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# U.S. House of Representatives

## Committee on Natural Resources

Washington, DC 20515

September 10, 2012

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The Honorable Ken Salazar  
Secretary  
U.S. Department of the Interior  
1849 C Street, NW  
Washington, DC 20240-0001

Dear Secretary Salazar:

On May 11, 2012 the Department of Interior's (DOI's) Bureau of Land Management (BLM) proposed a rule to regulate well stimulation techniques such as hydraulic fracturing on public land and Indian land. This rule will be the first time in more than thirty years that the agency has updated its regulations governing hydraulic fracturing. Over the last decade, technological advancements have allowed for the more frequent use of hydraulic fracturing and today it is estimated that more than 90% of all wells on federal lands are stimulated using this technique. The rapid expansion of this process has caused great public concern about whether fracturing can allow or cause the contamination of underground water sources, adversely impact public health and safety, or threaten the environment. Therefore, DOI's proposed rule plays a vastly important role in putting in place basic safety protections and ensuring that the development of oil and gas does not come at the detriment of public health and safety or the environment.

The DOI's proposed rule, once enacted, will apply to more than 750 million subsurface acres of federal and Indian mineral estate managed by the BLM as well as oil and gas resources managed by the Forest Services and Fish and Wildlife Services. The proposal focuses on three main components (1) the disclosure of chemicals used in hydraulic fracturing, (2) adequate management of the "flowback" fluids that return to the surface during and after fracturing operations and (3) well integrity standards. All of these components are vital in addressing public concern and ensuring safe oil and gas extraction from our public lands. While we believe that DOI's proposal is a step in the right direction, there are several areas of concern highlighted below that we strongly urge you to take into consideration when issuing the final rule.

### Pre-fracturing Chemical Disclosure

Oil and gas companies use a variety of additives and chemicals in their fracturing fluid with the goal of widening and extending the length of the fractures and transporting large amounts of material to "prop open" the fractures. While some of these chemicals

are generally harmless, such as sand and salt, an investigation by the House Energy and Commerce Committee Democratic staff found that between 2005 and 2009, 14 leading oil and gas companies used more than 780 million gallons of hydraulic fracturing products containing 750 different chemicals, including carcinogenic and other toxic components such as lead and benzene.<sup>1</sup> In fact, these companies used 29 distinct chemicals that are known or possible human carcinogens, regulated under the Safe Drinking Water Act (SDWA) for their risks to human health, or listed as hazardous air pollutants under the Clean Air Act. The investigation also found that 12 of the 14 companies used more than 32 million gallons of diesel fuel — which often contains benzene, toluene, ethylbenzene and xylenes (the BTEX compounds, which are chemicals known for their toxicity and adverse health impacts) - in twenty states.<sup>2</sup>

While we believe the draft rule released by the Department of Interior (DOI) will help increase transparency regarding chemicals used in the hydraulic fracturing process, we believe the proposal can be significantly strengthened by expanding the requirement of public disclosure in the final rule to apply both before and after fracturing operations begin.

In an earlier draft of DOI's proposed regulations, companies were required to disclose the proposed chemical constituents and their percentage by mass before operations commenced and the actual chemical constituents and percentage by mass after the operations were completed. The requirement to disclose the proposed chemical constituents before fracturing operations were dropped from the proposed rule issued on May 11<sup>th</sup>. Now companies are only required to disclose the chemicals after the fracturing job is completed, and have a month after completion to do so.

Adequate pre-hydraulic fracturing disclosure allows owners and users of nearby water sources to conduct baseline testing to establish the quality of their water prior to hydraulic fracturing, including the presence or absence of identified chemical constituents of fracturing fluids. It also allows the public to fully assess the risks that chemical use, transport, and storage pose to their communities and allows them to take the precautions they feel are necessary to safeguard their families and communities. Furthermore, pre- and post- fracturing chemical disclosure allows for the collection and aggregation of chemical information that can be used for retrospective analysis of hydraulic fracturing sites and to inform policy decisions in the future.

Currently, several states including the states of Wyoming and Montana already operate with regulations that require this pre-fracturing chemical disclosure by companies. Moreover, similarly to the proposed rule, these two states also require chemical identities and concentrations of each additive used in hydraulic fracturing

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<sup>1</sup> Reps. Henry A. Waxman (D-Calif.), Edward J. Markey (D-Mass.) and Diana DeGette (D-Colo.) released a report detailing hydraulic fracturing products, which can be found here:  
<http://democrats.energycommerce.house.gov/index.php?q=news/committee-democrats-release-new-report-detailing-hydraulic-fracturing-products>

<sup>2</sup><http://democrats.energycommerce.house.gov/index.php?q=news/rebs-waxman-markey-and-degette-report-updated-hydraulic-fracturing-statistics-to-epa>

fluids. We believe that in order to accomplish the goal of increased transparency and environmental and health protection, the regulations promulgated by DOI should be at least as strong as those already being implemented in states and also require pre-fracturing disclosure.

### **FracFocus as Disclosure Method**

One of the fundamental issues in the hydraulic fracturing debate revolves around the disclosure of hydraulic fracturing activities (details of how and where operations occur) and the chemicals and additives used in the process. While disclosure by itself does not make hydraulic fracturing safer, it is one important component that (1) aids in determining the source and cause of any nearby groundwater contamination (2) gives first responders information needed to appropriately respond to accidents and emergencies (3) provides the public with information about potential impacts on water supplies (4) allows the states and the public to assess the potential risks of chemical use, transport and storage to nearby communities (5) allows medical professionals to develop an informed diagnosis and treatment regimen for any patients that may have been impacted by the activities and (6) is essential for scientific research that will provide a better understanding of any cumulative and long-term environmental and health effects of hydraulic fracturing.

While we believe that disclosure is essential to any rule promulgated by the Department, we have concerns regarding the execution and forum for such disclosure. The DOI has proposed that the disclosure requirement of this new rule can be satisfied using the existing FracFocus.org website. FracFocus is a joint project of the Ground Water Protection Council (GWPC) and the Interstate Oil and Gas Compact Commission (IOGCC). The website consists of a registry of information regarding oil and gas wells and is currently used by several states as a location for disclosing chemical identities and information. Additionally, oil and gas companies can voluntarily upload data onto the database. However, because the standardized disclosure form on FracFocus contains fields for only a very limited subset of information, there is not a single state in which disclosures on the site contain all the information required by the state rule.<sup>3</sup> For example, Texas<sup>4</sup> requires in its state rules that companies report on FracFocus the amount and type of the base fluid used (i.e. fresh water, recycled water, other fluid, etc). However, the form on FracFocus provides no field entry for base fluid type at all and instead allows only for reporting of the "Total Volume of Water".<sup>5</sup> It is therefore unlikely that FracFocus can appropriately serve as a location to comply with DOI's proposed disclosure rules, which would require not only the total volume of fluid and types of proppants, but also the type of base fluid (if other than water) and the location from which the water used in the fracturing operation was obtained. In addition, the proposed

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<sup>3</sup> NRDC Issue Brief-State Hydraulic Fracturing Disclosure Rules and Enforcement: A Comparison. July 2012

<sup>4</sup> Tex Admin Code 3.29 (c)(2)(A)(viii)

<sup>5</sup> NRDC Issue Brief-State Hydraulic Fracturing Disclosure Rules and Enforcement: A Comparison. July 2012

rule would also require pump pressures of the fluid and information regarding all chemical additives, including the trade name, purpose, Chemical Abstract Services Registry Number and the percent mass of each ingredient used the stimulation operation.

Both the DOI and representatives from the White House have stated the desire to use FracFocus so as not to duplicate ongoing efforts or create questions about transparency.<sup>6</sup> However, the inherent design of FracFocus inhibits the type of transparency that is expected from government sources. For example, the site is designed so that information regarding chemical identities is presented well-by-well in PDF format, rather than a spreadsheet or database; this design impedes any in-depth analysis. In order for a researcher to use this data as an analytical tool it would require opening more than 17,000 individual PDF documents and manually entering the information into a useable spreadsheet to aggregate the data. In fact, the terms of use for FracFocus forbid exactly this sort of broad use of the chemical information it contains for analysis, significantly limiting its scientific usefulness and ability to inform future policy decisions. When the Department of Energy issued its report on measures that should be taken to reduce the environmental impact and assure the safety of hydraulic fracturing it specifically stated that FracFocus should be updated so that “information can be searched, sorted and aggregated by chemical, by well, by company and by geography.”<sup>7</sup>

Moreover, in the President’s Open Government Directive issued in January 2009, all executive departments are instructed to “publish information online in an open format that can be retrieved, downloaded, indexed, and searched by commonly used web search applications. An open format is one that is platform independent, machine readable, and made available to the public without restrictions that would impede the re-use of that information.”<sup>8</sup> FracFocus fails to meet these requirements by being a platform-dependant registry that specifically impedes the utility of third-party data by preventing aggregation and re-use of the provided information. Therefore the use of FracFocus, in its current form, is in direct contradiction with the President’s goal of transparency and public participation.

Furthermore, because FracFocus is not a government-run website and is managed by Interstate Oil and Gas Compact Commission (IOGCC) and the Groundwater Protection Council (GWPC), it is not subject to federal or state open records laws. By using FracFocus as the platform for federal information disclosure, government-mandated disclosure data will be in the hands of a private organization. Therefore, FracFocus would be well within its rights if it decided in the future to limit the public availability of this information or to transform into a fee-for service website. Also, since companies can voluntarily disclose information on this platform, the mixture of

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<sup>6</sup> Proposed Rule-Oil and Gas; Well Stimulation, Including Hydraulic Fracturing, on Federal and Indian Lands. RIN 1004-AE26. Also, see E&E, White House official backs FracFocus as preferred disclosure method, Mike Soraghan: June 21, 2012

<sup>7</sup> Secretary of Energy Advisory Board. Shale Gas Production Subcommittee Second Ninety Day Report: November 18, 2011.

<sup>8</sup> [http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda\\_2010/m10-06.pdf](http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-06.pdf)

mandatory and voluntary information on one website, without appropriate distinction, could prove to be confusing for the public users.

We do not believe that FracFocus satisfies the public's need for full disclosure of fracturing chemicals or meets the expressed desire of the Department to create transparency for chemical disclosure. Furthermore, we believe that the use of FracFocus in its current form, severely limits its usability for aggregating and utilizing data to inform future policy decisions. Therefore, unless the Department is able to resolve the issues discussed above with IOGC and GWPC, providing for a fully transparent, analytically useful, permanent, publically available and free database for full chemical disclosure, we believe that the Department should develop an independent government-run database that can house and display all required information regarding chemical disclosure.

### **Management of Fluids Recovered from Well Stimulation**

Flowback fluids or flowback water is the term used to describe the fluids that return to the surface after a hydraulic fracturing operation is complete. These fluids contain not only the chemicals put into the well in the form of hydraulic fracturing fluids, but also naturally occurring salts, heavy metals, volatile organic hydrocarbons and naturally occurring radioactive material found deep below the earth's surface. It is estimated that as much as eighty percent of the fluids injected during hydraulic fracturing operations to the surface as "flowback". In February 2011, The New York Times released results of an investigation<sup>9</sup> that indicated that this recovered fracturing fluid is loaded with naturally occurring radioactive elements associated with the shale formations. The investigation suggested that millions of gallons of drilling wastewater contaminated with radioactive radium, at levels that far exceed the safe drinking water standards, were dumped into rivers and other U.S. waterways. In several cases, fracturing wastewater was sent to treatment facilities that could not adequately treat it.

To mitigate these issues the proposed rule requires that the operator provide the Department with an estimate of the volume of fluid to be recovered from the well, proposed methods of management and disposal of the fluids, the actual volume of fluids that were recovered and how those fluids were handled after operations were completed. These provisions will help ensure that facilities are available onsite to handle the projected amount of waste fluid and will allow the department to assess whether handling methods will adequately protect public health and safety. It also provides the Department with the information necessary to conduct oversight of operations after they are completed.

Unfortunately, the proposal in its current form would allow the waste fluids to be stored in open air pits. The use of pits to capture or dispose of flowback water can result in greater surface disturbance and a higher risk of leaks and spills, which threatens soils, groundwater, surface water and wildlife. Pits can also be a significant source of

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<sup>9</sup> "Regulation Lax as Gas Wells' Tainted Water Hits River" *The New York Times*, February 26, 2011

hazardous and toxic air pollution.<sup>10</sup> The use of pits and surface impoundments should be prohibited; instead, the Department should require the use of closed-loop systems, in which flowback and produced wastewater is captured in tanks instead of pits, for treatment, reuse or transportation to a disposal facility. The Department should also consider requiring a chemical analysis of the waste fluids that can be used as a guide to determine the most appropriate disposal method.

### **Well Construction and Variances**

Proper well construction and integrity are crucial in ensuring that a well functions as designed and does not allow gas or fluids to migrate into aquifers. Well casing consists of a series of metal tubes installed in the freshly drilled hole that are cemented into place to create a barrier between the underground water supplies and the well bore. This barrier of cement and casing serves as the first line of defense in protecting underground sources of drinking water. There have been several notable cases in which hydraulically fractured wells have blown out, due to faulty construction, cementing or defective equipment, spilling large quantities of fracturing fluids and natural gas and causing the evacuation of multiple households.<sup>11</sup> One such event occurred in April 2011 when equipment failure at a well in Pennsylvania that was in the process of being hydraulically fractured caused tens of thousands of gallons of chemical-laced water to spew out of the well and into a nearby creek, causing evacuation of homes and temporary suspension of drilling activities at nearby sites.<sup>12</sup>

Under the new DOI proposal the operator would be required to perform a successful mechanical integrity test before beginning stimulation operations, to demonstrate that the casing is strong enough to protect water and other subsurface resources during well stimulation activities. The operator is also required to perform a cement bond log prior to well stimulation activities, which helps ensure water resources are protected by testing the quality of bonding between the cement and casing. While both of these requirements are great steps in ensuring well competence, the rule is silent on how deep below water zones surface casing and cementing must be set to ensure they are appropriately isolated. The rule is also silent on well construction, generally, and provides no specific engineering criteria. For example, the rule does not touch on the quality of cement or standards for cementing or casing, including whether intermediate or production casing should be cemented to the surface. Following the BP Deepwater Horizon disaster, the Department of Interior updated offshore well construction standards, putting in place specific technical requirements for cement and casing design and installation to improve well integrity and reduce the chance of a well blowout. These standards required among other things, improved cementing practices, installation of additional mechanical barriers, third-party verification of well casing and cementing and

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<sup>10</sup> National Risk Management Research Laboratory, Office of research and Development, U.S. Environmental Protection Agency, 2009, Measurement of Emissions from Produced Water Ponds: Upstream Oil and Gas Study #1.

<sup>11</sup> See for example: [http://news.yahoo.com/s/ap/20110305/ap\\_on\\_re\\_us/us\\_onshore\\_well\\_blowouts](http://news.yahoo.com/s/ap/20110305/ap_on_re_us/us_onshore_well_blowouts)

<sup>12</sup> <http://www.reuters.com/article/2011/04/21/us-chesapeake-blowout-idUSTRE73K5OH20110421>

requirements for cement to be of a certain density and withhold specific pressures. Given that well construction is such a pertinent aspect to ensuring mechanical integrity of the well and protection of the environment, we believe that the DOI should put in place similarly updated well construction rules for onshore wells that are reflective of current advancements and technologically available best practices.

Furthermore, the rule provides for an incredible amount of flexibility by allowing an operator to request a variance, or waiver, from any of the minimum standards of this regulation. In its current form, the rule is vague on the process for granting a variance, including the circumstances under which variances can be approved and whether or how that information would be shared with other BLM state or field offices. While we understand the necessity for customized engineering dependent on the unique geology of a well site and the ability for multiple approaches to achieve a common goal, we are concerned that allowing any field officer to grant a waiver from any of the basic requirements of this rule, the result will be an unwieldy system that will challenge uniform inspection and enforcement procedures.

We believe that there are several issues that the DOI should consider with regards to its variance policy to ensure transparency and uniformity in the issuance of variances: (1) a requirement that any variances granted to an operator be reported by the authorizing officer to DOI headquarters; (2) the creation of a centralized publically accessible database that houses information about every variance granted by an authorizing officer. The database should include, at a minimum, the regulatory provision of the rule for which the variance was requested, the reason for the variance, how the operator met the objectives of the regulation, where the variance was located and who granted the variance. The database should also be updated to include whether or not the variance was subsequently rescinded or modified; (3) the periodic review of such database by DOI headquarter officials to ensure that variances are being approved or denied uniformly and appropriately; (4) the issuance of specific guidelines or criteria that field officers should consider and follow prior to approving variances and (5) increased and periodic training of field officers on the variance approval process.

### **Setbacks and Restrictions**

In addition to concerns over water pollution, members of the public have expressed concern over air pollution associated with hydraulic fracturing. Hydraulically fractured wells emit millions of tons of dangerous air pollution each year, including cancer-causing benzene, smog-forming volatile organic compounds (VOCs), and heat-trapping methane. These pollutants have serious health consequences, contributing to asthma attacks, cancer cases, hospital visits, and premature deaths. The largest surge of these pollutants comes in the first few days after a well is fractured and is about to start production. As a result, the Environmental Protection Agency has recently issued long-

overdue standards to begin controlling this air pollution.<sup>13</sup> However, many of these requirements will not be fully implemented until 2015.

Because of the dangerous air pollutants released from hydraulically-fractured wells, several states and counties have enacted rules that require a minimum distance between a well site and a public building, such as a school, library, or hospital. The distance of these setbacks vary widely from just over a hundred feet to more than 1,000 feet.<sup>14</sup> Currently, the proposed DOI rule is silent on the issue of setbacks. Given that the DOI regulation will apply to all federal lands, including Indian lands, we believe that it is important that the DOI establish safe setbacks for homes, schools, hospitals and other public buildings, that can be applied for all drilling wells on federal lands. We urge the DOI to address this concept in its final rule.

### Conclusion

As the agency responsible for protecting America's public lands and natural resources, we urge BLM to consider the points outlined above and to ensure that the final rule properly manages the environmental and public health risks associated with oil and gas extraction. These rules will serve as an important start to what we hope will be broader, comprehensive energy development policies that will embrace best practices for the management of our natural resources. Thank you for your consideration of these comments.

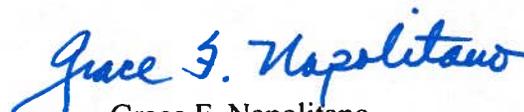
Sincerely,

  
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<sup>13</sup> EPA Oil and Natural Gas Air Pollution Standards issued on April 17, 2012. See: <http://www.epa.gov/airquality/oilandgas/>

<sup>14</sup> See for example: [http://www.oilandgasbmps.org/laws/setback\\_standards\\_comparison.10.8.09.pdf](http://www.oilandgasbmps.org/laws/setback_standards_comparison.10.8.09.pdf)