results.

These are only a few examples of the myriad ways in which the Class II regulatory scheme fails to comport with how hydraulic fracturing is done and the role it plays in oil and gas production. In light of the obvious difficulties in trying to fit the "square hydraulic fracturing peg" into the "round Class II hole," it is unreasonable for EPA to apply the regulations applicable to Class II wells to any hydraulic fracturing operations simply because EPA wants to regulate these

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operations immediately and has no better way to do so short of engaging in a proper rulemaking. EPA cannot credibly argue now that its decision to apply its Class II UIC regulations to certain hydraulic fracturing operations is not arbitrary and capricious because EPA has offered no explanation for its abrupt abandonment of its prior position. As the DC Circuit Court has recognized, "[a]gencies are free to change course as their expertise and experience may suggest or require, but when they do so they must provide a 'reasoned analysis indicating that prior policies and standards are being deliberately changed, not casually ignored.'" *Ramaprakash v. F.A.A.,* 346 F.3d 1121, 1124-25 (D.C. Cir. 2003) *(quoting Greater Boston Television Corp. v. FCC,* 444 F.2d 841, 852 (D.C. Cir. 1970)). Indeed, an "agency's failure to come to grips with conflicting precedent constitutes 'an inexcusable departure from the essential requirement of reasoned decision making." *Id.* at 1125 *(quoting Columbia Broad. Sys. v. FCC,* 454 F.2d 1018, 1027 (D.C. Cir. 1971)). EPA clearly failed to provide a "reasoned analysis" to justify its website statements.

Moreover, EPA's website statements simply could not be reconciled with EPA's past statements that the Class II UIC regulations were not drafted with hydraulic fracturing operations in mind. This was EPA's position both before and after the *LEAF I* court ruled otherwise in 1997. Even after the *LEAF I* decision, EPA took the minimum amount of action necessary to comply with the Eleventh Circuit's ruling concerning Alabama's UIC program. Moreover, EPA continued to stress the problems inherent in categorizing wells being hydraulically fractured as Class II wells even after the *LEAF II* court ruled in 2001 that such wells in Alabama were to be considered Class II wells. *See* 69 Fed. Reg. at 42,343. EPA should not be allowed to abandon its historical position and impose such ill-fitting regulatory requirements at all, or at the very least, until it has gone through the proper administrative procedures to explain itself, particularly in light of EPA's longstanding opposition to the very step it took in publishing its website statements.

EPA's Actions On Its Draft Guidance Document Fail To Remedy Its Prior Failures

With EPA having failed to meet statutory requirements under both the SDWA and the APA when it posted its website statements, the issue then becomes whether the publication of a draft Guidance Document and opening it to public comment can serve to remedy EPA's prior failures. It does not.

Returning to the point we made at the beginning of this discussion:

> A substantive regulation must have sufficient content and definitiveness as to be a meaningful exercise in agency lawmaking. It is certainly not open to an agency to promulgate mush and then give it concrete form only through subsequent less formal "interpretations."

While EPA will certainly receive a robust set of comments responding to its draft Guidance Document, the ultimate product is still not a regulation. It will be a Guidance Document; it can be ignored by the very agency that proposes it; it can be modified in the future without notice and comment. Moreover, the Guidance Document only applies in states that do not have primacy over Class II well permitting, leaving the website statements in place for primacy states.

Again and again, court decision after court decision, EPA is repeatedly driven to execute its rulemaking actions properly under the APA. EPA is admonished that it cannot substitute guidance documents for rulemakings. While we have to admire EPA's creativity in trying to make the proposal of this draft Guidance Document look like a rulemaking, we are not fooled.

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Guidance is guidance. Nothing that results from this grand charade has any greater standing under law than if EPA slid the Guidance Document onto its website in the same clandestine manner that it has used for its regulatory assertion.

At the end of this current process, the regulated community is faced with two realities. First, for those states where EPA has primacy for the UIC program, a final guidance document will be issued. It will not command the EPA Regional Administrators or permit writers to adhere to details of the guidance document. Rather, like with all guidance, permit writers can shift the requirements as they wish within the scope of the regulation. In this case, all that can be said about the regulation is the statement on EPA's website:

> While the SDWA specifically excludes hydraulic fracturing from UIC regulation under SDWA § 1421 (d)(1), 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 through the applicable UIC program.

This language is a carte blanche for any EPA official who chooses to invoke any interpretation that comes to mind.

Second, since the guidance – as uncertain as it may become – applies only to those states where EPA has primacy. These states – for Class II well permitting – are: New York, Pennsylvania, Virginia, Kentucky, Tennessee, Michigan, Minnesota, Iowa, Arizona and Hawaii. In the remaining states, regulators are compelled to interpret the meaning of the website statements. This is particularly complex because states typically regulate hydraulic fracturing under well construction and completion regulations and permitting programs – not under UIC regulations. Now, these states and the regulated community will be proceeding with hydraulic fracturing permitting while hovering above them will be the EPA vulture of primacy withdrawal threatening to challenge each state decision.

A comparison of EPA's actions in this arena to its creation of the Class VI UIC program illustrates the failures of this effort. As EPA developed its Class VI UIC regulations, it followed the APA by proposing a regulation, requesting additional information as issues were identified in the first comment period, and ultimately finalizing a UIC regulation. This careful regulatory development process was undertaken to create a well understood structure for the 6 to 10 wells that EPA anticipates will be developed by 2016. In stark contrast, for a regulatory program that might affect 40,000 wells that could be drilled each year for oil and natural gas development, EPA published a website notice and now creates a pseudo-APA process for a guidance document.

Any reasonable evaluator of EPA's actions regarding its authority to regulate hydraulic fracturing when diesel fuels are used under the UIC program of the SDWA will conclude that EPA's website notice does not "…have sufficient content and definitiveness as to be a meaningful exercise in agency lawmaking." And, even with the current opportunity to submit comments, EPA is guilty of trying "…to promulgate mush and then give it concrete form only through subsequent less formal "interpretations.""

Primacy Delegation Issues

EPA's Draft Guidance raises significant and troubling issues for primacy states. The Draft Guidance applies only in states where EPA has not delegated SDWA primacy – Arizona,

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Hawaii, Minnesota, Iowa, Michigan, New York, Pennsylvania, Virginia, Kentucky, and Tennessee. Most of these states are not active shale gas producing states; however, in Pennsylvania where the Marcellus Shale is being aggressively developed and Michigan where new shale development is emerging, the Draft Guidance document creates a potential dual permitting requirement where EPA can trump state issued permits.

For primacy states, EPA leaves the issue in the obscure website statement:

> While the SDWA specifically excludes hydraulic fracturing from UIC regulation under SDWA § 1421 (d)(1), 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 through the applicable UIC program.

Because states do not regulate fracturing under UIC programs, this statement creates an inherent conflict.

More significantly, EPA's approach will put state primacy at risk to petitions to EPA. The path for such a consequence flows from the *LEAF v EPA* dynamics. The *LEAF* case began with a petition to EPA to withdraw Alabama's primacy. EPA denied the petition and LEAF appealed. Court decisions ultimately compelled EPA to threaten to withdraw Alabama's primacy.

Because EPA has specified that hydraulic fracturing using diesel fuel must be permitted under UIC, it offers environmental groups opposing American fossil fuel development a predefined path to challenge EPA's primacy delegation to states because of the regulatory inconsistency. Even if states have effective methods to manage fracturing, assuming diesel fuel is used, EPA's action requiring regulation under UIC prevents consideration of those programs. Apparently, EPA's decision to use a UIC approach assumes it can compel states to alter their current, effective regulatory systems to embrace a UIC based system based on its narrow authority related to diesel fuels. Forcing or instigating such a confrontation is inappropriate. If states do not submit to EPA, EPA's retraction of state primacy would result in substantial adverse consequences – consequences that will impede or interfere with the development of American oil and natural gas in violation of the Congressional mandate in the SDWA.

Specifically, EPA would have to withdraw primacy not just for the management of fracturing where diesel fuel is used but for the entire Class II UIC program. EPA does not have the manpower, the expertise or the budget to run expansive Class II permitting programs. This reality has been recognized since 1980 when Congress modified the SDWA to allow states to obtain primacy under Section 1425 by showing that the state program "...represents an effective program (including adequate recordkeeping and reporting) to prevent underground injection which endangers drinking water sources." Congress created this option for demonstrating primacy because the federal Class II program – the program now being contorted to apply to hydraulic fracturing – was being rejected as unworkable by the states that had programs managing oil and natural gas produced water as unworkable. Congress acted because it knew that EPA was incapable of managing the 150,000 Class II wells in the United States. EPA, today, would be equally incapable of managing a major producing state's Class II program. Yet, EPA is now inexorably creating that consequence.

At a minimum EPA will create a program under the Draft Guidance Document that could require dual permits – one federal, one state – in those states where it manages the Class II permits

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currently. But, the consequences of successful challenges to state primacy delegation could dramatically expand its responsibilities. Moving in this direction violates SDWA mandate not to interfere with or impede American oil and natural gas production. Nowhere in EPA's Draft Guidance does it address the fundamental responsibility under SDWA Sections 1421 and 1422 that its programs cannot include "...requirements which interfere with or impede—

> (A) the underground injection of brine or other fluids which are brought to the surface in connection with oil or natural gas production or natural gas storage operations, or
>
> (B) any underground injection for the secondary or tertiary recovery of oil or natural gas, –

unless such requirements are essential to assure that underground sources of drinking water will not be endangered by such injection."

Congress specifically directs EPA to assure that its regulatory actions do not adversely affect the development of oil and natural gas unless such requirements are essential to assure that underground sources of drinking water will not be endangered. EPA's regulatory assertions and its Draft Guidance present clear threats to the development of American oil and natural gas by creating permitting uncertainty and/or dual permitting requirements where EPA cannot effectively manage the permitting process.

EPA must assure that its final regulatory decision with regard to the authority it received under the SDWA amendments in 2005 does not result in the unraveling of the current sound federal-state relationship managing UIC, particularly Class II programs. The path EPA has taken so far fails to address this critical issue.

Moreover, EPA must address the applicability of its permitting authority to oil and natural gas operations on federal and tribal lands. With respect to federal lands, certain states have been delegated primary enforcement authority under the SDWA for Class II operations within their state boundaries. EPA must clarify whether oil and natural gas operations that hydraulically fracturing with an additive classified as "diesel fuel" by EPA on federal lands would have to obtain a UIC Class II from EPA or whether the state will continue to be the primary enforcement authority. Additionally, EPA must clarify the appropropriate permitting authority for those places where there are Tribal/EPA UIC programs and whether the proposed permitting guidance impacts those Tribal UIC programs that have received primacy pursuant to the SDWA.

Other Specific Issues

Do the six CASRNs in the recommended description adequately describe diesel fuels? If not, what other factors should be considered in the definition? Are there additional CASRNs that should be included? Are there any among the six that do not belong? Please address the relative importance of having a description that is static and unchanged versus capturing new chemical compounds being developed that are substantially similar to the six recommended CASRNs.

> As noted in comments, the six CASRNs exceed the definition of diesel fuels and should be truncated. Only two CAS numbers – CAS Number 68334–30–5 and CAS Number 68476–34–6 – are actually diesel fuels.

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The description should be static. Producers need certainty regarding the scope of regulations. Creating a framework that can be shifted without warning is counterproductive.

Would a description based on chemical, physical and use-based attributes, such as the five-consideration alternative EPA considered in (i), more adequately and appropriately characterize diesel fuels in a manner that prevents endangerment of human health and underground sources of drinking water on an ongoing basis? Are there other ways the Agency could address any existing or newly developed compounds, such as CASRN 64741–44–2, not on the current list of six CASRNs in the draft guidance that may meet the chemical, physical and use-based attributes of the six CASRNs of the recommended description of diesel fuels, whether or not they have "diesel fuels" in the name or description?

Preventing endangerment of human health and underground sources of drinking water is being effectively managed through existing state and federal regulatory programs. As EPA has regularly stated, there have been no instances of fracturing creating a drinking water contamination problem.

The presence of diesel fuel in the fracturing process is irrelevant to the protection of human health and underground sources of drinking water since it was used for decades prior to its inappropriate targeting in the polemic debate over fossil energy.

Using a less precise definition of diesel fuels will unnecessarily confuse the regulatory process because there are other chemicals that are not diesel fuels that could be covered by such a broad approach such as mineral oil that is now used frequently instead of diesel fuels.

The industry needs a certain understanding of the scope of the federal regulation not an open ended definition that could lead to EPA triggering enforcement actions based on such a sweeping and evolving approach.

The plain reading of the statute addresses only diesel fuels; it does not leave to EPA's discretion the judgment of what chemical products to include.

Would approach (ii), based on the strict limits of the TSCA physical and chemical characteristics, but with no reference to suitability for use in a diesel engine, be a more appropriate description for permitting diesel fuels under the EPA UIC Program? Please explain why this approach is preferred.

This is a clearly inappropriate option. The plain reading of the statute relates solely to diesel fuels used in the context of hydraulic fracturing. Suggesting an option that is predicated on ignoring the products' role as a diesel fuel flies in the face of the explicit language of the statute.

Similarly, such an approach raises more glaringly the problem for producers to know whether they are within the scope of the federal law.

Would approach (iii), which captures many more compounds that may or may not be suitable to run a diesel engine, more adequately and appropriately characterize diesel fuels for EPA UIC permitting purposes? How would you suggest permit writers and applicants efficiently and effectively identify chemicals meeting this description?

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Clearly, by the very statement this approach is intended to capture chemical products that are not diesel fuels and therefore it too fails the fundamental test of the statutory language that only provides EPA authority related to the use of diesel fuels in the hydraulic fracturing process.

What other approaches should EPA consider in describing diesel fuels? In the 2005 Energy Policy Act, Congress revised the SDWA definition of "underground injection" to specifically exclude from UIC regulation 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" (SDWA Section 1421(d)(1)(B)). The Energy Policy Act of 2005 does not specify a threshold concentration or percentage of diesel fuels in the HF injectate that would qualify for exclusion from regulation. EPA requests comment on whether some de minimis level of diesel fuel constituents in HF fluids or propping agents should be used. Commenters who support such an approach should also recommend how such a de minimis standard should be defined or described and explain the basis for their recommendations.

This item raises several points. Most notably, it shows the clear legislative language creating a more fundamental question. A strict reading of the language shows that EPA's authority to regulate the use of diesel fuel under the SDWA applies only when diesel fuel is used in hydraulic fracturing. EPA needs to limit the scope of its actions to the limit of its authority – diesel fuel used in the application of hydraulic fracturing.

A de minimis level of diesel fuel use should be established. It should reflect the history that diesel fuel use in hydraulic fracturing has never presented an endangerment to USDWs. Based on de minimis standards for Material Safety Data Sheets (MSDS), a level of one percent of the total intentionally added chemicals to the fracturing fluid volume would be appropriate. Any levels below the MSDS levels would be unnecessarily burdensome.

Questions Related to Diesel Fuels Usage Information

EPA seeks reliable data about volumes and frequency of diesel fuel usage in hydraulic fracturing fluids or propping agents (based on the recommended description). EPA welcomes data of this nature at any time.

Since April 2011, the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission have been operating a chemical registry for hydraulic fracturing operations – FracFocus. Over 25,000 fracturing operations have been reported to FracFocus. More are reported each month. EPA should turn to this resource to ascertain the current use of diesel fuel in fracturing operations.

Using FracFocus is particularly pertinent since other data are wholly outdated. For example, several U.S. Representatives released data on fracturing operations from 2005 to 2009. Not only does this information span a timeframe with operations prior to the enactment of the EPAct 2005, it also presents the data as a five year aggregate such that changes in use after enactment are not discernible. Similarly, EPA acquired chemical use information from industry for the same period of time as a part of the Congressionally requested hydraulic fracturing study and that information is now outdated.

In developing the draft guidance, EPA found that the primary uses of diesel fuels in hydraulic fracturing are as a primary base (or carrier) fluid, or added to hydraulic fracturing fluids as a

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component of a chemical additive. In some cases diesel fuels-based fracturing fluids are more efficient for transporting and delivering propping agents into fractures, as compared to water-based compounds. As an additive component, diesel fuels may be used for a range of purposes, including adjusting fluid properties (e.g., viscosity and lubricity) or as a solvent to aid in the delivery of gelling agents. EPA seeks additional information on the uses of diesel fuels during underground injection associated with hydraulic fracturing, and information about the efficacy of any substitutes for diesel fuels, including where substitution may be infeasible or raise other technical issues.

By this point in time after enactment of EPAct 2005, the use of diesel fuel as a carrier fluid and as an additive compound is largely terminated. One area where its use continued the longest was in North Dakota where it has been used for crude oil formations. This actually demonstrates one of the absurd consequences of the SDWA provision. That is, EPA's actions will lead to elimination of the use of diesel fuel to fracture formations where the product (crude oil) will be used to produce commercial diesel fuel.

Permit Duration and Well Closure

UIC regulations provide for Class II permits to be issued up to the operating life of the facility, or for a shorter period. Class II UIC permits usually extend through the time of plugging, abandonment and closure of a well. However, because hydraulic fracturing activities are immediately followed by oil or gas production, the draft guidance recommends two approaches for permitting wells allowable under the UIC Class II regulations to address the unique nature of hydraulic fracturing. EPA permit writers may: (1) Issue short duration permits and convert wells out of the UIC program upon completion of the diesel fuels hydraulic fracturing activity, or (2) they may assign the well to ''temporarily abandoned'' status. The first approach releases the well from UIC requirements after the permit expires, while the second maintains the permit in active status until final plugging and abandonment of the well, with the possibility of reduced monitoring and reporting during production. The second approach may be beneficial to operators who might conduct future hydraulic fracturing of the well using diesel fuel, as it would avoid the need for them to obtain a new UIC permit for this activity.

What additional approaches should EPA consider for UIC permitting of diesel fuels hydraulic fracturing injection wells to effectively address well closure, plugging and abandonment requirements?

What additional area of review delineation approaches would you consider effective for the purposes of permitting hydraulic fracturing using diesel fuels?

How would you ensure that the area of review appropriately accounts for the horizontally drilled sections of the well without being computationally burdensome?

Are there circumstances where it would be appropriate to use the standard approaches (e.g., 1/4 mile radius around the well) for determining AoR? Commenters should explain how the standard approach would provide appropriate protection for USDWs.

General Comment

The questions raised here demonstrate the inherent problem in EPA's proposed Draft Guidance. That is, EPA's Class II regulations – or any of the UIC regulations – are not written for application to hydraulic fracturing. Consequently, EPA is faced with creating

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artificial, contorted interpretations of its rules in trying to apply them to hydraulic fracturing.

As we stated above, even a brief analysis of EPA's Class II UIC regulations reveals they are unduly burdensome and produce absurd results when applied to hydraulic fracturing activities. The unduly burdensome aspect of EPA's Class II UIC regulations is evident from the monitoring requirements imposed on such wells. *See* 40 C.F.R. § 146.23. The UIC regulations require operators of Class II wells to submit reports annually (if not more frequently) throughout the life of the well; these reports are to contain monitoring data and other information about injection activities. These reporting requirements are entirely appropriate where the injection activity continues throughout the life of the well. However, if these requirements were imposed on hydraulic fracturing activities, such reporting concerning, for example, the amounts of fluid injected would serve little purpose if the injection activity — the hydraulic fracturing operation — had long since ended, as would no doubt be the case. Imposing such obligations on hydraulic fracturing activities would be unreasonable.

In addition to these burdens, applying the Class II UIC regulations to hydraulic fracturing operations also has the potential to produce absurd results, effectively eliminating the well operator's ability to obtain the valuable natural gas that it sought in the first place. For example, those regulations currently require that Class II wells be plugged and abandoned once the injection activity has ceased. 40 C.F.R. § 146.10. This requirement makes perfect sense in the context of a typical injection well, where the injection activity continues throughout the life of the well. However, in the case of oil and gas production wells being hydraulically fractured, the injection activity takes only a few hours to a few days and is done at the beginning, rather than at the end of the well's life. Under these circumstances, it would make no sense to require a production well to be plugged and abandoned when oil and gas production has barely begun, simply because the "injection activity" — the hydraulic fracturing — had ceased. Therefore, the imposition of this regulatory requirement would lead to absurd results.

Instead of pursuing these bizarre efforts to force fracturing into a regulatory system that was never designed to manage this technology, EPA should retract its website regulatory initiative and approach its diesel fuel regulatory authority from the perspective of first determining whether action needs to be taken and second fashioning a program that is designed to regulate the technology and the environmental risks of using diesel fuel during hydraulic fracturing.

Area Of Review

These questions illustrate EPA's failure to distinguish between issues associated with fracturing and those involving well development. The discussion on AoR in the guidance document has nothing to do specifically with hydraulic fracturing using diesel fuels. AoR is actually a horizontal well issue. There are currently horizontal Class II UIC wells. Any AoR guidance or rulemaking associated with the UIC program should be independent of hydraulic fracturing using diesel fuel.

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Information Submitted With the Permit Application

Information submitted and evaluated during the permit application process supports permitting decisions and ensures that appropriate safeguards (e.g., permit conditions) are established to prevent or remedy contamination to USDWs. HF using diesel fuels may pose a number of unique risks to USDWs. Due to high injection pressures, there is potential to induce fractures that may serve as conduits for fluid migration, including harmful chemicals found in diesel fuels. In addition, there has been concern about induced seismic events related to Class II activities. The UIC regulations allow flexibility in permitting to account for local conditions and practices. Under 40 CFR 144.52(a)(9), EPA permit writers may request and review additional information from the owner or operator when evaluating a permit application for a diesel fuels HF well.

Standard industry research and exploration field collections, such as geologic cores, outcrop data, seismic surveys, and well logs, provide additional data on the injection and confining zones, including their areal extent, mineralogy, porosity, permeability, and capillary pressures and geology or facies changes. Access to this data could provide EPA with critical information needed to make effective permit determinations. Should EPA recommend collection of such data with the permit application? Commenters should consider the relative importance of these data to protection of human health and underground sources of drinking water versus any additional workload for applicants.

Geomechanical characteristics of the confining zone such as, information on fractures, stress, ductility, rock strength, and in situ fluid pressures, help predict the propagation of fractures and indicate the potential risk of fluid migration. Should EPA recommend collection of geomechanical data with the permit application to assist EPA in making effective permit determinations? Commenters should consider the relative importance of these data to protection of human health and underground sources of drinking water versus any additional workload for applicants.

Should the Agency request submittal of seismic data, such as the presence and depth of known seismic events and a determination that injection would not cause seismicity that interferes with containment, with the permit application? How useful would inclusion of these data be to minimize potential risk of endangerment to USDWs? Please provide rationale in support of your response.

What other information, if any, should EPA recommend be submitted with the permit application to make permitting decisions that are protective of human health and underground sources of drinking water?

The recommended monitoring approaches include specifications for mechanical integrity testing prior to and after hydraulic fracturing injection using diesel fuels. These recommendations ensure that the well maintains integrity during operations, given the high pressures and nature of fluids injected during hydraulic fracturing. What additional approaches for monitoring of well integrity should EPA consider to ensure safe and effective injection well operation?

According to standard industry monitoring practice, data are collected through means such as microseismic monitoring and/or tiltmeter monitoring to characterize the actual fracture network and compare it with the predictive fracture model. Should EPA include a microseismic and/or tiltmeter monitoring, or any other approaches, in the guidance recommendations, to ensure that

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the fracture network does not pose a potential risk to USDWs? Please provide a rationale for your answer.

Baseline and periodic monitoring of water quality for all USDWs within the area of review help demonstrate the protectiveness of permitted operations and are recommended by the American Petroleum Institute (HF1, 2009). Water quality monitoring can be especially important in cases where owners or operators wish to exercise a flexibility recommended in the guidance of either being released from the UIC program or operating as temporarily abandoned after injection has ceased and production has begun. To utilize these flexibilities, owners or operators need to demonstrate that their operations have not (or will not) endangered USDWs in the project area. Should EPA include baseline and/or periodic monitoring of USDWs as a recommended monitoring approach in the guidance? If so, what water quality monitoring data should be included to best ensure nonendangerment of USDWs?

These questions reflect the continuing troubling framework of EPA's actions. The questions are structured to effectively presuppose consequences of actions that are unsubstantiated. As we have stated, EPA's mandate under the SDWA is to determine if there are actual threats to USDWs before it can create regulations that would impede or interfere with oil and natural gas production. Rather than meet that clear legal obligation, EPA implies the existence of an array of potential and unsupported risks. For example, EPA asserts that:

> *HF using diesel fuels may pose a number of unique risks to USDWs. Due to high injection pressures, there is potential to induce fractures that may serve as conduits for fluid migration, including harmful chemicals found in diesel fuels.*

All public information on fracturing has demonstrated that the fractures created in the well development process have never resulted in such fluid migration – including EPA's 2004 Study.

Additionally, EPA asserts that:

> *...there has been concern about induced seismic events related to Class II activities.*

While some analyses have suggested that Class II wells may have been involved in some seismic events, both the National Research Council[7] and the USGS have clearly concluded that hydraulic fracturing is not a cause of the seismic events that have been "reported" as being related to oil and natural gas production. Pursuing a course that perpetuates these inaccurate allegations in a regulatory structure is wholly inappropriate.

Similarly, EPA should not impose additional data gathering and reporting requirements. EPA's authority is limited to regulating the brief injection of hydraulic fracturing fluids containing diesel fuels and should not be converted into an expansive data gathering mandate. Moreover, any suggestion that EPA would expand the data required in the permit application into these areas further highlights why EPA should not be acting by issuing informal guidance

[7] "Induced Seismicity Potential in Energy Technologies"

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Any data/information requirements should be accompanied by a clear explanation of how it will be used to protection of human health and USDWs, which EPA has failed to do within the current draft of the guidance document. EPA should limit the information gathered and submitted to that which is essential, given existing state regulations, to protecting USDWs, as mandated by the SDWA. Addition information requirements that are not essential to protection of human health and USDWs will only lead to unnecessary operational impediments (i.e., Petition for Review).[8]

Prior to requiring any information, EPA should review state regulations to ensure EPA's information requirements are not duplicative. In addition, EPA should clearly identify why the information is essential to protect human health. Current state regulations require sufficient data to ensure permitting decisions are made that are fully protective of human health. To the extent that EPA believes more information is required, it should conduct a proper rulemaking, as opposed to attempting to impose additional regulatory requirements through informal guidance. If EPA chooses to explore addition information requirements for production wells that are hydraulically fractured using diesel fuel, EPA should assure that its final decision is essential, given existing state regulations, to protecting USDWs as mandated by the SDWA.

Well integrity is already subject to state regulations and industry guidelines. There are no data in the record before EPA that suggests the existing state regulations cannot fully assure proper setting of wells developed using hydraulic fracturing using diesel fuels. To the extent that EPA believes further monitoring may be required, despite pre-existing state regulations, it should conduct a proper rulemaking that develops a record to assess the need for additional monitoring.

EPA should not be imposing (or recommending) microseismic and/or tiltmeter monitoring or any additional monitoring requirements through this informal guidance. These technologies are used on a limited number of wells within a given area to calibrate predictive fracture models. Once fracture models are calibrated they can be used throughout a play to accurately describe fracture networks. If EPA chooses to require any additional monitoring, EPA should assure that its final decision is essential to protecting USDWs, as mandated by the SDWA, and undergo a formal rulemaking process with economic considerations.

We do not agree that EPA should include baseline and/or periodic monitoring of USDW and "other subsurface formations of interest" for wells that are hydraulically fractured using diesel fuel. First, a clear definition of "other subsurface formations of interest" is not provided by EPA. Since this definition was not provided during the public notice and comment period, EPA should remove this language from the guidance document. We disagree that 40 CFR §146.22(b)(2)(i) and (f)(2), give EPA the authority to require baseline and/or periodic monitoring of USDWs. In addition, based on a preliminary review of EPA UIC information[9], this requirement appears to be a significant change in EPA policy for Class II wells, which would undoubtedly trigger rulemaking under APA.

[8] http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/f22b4b245fab46c6852570e6004df1bd/60cdd2e725e80bd8852578d200663cc5!OpenDocument

[9] http://www.epa.gov/r5water/uic/index.htm

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If EPA chooses to require baseline and/or periodic monitoring of USDWs and "other formation of interest," EPA should assure that its final decision is essential to protecting USDWs, as mandated by the SDWA and with consideration of existing state regulations.

At issue here is that EPA is creating a framework of information needs that is too hypothetical. If EPA really wants to craft a rational permitting program, it should turn to the requirements imbedded in state well construction and completion programs and model its program on those. Of course, EPA cannot contort the Class II program to mirror these successful regulatory systems which is why we recommend EPA restart its regulatory assessment related to its SDWA authority to regulate diesel fuel during hydraulic fracturing.

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