



August 14, 2013

Sally Jewell
U.S. Department of the Interior
Director (630), Bureau of Land Management
Mail Stop 2134 LM
1849 C St. NW., Washington, DC 20240
Attention: 1004-AE26

Re: Comments on Proposed Rule to Regulate Hydraulic Fracturing on Federal and Indian Land

Dear Ms. Jewell:

My name is John Amos; I am a geologist, and the founder and President of SkyTruth, a non-profit corporation based in West Virginia that uses satellite and aerial images, digital mapping, data analysis and digital graphics to investigate and illustrate environmental issues and incidents¹. Our staff has expertise in the areas of remote sensing, image processing and analysis, GIS and digital mapping, database management, and software design and programming. We analyze satellite and aerial imagery, and we build and maintain large datasets acquired from state and federal government agencies to analyze environmental conditions. These datasets describe permitting and drilling activity on public and private lands, oil and hazardous materials spill reports, and other information of interest to the public. Over the past year, with considerable effort, we've been collecting data related to hydraulic fracturing operations nationwide, primarily through a website called FracFocus that is operated by an industry-supported, non-governmental entity.

On May 25, 2013 the US Bureau of Land Management (BLM) published a revised proposed rule that will govern gas and oil drilling operations on public lands throughout the Nation. The rule includes regulations regarding the public disclosure of chemicals used in hydraulic fracturing operations at potentially tens of thousands of gas and oil wells that will be drilled across millions of acres of public land in coming years. However, this rule is fundamentally flawed because it approves use of the FracFocus website to satisfy the growing public call for transparency regarding the chemicals used.² FracFocus does not make the chemical disclosure

¹ http://www.washingtonpost.com/lifestyle/magazine/skytruth-the-environment-and-the-satellite-revolution/2013/07/31/3a1d181a-d52b-11e2-b05f-3ea3f0e7bb5a_story.html

² <http://www.eenews.net/public/energywire/2013/02/08/1>

data available to the public in a machine-readable format. This clearly violates both the spirit and the letter of the President's May 9, 2013 Executive Order entitled **Making Open and Machine Readable the New Default for Government Information**³. For this reason alone, the proposed rule cannot proceed to a final rulemaking without significant revision.

Additional, substantive problems with relying on the FracFocus platform, including excessive and unrestrained use of the trade-secret exemption, are detailed below, along with our recommendations for addressing these problems. We believe these additional problems compel Interior to take responsibility for *curating* and *publishing* the information and data pertaining to hydraulic fracturing operations on public lands. We believe this could be done without replacing FracFocus as the platform for *collecting* disclosure reports from industry, avoiding the undesirable outcome of requiring operators to submit multiple, redundant reports.

Thank you for your careful consideration of these comments. I would welcome any questions from you or your staff.

There is strong and growing public interest in learning more about the chemicals used in the drilling and completion of natural gas and oil wells throughout the nation. These chemicals are transported through communities large and small; staged at drilling locations distributed throughout residential and rural areas; and injected into wells at very high pressures. It is likely that over the coming decades, tens to perhaps hundreds of thousands of gas and oil wells will be drilled on public and private lands throughout America to tap our unconventional natural gas and oil resources from low-permeability sandstone and shale reservoirs. The majority of these wells will be stimulated by hydraulic fracturing, and this process may be repeated several times over the productive lifespan of each well.

Accurate, timely, and comprehensive information about the chemicals used in hydraulic fracturing is necessary to inform a broad range of societal interests. A few examples:

- Homeowners want to know what chemicals might contaminate their groundwater if there are problems with nearby drilling operations, so they can order periodic, chemical-specific tests of their drinking water to ensure the continued safety of their family water supply.
- Municipal water managers want to predict the regional impact of drilling activity on public water supply quantity and quality.

³ [http://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government-](http://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government)

- Emergency management officials want to know what types and amounts of chemicals are regularly transported through their communities, so they can formulate effective contingency plans.
- Scientific researchers want to study regional patterns and trends in the use of chemicals over the years as drillout proceeds, to measure and better understand any impacts of drilling activity on public health, safety, and environmental indicators.
- State and local investigators want to know if chemical usage information is being disclosed accurately and in a timely way, and if all operators are complying with applicable disclosure laws.
- Industry wants to study spatial and temporal patterns in drilling and hydraulic fracturing activity for basic business intelligence and strategy.

Most of these societally valuable uses require aggregating and analyzing the chemical information obtained from many individual hydraulic fracturing operations. FracFocus, a website sponsored by the gas and oil industry, was established to collect information volunteered by gas and oil well operators about the chemicals they used in performing individual hydraulic fracturing operations. FracFocus provides a public interface to this chemical information, but it is inadequate for most of the aforementioned applications.

Several states have since passed laws requiring varying levels of public disclosure of the chemicals used in hydraulic fracturing, and some have directed operators to use FracFocus as the means of accomplishing public disclosure⁴; a legal use of the FracFocus site that it was not designed to accommodate. It was also not designed to allow aggregating and analyzing information. Indeed, the site's operators have publicly stated that FracFocus was intentionally designed to discourage the aggregation and analysis of information⁵. This design, in both its philosophy and implementation (for example, the publication of data in PDF files, a format that is not "machine-readable"), violates key elements of the Administration's Open Government Directive of December 8, 2009⁶, guidance to agencies regarding the management of federal information resources⁷, the Open Government initiative⁸, and the President's Executive Order of May 9, 2013⁹, rendering the site grossly noncompliant as a public disclosure platform.

⁴ See

<http://www.velaw.com/uploadedFiles/VEsite/Resources/HydraulicFracturingFluidDisclosureRequirements.pdf> from <http://fracking.velaw.com/>

⁵ <http://www.eenews.net/public/energywire/2013/02/08/1> and <http://www.eenews.net/public/energywire/2012/05/21/1>

⁶ <http://m.whitehouse.gov/open/documents/open-government-directive>

⁷ http://m.whitehouse.gov/omb/circulars_a130_a130trans4#7 (see in particular Section 7, Basic Considerations and Assumptions)

⁸ <http://www.whitehouse.gov/open/about>

⁹ <http://www.whitehouse.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government->

Based on our experience an effective platform for the public disclosure of the chemicals used in hydraulic fracturing operations should, at a minimum:

- Enable the bulk download of data in a machine-readable (not PDF) format.
- Impose no intellectual property restrictions.
- Designate an official legal reference copy of all chemical disclosure reports.
- Identify an official publication date for all chemical disclosure reports.
- Incorporate a document change management system to clearly identify additions or revisions.

Each of these elements is discussed below.

NOTE: Environmental, public health and safety, and other public advocacy groups have expressed additional concerns about public disclosure that are worthy of discussion but not addressed further here, including, among other issues, the inconsistent and opaque use of trade-secret exemptions to conceal the identities of many of the chemicals used¹⁰; the timeliness of reporting and disclosure to the interested public; and the administration of a government-mandated public dataset by a non-profit, non-government, industry-supported entity¹¹.

1) Bulk Data Download

Currently, members of the public cannot use the data archived at FracFocus for meaningful analysis without great difficulty. First, they must go to great lengths to download, one at a time, the individual FracFocus chemical disclosure reports in PDF (text document) format. Each report includes data on dozens of chemicals used in a single hydraulic fracturing operation. Next, a user must extract the data, one field at a time from each individual PDF document, in order to compile the data in a useful spreadsheet or digital database. A typical user without advanced computer programming skills would have to perform these operations manually. At a rate of 15 cut-and-paste operations per minute, it would take 12,255 hours of tedious, repetitive manual work, or almost 6 years of full-time effort, to extract the data that are currently archived at FracFocus. This estimate does not include the significant additional time, effort, and computer resources required to download the >40,000 chemical disclosure reports.¹²

¹⁰ <http://www.mysanantonio.com/business/article/Exact-mix-of-fracking-fluids-remain-a-mystery-4246634.php>

¹¹ <http://eenews.net/public/energywire/2012/05/21/1>

¹² See comment by David Manthos at <http://www.forbes.com/sites/davidblackmon/2013/04/25/harvards-fracfocus-study-grades-an-f/?ss=business%3Aenergy>

A user with advanced programming skills can, with diligent effort, automate the process. To our knowledge only three organizations – SkyTruth¹³, and two commercial oil and gas industry service companies who are selling the data, Pivot Upstream Group¹⁴ and PacWest Consulting Partners¹⁵ – have accomplished this feat. However, any automation success is subject to being “broken” at any time, should the FracFocus site operators make any changes to their system.

The current publication mechanism in FracFocus does not allow bulk download, and does not provide data in a machine-readable format, presenting substantial barriers to anyone seeking to use the data for research, public information, or regulatory compliance purposes.

Recommendation

- Minimum - Publish the entire collection in a simple standard text format (such as CSV) that can be imported directly into a spreadsheet or database.
- Better - Provide a way to bulk-download the disclosure data, in machine readable format, through a search query.
- Best - Automatically re-publish FracFocus disclosure data to Data.gov¹⁶ (a web portal providing public access to Federal government datasets) or a similar Open Data Initiative-compliant publication portal.

2) No Intellectual Property Restrictions

The “Website Terms and Conditions of Use” statement¹⁷ on the FracFocus website is unreasonably restrictive, explicitly forbidding users from sharing the chemical disclosure reports (PDF files). This condition exerts a chilling effect on those who want to share information with their friends and neighbors; and on scientists, citizens organizations, and government agencies that want to aggregate the data for scientific research, public education, or regulatory compliance purposes.

Recommendation

Remove the Intellectual Property restriction entirely for all the disclosure data. Make an explicit statement that the data can be freely shared and used for any purpose.

¹³ <http://frack.skytruth.org/home/whats-new/frackingchemicaldatabase>

¹⁴ <http://pivotupstreamgroup.com/D-FRAC.aspx>

¹⁵ <http://pacwestcp.com/research/fracdb/>

¹⁶ <http://www.data.gov/>

¹⁷ <http://fracfocus.org/terms-of-use> (in particular section 7, Intellectual Property Information)

3) Official Reference Copy for Reports

Individual disclosure documents (PDF files) archived at FracFocus have no permanent web link (URL). Therefore, anyone reporting on, or seeking explanations about, the content of a disclosure report has no permanent reference for the original document. Moreover, because of the Intellectual Property restrictions discussed above, users cannot share or republish a copy of that document for others to see. As a result, users have no way to reference or share the information archived at FracFocus.

Recommendation

Provide a permanent web link (URL) to each disclosure document based on a unique document ID number. This becomes the official reference copy of the document in case there is any question about the accuracy of data re-published by a third party, or if the operator later submits revised information (see Document Change Management below).

Document Publishing Date

Currently there is no way to determine when a chemical disclosure report was first published, so there is no way to verify whether that disclosure was made within the timeframe required by state or federal law.

Recommendation

Include a "published date" with each disclosure record.

Document Change Management

We have observed documents that had their content altered after initial publication, such that the first edition of the document is no longer available and the new edition bears no indication that a previous edition was published, when it was published, or what specific information was changed.

Recommendation

Add a document change history and/or edit tracking to the document record, and assign a new unique document ID to the revised document so that the earlier version (the "official reference copy" described above) remains accessible.