

Comments of Halliburton Energy Services, Inc.
On the Bureau of Land Management's Revised Proposed Regulations Regarding Oil and
Gas; Hydraulic Fracturing on Federal and Indian Lands

Submitted by:
Stuart Kemp
Assistant General Counsel
Halliburton Energy Services, Inc.
2107 City West Boulevard, Bldg. 2
Houston, Texas 77042-3051

Halliburton Energy Services, Inc. (“HESI”) offers the following comments in response to the notice published by the Bureau of Land Management (“BLM” or “Bureau”) in the *Federal Register* on May 24, 2013 entitled “Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands; Proposed Rule.”¹ HESI appreciates the opportunity to submit these comments on BLM’s revised rule and requests that they be included in the Bureau’s administrative record and considered by BLM as it finalizes the rule.

HESI’s concerns relate primarily to the provisions concerning the disclosure of the constituents of fluids used in the hydraulic fracturing (HF) process and the protection of trade secrets. HESI appreciates the steps BLM has taken to address its concerns and the concerns of other industry members with the initial proposed regulations.² Nevertheless, as discussed further below, HESI continues to believe that the HF disclosure requirements in the revised proposed rules are not needed in light of continued and strengthened evidence of a lack of human health and environmental risk from the HF process and the robust and widespread state regulatory disclosure schemes already in place. Moreover, despite modifications to the proposed regulations to address industry concerns, the revised chemical disclosure provisions -- particularly those related to the protection of trade secrets -- suffer from serious flaws that will effectively negate any trade secret protections for those who need it most, *i.e.*, service providers and product vendors. As a result, the revised proposal would provide substantial disincentives to the use of proprietary products in HF operations that are subject to BLM authority with resulting impacts on production and environmental benefits. If BLM moves forward with the rule proposal, it needs to make further revisions to resolve these issues, as the proposed rule in its current form does not effectuate BLM’s goals of maintaining consistency with state requirements and providing adequate trade secret protection.

Executive Summary

HF plays an indispensable role in the production of oil and natural gas across the United States. The use of HF has produced substantial economic benefits during difficult economic times for the nation, has assisted the United States as it pursues energy security, and is an essential technology for reducing the country’s greenhouse gas emissions.

HESI believes that the revised proposed chemical disclosure requirements are not needed. HESI supports regulation of HF operations to protect against risks to human health or the environment and agrees with BLM’s statement in the preamble that the primary ways to do this are through ensuring wellbore integrity and effective management of flowback water.³ HESI’s belief that the disclosure regulations are not needed is based on evidence that the HF process itself does not pose a risk to groundwater resources; this evidence has only continued to mount since the time of HESI’s comments on the original rule proposal. Moreover, existing state regulatory programs provide enough transparency to the public about the make-up of HF fluids. In fact, in the past year many more states have adopted or are in the process of adopting HF chemical disclosure requirements, and some states have adopted other enhancements to their

¹ 78 Fed. Reg. 31636 (May 24, 2013).

² HESI submitted comments on BLM’s proposed rules for “Oil and Gas; Well Stimulation, Including Hydraulic Fracturing, on Federal and Indian Lands” on September 10, 2012. HESI’s prior comments are available at <http://www.regulations.gov/#!documentDetail;D=BLM-2012-0001-7268>.

³ 78 Fed. Reg. at 31644.

oil and gas regulatory schemes that were already in place. In light of these developments, HESI continues to believe that the revised proposed HF disclosure provisions are not needed.

At the same time, HESI appreciates the steps BLM has taken to address industry's prior concerns with respect to the HF chemical disclosure requirements and trade secret protection. In particular, HESI supports the proposed use of FracFocus as a vehicle for disclosure and continues to believe that this represents an appropriate system for public reporting of the chemical make-up of HF fluids. HESI also appreciates BLM's stated intention to allow trade secret information to be withheld from disclosure to the BLM.

However, HESI has significant remaining concerns with the proposed disclosure and trade secret provisions as currently drafted. HESI believes that aspects of these proposed provisions will impede oil and gas development without providing additional protection for human health and the environment, which is contrary to BLM's intentions. This is because as currently drafted, the rules would not adequately protect trade secrets. BLM needs to revise the proposed disclosure and trade secret provisions to make certain clarifications that would allow for sufficient trade secret protection and consistency with state requirements.

In particular, BLM needs to clarify on the face of the regulations that trade secret information may be withheld from disclosure, because the regulations themselves are not clear on this point. In addition, BLM needs to revise the trade secret provisions to apply trade secret protection to the segments of the industry that need it -- the service companies and chemical suppliers. As currently drafted, the rule would require the holders of most trade secret information -- the service companies and chemical suppliers -- to disclose their trade secrets to operators and allows only the operators to seek protection for trade secrets. Limiting trade secret protection in this way does not serve to provide additional protection to human health or the environment and is inconsistent with every state disclosure regime.

Finally, BLM also needs to clarify certain portions of the proposed chemical disclosure provisions. As currently drafted, aspects of the chemical disclosure provisions could be read as requiring the public disclosure of trade secret information. Moreover, these provisions would be inconsistent with current state HF chemical reporting requirements. These provisions include the requirements to report all chemicals used in HF operations at a well site, tie chemical ingredients to the additives in which they are found, and report maximum concentrations of ingredients in an additive. HESI has suggested minor changes to the regulatory language based on current state reporting requirements that would resolve these issues.

I. Introduction

As discussed in its prior comments, HESI is a leading provider of services to the energy industry and the global leader with respect to HF services. Given its extensive experience, HESI is well-qualified to comment on BLM's proposed regulations concerning HF operations on federal and tribal lands.

In its prior comments, HESI described the critical importance of HF to the development of our domestic energy supplies. The significant economic and environmental

benefits resulting from the use of HF has been emphasized by multiple federal government officials, including Present Obama.⁴ As the President stated in his Climate Action Plan:

“In fact, last year, carbon emissions from the energy sector fell to the lowest level in two decades. At the same time, while there is more work to do, we are more energy secure than at any time in recent history. In 2012, America’s net oil imports fell to the lowest level in 20 years and we have become the world’s leading producer of natural gas -- the cleanest-burning fossil fuel.”⁵

These benefits would not be achieved without HF, which is required to effectively access domestic supplies of natural gas as well as oil found in shale formations across the nation.⁶ BLM estimates that about 90 percent of wells drilled on Federal and Indian lands are stimulated using HF techniques.⁷

Trade secret protection is important to the success of HF operations. Companies like HESI have devoted substantial resources to developing innovative proprietary technologies that yield both increased efficiencies in the production of oil and natural gas resources as well as environmental benefits. Trade secret protection provides critical incentives to invest in these innovative technologies. As stated in HESI’s prior comments, HESI’s particular focus is to seek appropriate protection for all trade secret and proprietary information regarding its HF formulations and related technologies.

II. HESI Continues to Believe that the Proposed Disclosure Rules Are Not Needed

In its prior comments, HESI stated that BLM had not demonstrated a need for the proposed disclosure regulations. HESI based this conclusion on the existence of adequate state regulatory programs for HF disclosure, the lack of evidence of risk to groundwater from HF, and inflated estimates of risks that led to an overstating of the potential benefits of the proposed rules. HESI urged BLM to reconsider the need for the disclosure regulations and proposed that BLM instead defer to the states’ regulatory programs. Nothing has changed that would undermine the bases for these conclusions, as state regulatory programs are now even more robust and studies continue to conclude that HF does not pose a risk to groundwater.

⁴ During President Obama’s speech introducing his Climate Action Plan, the President voiced support for development of domestic supplies of natural gas and disagreed with claims that HF causes unacceptable levels of air and water pollution. See The White House, *President Obama Speaks on Climate Change* (June 25, 2013), available at <http://www.whitehouse.gov/photos-and-video/video/2013/06/25/president-obama-speaks-climate-change>.

⁵ Executive Office of the President, *The President’s Climate Action Plan*, 4 (June 2013), available at <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

⁶ See Secretary of Energy Advisory Board, *Shale Gas Production Subcommittee Ninety-Day Report*, 2 (Aug. 11, 2011), available at http://www.shalegas.energy.gov/resources/081111_90_day_report.pdf (“The rapid expansion of production is rooted in change in applications of technology and field practice. It had long been recognized that substantial supplies of natural gas were embedded in shale rock. But it was only in 2002 and 2003 that the combination of two technologies working together - hydraulic fracturing and horizontal drilling - made shale gas commercial”).

⁷ 78 Fed. Reg. at 31638.

A. Studies Continue to Demonstrate that HF Poses Little Risk to Groundwater

In its prior comments, HESI described the findings by federal and state agencies as well as other research groups that the HF process does not pose a risk of groundwater contamination. These sources included:

- EPA's 2004 study concerning the potential impacts of hydraulically fracturing coalbed methane wells on drinking water supplies, in which the Agency concluded that there was little or no risk of HF fluids contaminating drinking water;⁸
- Statements by former EPA Administrator Jackson and BLM Director Bob Abbey that they have not seen evidence of the HF process impacting groundwater;⁹
- The New York State Department of Environmental Conservation's ("NYSDEC") Supplemental Generic Environmental Impact Statement ("SGEIS") citing the statements of regulatory officials from 15 states that HF operations have not led to groundwater contamination and concluding that HF does not pose any risk to drinking water supplies associated with fluids pumped into the target formation during the HF process;¹⁰
- The research by NYSDEC's independent consultant, ICF International, finding that HF "does not present a reasonably foreseeable risk of significant adverse environmental impacts to potential freshwater aquifers";¹¹
- MIT's 2011 study on the potential risks of HF to groundwater, finding that no incidents of direct invasion of shallow water zones by HF fluids during the HF process have been recorded;¹² and

⁸ U.S. Environmental Protection Agency, Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs, ES-16 (2004), available at http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/wells_coalbedmethanestudy.cfm.

⁹ *Pain at the Pump: Policies that Suppress Production of Oil and Gas Before the H. Comm. on Oversight & Gov't Reform*, Rep. No. 112-54, at 87 (May 24, 2011), available at <http://oversight.house.gov/wp-content/uploads/2012/04/5-24-11-Full-Committee-Hearing-Transcript.pdf>; Lisa Jackson, Statement to Reporters (Apr. 30, 2012), available at http://www.youtube.com/watch?v=tBUTHB_7Cs; *Challenges Facing Domestic Oil and Gas Development: Review of Bureau of Land Management/U.S. Forest Service Ban on Horizontal Drilling on Federal Lands*, Hearing before the Subcomm. on Energy and Mineral Resources of the H. Comm. on Natural Resources and the Subcomm. on Conservation, Energy and Forestry of the H. Comm. on Agriculture, 112th Cong. (July 8, 2011).

¹⁰ See New York State Department of Environmental Conservation, *Revised Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program*, at 6-37, 6-41 (2011), available at <http://www.dec.ny.gov/energy/75370.html>.

¹¹ See ICF International, LLC, *Technical Assistance for the Draft Supplemental Generic EIS: Oil, Gas and Solution Mining Regulatory Program*, 21 (Aug. 7, 2009), available http://www.nysed.gov/Publications/Research-and-Development/Environmental/~media/Files/Publications/Research/Environmental/ICF%20Task%202020Report_Final.ashx.

¹² MIT Energy Initiative, *The Future of Natural Gas: An Interdisciplinary MIT Study*, Appx. 2E (2011), available at <http://mitei.mit.edu/publications/reports-studies/future-natural-gas>.

- A study by HESI's consultant Gradient Corporation, which concluded that HF does not pose any significant risk to drinking water supplies.¹³

Additional studies from federal and state governments and other groups that have been issued since the time of our initial comments have continued to find that HF poses no risk to drinking water. For example, in January 2013, the U.S. Geological Survey ("USGS") published a report of the results of an analysis of water samples from 127 drinking water wells representing the western third of the Fayetteville shale.¹⁴ The study used two comparative analysis methods to identify potential impacts to water quality from gas production activities in the area and found no evidence of migration of gas production fluids into the shallow groundwater based on the wells sampled in the study.¹⁵

In addition, Gradient updated its 2012 Human Health Risk Evaluation in May 2013 to expand its research beyond the Marcellus Shale to shales and other tight formations (such as tight sands) across the U.S. and evaluate whether it is possible for fluids pumped into a tight formation during the HF process to migrate upward to reach drinking water aquifers.¹⁶ Gradient again determined that once the fracturing fluids are pumped into a tight formation, it is simply not plausible that the fluids would migrate upwards from the target formation through several thousand feet of rock to contaminate drinking water aquifers.¹⁷ Gradient found that there are a variety of factors that contribute to the implausibility of this scenario:

- Tight oil and gas formations are found in geologic settings that greatly restrict upward fluid movement, as demonstrated by the fact that oil and gas and the brines have been trapped in the target formation for millions of years;¹⁸
- The HF process itself does not create conditions that would overcome these natural restrictions on fluid movement because the associated pressures are too short-term and localized to push fluids through thousands of feet of low permeability rock;¹⁹
- The fractures created during HF are of limited height, as demonstrated by microseismic data from over 12,000 HF operations in shale plays and other formations across the country, which show that in all cases there were at least

¹³ Gradient Corp., *Human Health Risk Evaluation for Hydraulic Fracturing Fluid Additives*, ES-10 (Jan. 10, 2012).

¹⁴ Kresse, et al., *Shallow Groundwater Quality and Geochemistry in the Fayetteville Shale Gas-Production Area, North-Central Arkansas*, U.S. Geological Survey Scientific Investigations Report 2012-5273 (Jan. 2013), available at <http://pubs.usgs.gov/sir/2012/5273/sir2012-5273.pdf>.

¹⁵ *Id.* at 28.

¹⁶ Gradient, *National Human Health Risk Evaluation for Hydraulic Fracturing Fluid Additives* (May 1, 2013) ("Gradient 2013 Study").

¹⁷ *Id.*

¹⁸ *Id.* at ES-4. For example, the gas and brines in the Marcellus Shale have been trapped there for almost 400 million years.

¹⁹ *Id.* at 35.

1,500 feet (and usually more than 3,000 feet) of intact bedrock above the fractures;²⁰ and

- Finally, the same microseismic data show that -- despite speculation to the contrary -- the presence of natural faults in the bedrock does not significantly contribute to the upward movement of fluids.²¹

Gradient found that even if the fracturing fluids could migrate upward through hundreds or thousands of feet of bedrock, the fluids would be so highly diluted that the concentrations of the chemical constituents would be well below levels that would begin to give rise to any human health concerns.²² Accordingly, the report concludes that the fluids pumped into a target formation as part of the HF process do not present a risk to human health.²³

Gradient also analyzed the potential for spills of HF fluids (or flowback fluid) to reach drinking water wells or surface waters. Using a “probabilistic” approach to address a wide range of spill scenarios and very conservative assumptions (*e.g.*, no spill mitigation measures in place and chemical constituents would not adsorb to the soil or degrade in the environment), Gradient determined the concentrations at which HF constituents might be found in surface water or a drinking water well as a result of a spill and compared them to levels at which health effects might become a concern.²⁴ Gradient found that any human health risks would be insignificant because various dilution mechanisms would further reduce the already low concentration levels of HF constituents before they ever reached drinking water sources.²⁵

Several peer-reviewed papers likewise confirming the lack of risk to groundwater have been published since HESI submitted its prior comments. A paper published by Gradient in *Groundwater* discusses the physical constraints on upward fluid migration from black shales such as the Marcellus and Bakken shales to shallow aquifers and concludes that upward migration of HF fluid and brine as a result of HF activity does not appear to be physically possible.²⁶ The authors found that the conditions for upward migration of fluids (*i.e.*, upward gradients) are found only in the presence of low permeability layers such as shales and that the rock layers between shales being hydraulically fractured and shallow aquifers are generally dominated by multiple low-permeability layers, effectively ensuring that any upward migration will be very slow, resulting in migration timescales of hundreds of thousands or millions of years.²⁷

²⁰ *Id.* at 38; See also Fisher & Warpinski, *Hydraulic Fracture Height Growth: Real Data*, Society of Petroleum Engineers SPE 145949 (Feb. 2012), available at http://www.spe.org/atce/2011/pages/schedule/tech_program/documents/spe145949%201.pdf. For example, the shallowest hydraulic fracturing job in the extensive database used by Gradient, which occurred at about 1,600 feet below ground surface, had essentially no height growth.

²¹ *Gradient 2013 Study* at 38, see *supra* note 16.

²² *Id.* at 42.

²³ *Id.* at ES-5.

²⁴ *Id.* at ES-14.

²⁵ *Id.*

²⁶ Flewelling & Sharma, “Constraints on Upward Migration of Hydraulic Fracturing Fluid and Brine,” *Groundwater* (Jul. 29, 2013), available at <http://onlinelibrary.wiley.com/doi/10.1111/gwat.12095/abstract>.

²⁷ *Id.*

Another paper by Gradient and a HESI expert published in *Geophysical Research Letters* examines the potential for fluid migration via induced fractures and considers the potential for interactions with natural faults to provide migration pathways.²⁸ The paper finds that given the constraints on upward flow of fluids from tight oil and gas formations, the upward migration of fracturing fluids will be governed by the extent of upward fracture growth and any related movement of natural faults. Based on principles of geophysics as confirmed by extensive microseismic data, the authors further find that fracture heights are limited by HF fluid volume and natural mechanisms such as in situ stress and that additional fluid migration as a result of interactions with naturally occurring faults is minimal. As a result, it is not physically plausible for induced fractures to create a hydraulic connection between tight formations at depth and overlying drinking water aquifers.²⁹

In addition, a recent peer-reviewed paper by researchers at Lawrence Berkeley National Laboratory reports on some of the results of modeling being conducted by the researchers for EPA's comprehensive study of the impacts of HF on drinking water, focusing on the potential for injection-induced fault reactivation and notable seismic events associated with HF operations.³⁰ The paper concluded that the possibility of hydraulically induced fractures at great depths causing activation of faults and creation of a new flow path that can reach shallow groundwater resources is remote.³¹

These conclusions are not confined to the U.S. Other governmental studies across the world have likewise concluded and continue to conclude that the HF process poses little risk to human health or the environment.³²

²⁸ Flewelling et al., "Hydraulic fracturing height limits and fault interactions in tight oil and gas formations," *Geophysical Research Letters* (Jul. 26, 2013), available at <http://onlinelibrary.wiley.com/doi/10.1002/grl.50707/abstract>.

²⁹ *Id.* at 4.

³⁰ Rutqvist, J., et al., "Modeling of fault reactivation and induced seismicity during hydraulic fracturing of shale-gas reservoirs" *Journal of Petroleum Science and Engineering* (2013), available at <http://dx.doi.org/10.1016/j.petrol.2013.04.023>.

³¹ *Id.*

³² For example, the Energy and Climate Change Committee appointed by the British House of Commons concluded in May 2011 that hydraulic fracturing itself does not pose a direct risk to water aquifers, provided that the well-casing is intact before this commences. United Kingdom Parliament, House of Commons, Energy and Climate Change Committee, *Fifth Report: Shale Gas* (May 10, 2011), available at <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmenergy/795/79502.htm>. In addition, the UK Royal Society, the Council for the Taranaki Region in New Zealand, the New Zealand Parliamentary Commissioner for the Environment, and the South African Department of Mineral Resources all completed comprehensive studies on HF in 2012 finding a lack of risk to freshwater aquifers from properly conducted HF operations. The Royal Society, Royal Academy of Engineering, *Shale gas extraction in the UK: a review of hydraulic fracturing*, 33 (June 2012), available at <http://royalsociety.org/policy/projects/shale-gas-extraction/report/>; Government of New Zealand Taranaki Regional Council, *Hydrogeologic Risk Assessment of Hydraulic Fracturing for Gas Recovery in the Taranaki Region* (May 2012), available at <http://www.trc.govt.nz/assets/Publications/guidelines-procedures-and-publications/hydraulic-fracturing/hf-may2012-graph-p19.pdf>; Government of New Zealand, Parliamentary Commissioner for the Environment, *Evaluating the environmental impacts of fracking in New Zealand: An interim report* (Nov. 2012), available at <http://www.pce.parliament.nz/publications/all-publications/evaluating-the-environmental-impacts-of-fracking-in-new-zealand-an-interim-report/>; Republic of South Africa, Department of Mineral Resources, *Investigation of Hydraulic Fracturing in the Karoo Basin of South Africa* (July 2012), available at <http://www.info.gov.za/view/DownloadFileAction?id=174015>.

Recent field results are entirely consistent with the conclusions of these reports. For example, an October 2012 report regarding HF operations in the Inglewood Oil Field in the Baldwin Hills area of Los Angeles County showed that, based on actual groundwater monitoring results, the groundwater quality in the area was not affected by HF activities.³³ Moreover, microseismic monitoring showed that most of the fractures were contained within the target formation, and that the few fractures that were outside the target formation did not contain any proppant and therefore would have closed back up once the HF operation was completed.³⁴

As would be expected in light of these numerous studies, since the time of our initial comments federal and state officials have continued to affirm that there is no evidence that HF operations have resulted in an instance of groundwater contamination from HF operations. For example, the U.S. Government Accountability Office (“GAO”) published a report in September 2012 with statements by regulatory officials from a number of states -- including Arkansas, Colorado, Louisiana, North Dakota, Ohio, Oklahoma, Pennsylvania and Texas -- again confirming that, based on state investigations, the HF process had not been identified as a cause of groundwater contamination in their states.³⁵ BLM itself has acknowledged that this is the case.³⁶

In fact, a broad spectrum of experts agrees that the potential risks associated with shale gas development that warrant the most attention do *not* include risks related to HF. Resources for the Future issued a report in February 2013 setting forth the results of a survey of 215 experts from state and federal regulatory agencies, academia, non-governmental organizations and industry regarding the “priority environmental risks related to shale gas development.”³⁷ The experts were asked to identify priorities from among 264 potential “risk pathways” for both routine operations and accidents. The report states that “almost every priority routine pathway that garnered broad attention from experts has to do with risks present in most drilling operations or with the disposal of waste produced by fracturing, not with the actual hydraulic fracturing process itself.”³⁸ The report further states that with respect to “pathways involved with the fracturing process and its effect on groundwater, only the flowback of reservoir fluids breaks any groups’ top 20 most selected pathways.”³⁹ As for accidents, the report indicates that all groups (regulators, academia, NGOs and industry) shared the same top

³³ See Halliburton, *Inglewood Oil Field Hydraulic Fracturing Report* (July 13, 2012) at 115, available at <http://www.inglewoodoilfield.com/fracturing-study>.

³⁴ Cardno Entrix, *Hydraulic Fracturing Study: PXP Inglewood Oil Field* (Oct. 2012), available at <http://www.inglewoodoilfield.com/mwg-internal/de5fs23hu73ds/progress?id=XnQQZo9P6v>.

³⁵ U.S. Government Accountability Office, *Information on Shale Resources, Development and Environmental and Public Health Risks* (Sept. 2012), at 49, available at <http://www.gao.gov/assets/650/647791.pdf>.

³⁶ *Environmental Assessment U.S. Department of the Interior Bureau of Land Management Proposed Hydraulic Fracturing Rule*, DOI-BLM-WO300-2012-XXX-EA (May 24, 2013), at 17, available at <http://www.regulations.gov/#!documentDetail;D=BLM-2013-0002-0003>; *Challenges Facing Domestic Oil and Gas Development: Review of Bureau of Land Management/U.S. Forest Service Ban on Horizontal Drilling on Federal Lands*: Hearing before the Subcomm. on Energy and Mineral Resources of the H. Comm. on Natural Resources and the Subcomm. on Conservation, Energy and Forestry of the H. Comm. on Agriculture, 112th Cong. (July 8, 2011).

³⁷ Resources for the Future, *Pathways to Dialogue: What the Experts Say about the Environmental Risks of Shale Gas Development* (Feb. 2013), at 1, available at http://www.rff.org/centers/energy_economics_and_policy/Pages/Shale-Gas-Expert-Survey.aspx.

³⁸ *Id.* at 26.

³⁹ *Id.*

two priorities, *i.e.*, casing failure and cementing failure.⁴⁰ In short, those most knowledgeable about the actual risks posed by shale development -- including those affiliated with NGOs -- do not view the hydraulic fracturing process as a primary concern.

Most recently, during a May 23, 2013 forum on shale development convened by the Senate Committee on Energy and Natural Resources, Chairman Wyden invited the participants to address the question of whether HF has ever caused contamination of a drinking water aquifer.⁴¹ In the weeks following the hearing, many industry members, non-governmental organizations, and state agencies submitted materials on this issue.⁴² HESI, which participated in the forum, provided its own submission in which we discussed the lack of evidence that the HF process has ever caused groundwater contamination of drinking water aquifers and provided responses to alleged instances of contamination that in reality are not the result of HF.⁴³

HESI has reviewed the submissions by other forum participants and determined that no participant was able to identify a confirmed incident of groundwater contamination from the HF process. In a joint response, the Sierra Club and NRDC stated that contamination of drinking water is caused by “multiple steps in the extraction process, including steps of the hydraulic fracturing process” involving “improper well siting, poor well design and construction, leaks in wells and waste pits, spills of hydraulic fracturing chemicals and waste, fracturing operations that were inappropriately conducted near an improperly plugged abandoned well, fractures that grew out of zone, or a combination of these causes.”⁴⁴ However, the response did not provide a confirmed incident of contamination of groundwater with HF fluids as a result of the HF process.⁴⁵ Most of the other incidents cited by Sierra Club and NRDC involved methane migration or contamination that allegedly resulted from other aspects of the well development process.⁴⁶ The inability to cite to an example of proven contamination of groundwater from HF despite the use of the process in over a million wells serves as further evidence that the process poses no risk to groundwater. Therefore BLM does not need to require companies to disclose the chemical make-up of HF fluids used in properly constructed wells because these HF fluids do not pose a risk to groundwater or drinking water resources.

⁴⁰ *Id.* at 36.

⁴¹ U.S. Senate Committee on Energy and Natural Resources, “*Shale Development: Best Practices and Environmental Concerns*” (May 23, 2013), available at <http://www.energy.senate.gov/public/index.cfm/hearings-and-business-meetings?ID=a641990d-cc27-4690-92ac-c282df9cda60>.

⁴² *Id.*

⁴³ HESI’s submission is available at http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=5ad445b6-7583-43e0-a5d8-12e127b07dcc.

⁴⁴ Natural Resources Defense Council and Sierra Club’s Response to Question from Senator Landrieu Regarding Water Contamination, 1 (June 5, 2013), available at <http://www.energy.senate.gov/public/index.cfm/hearings-and-business-meetings?ID=a641990d-cc27-4690-92ac-c282df9cda60>.

⁴⁵ The groups cited EPA’s draft study report regarding its investigation of groundwater quality issues in the Pavillion, Wyoming area, but acknowledged that it is a preliminary report and that no final conclusion has been reached. *Id.* at 5.

⁴⁶ *Id.* at 6-11.

B. BLM Has Not Demonstrated that the Disclosure Rules Are Needed In Light of Continued and Increased Sophistication of State Regulatory Programs

Despite the lack of risk to groundwater from HF activities, the states have heeded the public's desire for a greater level of transparency regarding the fluids used in HF operations by developing rules governing the disclosure of chemicals found in fracturing fluids. This has resulted in sophisticated state regulatory programs addressing HF practices across the country. HESI's prior comments gave an overview of the regulations in Colorado, Montana, New Mexico, North Dakota, and Wyoming, demonstrating that the states were well into the process of adequately regulating the recent increase in oil and gas exploration and production, and specifically the practice of HF.

Since the submittal of HESI's previous comments, even more states have enacted laws or regulations specifically addressing HF operations, including disclosure requirements. For example, Utah adopted new HF disclosure rules on October 24, 2012 that require the disclosure of the amount and type of chemicals used in an HF operation to FracFocus within 60 days of completion of the well.⁴⁷ South Dakota and Mississippi also adopted HF disclosure rules in March 2013 that include reporting of chemical constituents to FracFocus.⁴⁸ Most recently, Tennessee's newly adopted HF disclosure rules became effective on June 18, 2013 and the Alabama Oil and Gas Board adopted HF disclosure requirements on August 1, 2013.⁴⁹ Both Tennessee's and Alabama's rules also require reporting to FracFocus and provide for trade secret protection.

In addition, many other states, such as Kansas, are in the process of adopting HF disclosure regulations.⁵⁰ Moreover, there is widespread voluntary disclosure of HF chemical information in states that are still considering disclosure regulations, such as California, where 80% of operators in the state have agreed to voluntarily disclose information to FracFocus.⁵¹ Finally, states that already had robust regulations in place at the time of the prior rule proposal have since adopted rules to improve their regulatory programs, including Colorado and Texas.⁵² In fact, the only states with producing BLM leases that do not already have HF disclosure requirements in place or are not currently in the process of considering HF disclosure

⁴⁷ Utah Admin. Code § 649-3-39.

⁴⁸ S.D. Codified Laws § 45-9; Mississippi Statewide Rules and Regulations Rule 26.

⁴⁹ Tenn. Comp. R. & Regs. § 0400-53-01.03; Ala. Admin. Code § 400-1-9-.04(7).

⁵⁰ See proposed Kan. Admin. R. § 82-3-1401.

⁵¹ Los Angeles Times, *Firms step up fracking disclosure; activists want it banned* (May 15, 2012). Voluntary initiatives such as these are supplemented by HF fluid chemical information that is disclosed on individual company websites, such as HESI's, which contains extensive information about the chemicals that are present in HESI's HF fluids and the purpose for which each chemical is used.

⁵² The Colorado Oil and Gas Conservation Commission adopted revisions to its oil and gas rules in early 2013 that addressed setback provisions and groundwater testing. See 2 CCR 404-1 §§ 303, 306, 609. The Texas Railroad Commission adopted updated oil and gas requirements in May 2013 that address drilling, casing, cementing, and HF stimulation. See 16 Tex. Admin. Code § 3.13.

requirements are Virginia and Kentucky, states with only 14 and 53 producing BLM leases respectively.⁵³

The current and to-be-adopted state HF disclosure requirements are sufficient to provide the public with adequate information regarding the chemical make-up of HF fluids. In light of these state programs, the proposed disclosure provisions are not needed because they will not serve to provide any additional protection of human health or the environment. BLM acknowledges that this is the case with respect to the states that allow FracFocus reporting to satisfy fracturing fluid disclosure obligations, stating that the proposed rule would “encourage efficiency in the collection of data and the reporting of information by proposing to allow operators in States that require disclosure on FracFocus to meet both the State and the BLM requirements through a single submission to FracFocus.”⁵⁴

In short, there is a lack of risk to groundwater when HF operations occur in a properly constructed well. HESI agrees with BLM that the potential impacts of HF can be mitigated by taking steps to “ensure wellbore integrity and to control the handling of flowback water.”⁵⁵ With no evidence of risk to human health or the environment from the HF process itself, it follows that HF disclosure requirements would only be adopted to offer the public added transparency. HESI’s comments also demonstrate that states with producing BLM leases have already adopted or are in the process of considering HF disclosure requirements. These state programs are supplemented by industry efforts to voluntarily provide HF chemical information on FracFocus and individual company websites. Therefore, BLM’s HF disclosure requirements are not necessary to protect human health or the environment, and would not even provide the public with additional transparency due to state and industry actions. For these reasons, BLM has not demonstrated a need for the HF disclosure provisions.

III. To the Extent that BLM Proceeds With Requiring Public Disclosure of HF Information, HESI Supports Aspects of the Revised Proposal

Even though HESI believes that the disclosure requirements are unnecessary, HESI appreciates the steps that BLM has taken thus far to improve the proposed disclosure provisions. Specifically, HESI supports the proposed option to publicly disclose HF chemical information via FracFocus, which HESI believes provides an appropriate balance between disclosure and protection of trade secrets. HESI appreciates BLM’s acknowledgment that FracFocus represents an appropriate vehicle for disclosure concerning stimulation fluids.

FracFocus has been very successful in providing transparency regarding fracturing fluids. FracFocus now has almost 600 participating companies that have submitted information regarding over 50,000 HF jobs in 23 states.⁵⁶ The website has been visited by almost half a million people from over 134 countries. As stated in its prior comments, HESI

⁵³ BLM, *Number of Producing Leases on Federal Lands* (Dec. 5, 2012), available at http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/statistics.html (Table 6). It is unclear how many of these leases might be hydraulically fractured wells and therefore would be subject to the proposed rules.

⁵⁴ 78 Fed. Reg. at 31640.

⁵⁵ *Id.* at 31644.

⁵⁶ In the preamble, BLM estimates that FracFocus contains data from only 12 states; however, as of August 2013 FracFocus contains records from 23 states. *See id.* at 31640.

believes that FracFocus represents the best way to harmonize BLM's regulatory requirements with the regulations of the states.

In addition, BLM has proposed to "allow operators in States that require disclosure on FracFocus to meet both the State and the BLM requirements through a single submission to FracFocus."⁵⁷ HESI appreciates BLM's efforts to reduce the potential for duplicative reporting, as FracFocus is not set up to support dual submissions for a single HF operation. Moreover, this type of duplicative reporting would likely be confusing and unhelpful to the public.

HESI also appreciates BLM's stated intent to provide full trade secret protection by allowing trade secret information to be withheld from disclosure to BLM or FracFocus. BLM has said the revised regulations would "instruct operators not to disclose trade secret information to the BLM or on FracFocus."⁵⁸ As described in HESI's prior comments, trade secret protection is of critical importance to HESI and other service companies, and the ability to withhold trade secret information from disclosure except when specifically requested by BLM would provide service companies with greater incentives to use their latest, most effective, most environmentally beneficial products -- which are also their most proprietary products -- in hydraulically fracturing wells on BLM leases. HESI therefore fully supports this revision to the proposed rules.

IV. BLM Must Revise or Clarify Portions of the Proposed Rules to Reduce Inconsistencies With State Chemical Disclosure Requirements and Provide Adequate Trade Secret Protection

While HESI recognizes that BLM has taken steps to make the disclosure provisions more consistent with existing state rules to strengthen protections for trade secrets, HESI believes that the actual language of the revised proposal will not achieve these goals and will instead impede oil and gas development. Although BLM's stated intent is to provide trade secret protection consistent with disclosure regulations in states like Colorado, the revised rule proposal departs from the Colorado model in critical respects that severely undermine the utility of the trade secret protections offered. HESI offers the following suggestions for revisions to the proposed disclosure provisions that will provide the trade secret protection and consistency with state requirements that BLM is attempting to achieve.

A. BLM Needs to Revise Portions of the Proposed Trade Secret Provisions to Provide Adequate Trade Secret Protection for HF Information

To provide adequate trade secret protection, BLM must make certain revisions to the proposed trade secret regulatory language. First, BLM needs to clarify in the rules that trade secret information may be withheld from disclosure. While BLM states clearly several times in the preamble that operators should withhold information claimed to be trade secrets from disclosure,⁵⁹ as currently drafted the revised proposed rules do not explicitly state that trade

⁵⁷ *Id.* at 31640.

⁵⁸ *Id.* at 31643.

⁵⁹ *See, e.g., id.*

secret information may be withheld from disclosure when an affidavit supporting a trade secret claim is submitted to BLM. The proposed rules only implicitly authorize withholding of information by referring to “information required in paragraph (i)(1) of this section that the operator claims to be exempt from public disclosure.”⁶⁰ BLM should revise the provision to clarify that trade secret information may be withheld from public disclosure so that BLM’s intention is clear on the face of the regulations.

In addition -- and most critically -- BLM needs to revise the proposed regulations to provide trade secret protection directly to service companies and chemical suppliers. As currently drafted, BLM limits the trade secret protection provisions to the operator. In the preamble, BLM acknowledges prior comments that operators should not be responsible for asserting the trade secret claims of product vendors and service providers, but rejects these comments on the grounds that operators are “responsible for all operations on their well sites and for compliance with all of the BLM’s operating and reporting regulations.”⁶¹

HESI strongly urges BLM to reconsider its position because this limitation effectively eliminates trade secret protection for the vast majority of the companies that need it -- the service companies and vendors -- rendering any trade secret protection illusory. Service companies like HESI (and the chemical suppliers they work with) are predominantly the holders of HF trade secret information because they are typically the ones to develop the innovative technologies and formulas used in the process. If trade secret protection were limited to operators, HESI and other service companies would only be able to claim such protection by providing their proprietary information to operators. This is contrary to how the oil and gas industry operates, as operators are typically not privy to this type of confidential trade secret information. Furthermore, service companies are often prohibited from disclosing trade secret information to operators pursuant to non-disclosure agreements entered into between service companies and their chemical suppliers.

Even if service companies and suppliers were able to share trade secret information with operators, the proposed trade secret claim provisions would make this unworkable in most instances. As currently drafted, the trade secret claim provisions would require a showing that “release of the information would likely harm the *operator’s* competitive position.”⁶² The public disclosure of trade secrets that belong to a service company would not typically harm the competitive position of the operator, so operators would be unable to defend the trade secret claims of service companies and chemical suppliers even if they wanted to. Under these circumstances, trade secret protection would essentially be unavailable to service companies and chemical suppliers.

For these reasons, no state that has adopted HF chemical disclosure requirements has limited trade secret protection to operators; these states (such as Colorado and Wyoming) have instead extended that protection directly to service companies. State regulations such as Colorado’s typically require operators to submit the chemical disclosure information to FracFocus, but allow operators, service companies, and chemical suppliers to withhold trade

⁶⁰ *Id.* at 31677 (proposed 43 C.F.R. § 3612.3-3(j)(1)).

⁶¹ *Id.* at 31660.

⁶² *Id.* at 31677 (proposed 40 C.F.R. § 3162.3-3(j)(1)(iv)).

secret information from disclosure and submit a claim of trade secret protection.⁶³ For example, Colorado's relevant rule language is as follows:

If the **vendor, service provider, or operator** claim that the specific identity of a chemical, the concentration of a chemical, or both the specific identity and concentration of a chemical is/are claimed to be a trade secret, the **operator** of the well must so indicate on the chemical disclosure registry form and, as applicable, **the vendor, service provider, or operator** shall submit to the Director a Form 41 claim of entitlement to have the specific identity of a chemical, the concentration of a chemical, or both withheld as a trade secret. The **operator** must nonetheless disclose all information required under subsection 205A.b.(2)(A) that is not claimed to be a trade secret. If a chemical is claimed to be a trade secret, the operator must also include in the chemical registry form the chemical family name or other similar descriptor associated with such chemical.

These states have allowed service companies and vendors to make direct claims of confidentiality even though -- like BLM's -- their regulatory regimes are premised on obligations being placed in the first instance on operators.

In the absence of these changes, service companies will have little incentive to use proprietary products in their HF operations. As discussed in HESI's prior comments, proprietary products used in HF operations are typically the most advanced and offer the greatest production efficiency and environmental benefits. If these products cannot be used, producers -- and U.S. consumers -- will not be able to reap the benefits of enhanced production and environmental advancements.

In short, limiting trade secret protection to an operator would only serve to impede oil and gas development without providing any additional protection to human health or the environment. Furthermore, it would be inconsistent with state disclosure requirements, which uniformly offer service companies and suppliers trade secret protection because the states recognize that these are the holders of the vast majority of trade secret information.

Consistent with these points, BLM also needs to revise other portions of the trade secret provisions to apply them to service companies and chemical suppliers. Because service companies and chemical suppliers are predominantly the holders of trade secret information, the provisions that allow BLM to require disclosure to the Bureau of trade secret information, require BLM to give notice to a company before disclosing information claimed to be a trade secret to the public, and require companies to retain trade secret records should also not be limited to operators. For example, it makes little sense to require that operators retain records of trade secret information when it is the service companies and chemical suppliers that will have the relevant records. Instead, these provisions should be keyed to the company that made the

⁶³ See 2 CCR 404-1 § 205A(b)(2)(B) (emphasis added).

trade secret exemption claim, eliminating burden and confusion and providing appropriate trade secret protection.

Finally, BLM needs to eliminate the provision that requires the identification of a federal statute or regulation that allows withholding of trade secret information because this provision is unworkable. This is because there is no federal statute or regulation that allows a private company to withhold information otherwise subject to reporting requirements from public disclosure because it is a trade secret. BLM refers to the “Federal Trade Secrets Act,” 18 U.S.C. § 1905, which it says “makes it a crime for any Federal employee to make an unauthorized disclosure of a trade secret.”⁶⁴ However, neither this federal statutory provision nor the Freedom of Information Act authorizes private companies to withhold trade secret information from disclosure; they relate to trade secret information that is in fact submitted to an agency.⁶⁵ The federal authorization for withholding trade secret information would be the BLM regulation itself, so trade secret claimants would only be able to refer to the BLM provision. Because this requirement does not make sense or serve any purpose, it should be eliminated.

Accordingly, BLM should amend proposed Section 3162.3-3(j) as follows:

(1) For the information required in paragraph (i)(1) of this section, the operator, service company, or chemical supplier will be deemed to have waived any right to protect from public disclosure information submitted with a Subsequent Report Sundry Notice or through FracFocus or another designated database. The operator, service company, or chemical supplier may withhold from public disclosure any of the information required in paragraph (i)(1) of this section that is claimed to be exempt from public disclosure as a trade secret. For information required in paragraph (i)(1) of this section that the operator, service company, or chemical supplier claims to be exempt from public disclosure, the operator, service company, or chemical supplier as applicable must submit to BLM an affidavit that:

- ~~(i) Identifies the Federal statute or regulation that allows the withholding of the information from the BLM or prohibits the BLM from disclosing the information if it were in the BLM’s possession;~~
- (ii) Affirms that the information is not publicly available;
- (iii) Affirms that the information is not required to be publicly available under any applicable law;
- ~~(iii)~~ (iv) Affirms that the release of the information would likely harm the ~~operator’s~~ competitive position of the person claiming the exemption; and
- (iv) Affirms that the information is not readily apparent through reverse engineering.

⁶⁴ 78 Fed. Reg. at 31669.

⁶⁵ See 5 U.S.C. § 552.

(2) The BLM may require ~~any operator~~ the claimant to disclose to the BLM any information claimed to be exempt from public disclosure, along with any other relevant information.

(3) If the BLM determines that the information is not exempt from disclosure, the BLM will make the information available to the public after providing the ~~operator~~ person who claimed the exemption with no fewer than 10 business days' notice of the BLM's determination.

(4) The ~~operator~~ person who claimed the exemption must maintain records of the information claimed to be exempt from disclosure for the period of time as required by section 3162.4-1(d) of this title.

B. BLM Needs to Clarify Portions of the Chemical Disclosure Provisions to Ensure Adequate Trade Secret Protection and Consistency with State Requirements

In addition to its concerns about the trade secret provisions of the revised rules, HESI is also concerned that the provisions regarding fracturing fluid information that must be disclosed remain inconsistent with state requirements, threaten trade secrets and are overly burdensome. First, BLM's disclosure provisions should only apply to chemicals that are *intentionally added* to the base fluid. As currently drafted, BLM is proposing to require public disclosure for each "chemical used."⁶⁶ In its prior comments, HESI explained that by not limiting disclosure to "intentionally added" chemicals, BLM would be requiring operators to sample and analyze all additives used in fracturing a well and report trace impurities. This would result in increased costs for oil and gas development and would not result in added protection to human health or the environment or even added transparency regarding the chemical make-up of HF fluids.

BLM has responded in the preamble to prior comments such as HESI's and indicated that it will not specify that only intentionally added chemicals are required to be disclosed.⁶⁷ BLM's stated reason for rejecting this argument is that it needs the information to ensure public safety and environmental protection.⁶⁸ However, this reasoning fails to address the unworkability of this requirement and the fact that this information would not provide added public safety or environmental protection. For these reasons, no state requires this level of detail to be reported (nor is such testing and reporting even required for foods or other consumer products).

HESI also has concerns that the rule's disclosure provisions could require trade secret information to be publicly reported, which HESI does not believe is BLM's intent. In particular, BLM needs to revise the disclosure provisions to clarify that operators are not required to report chemical ingredients on a FracFocus form based on the additives in which they are found. As currently drafted, BLM's requirements could be read as requiring chemical ingredients to be linked to the relevant additive product rather than disclosed in aggregate form

⁶⁶ 78 Fed. Reg. at 31676 (proposed 43 CFR § 3612.3-3(i)(1)).

⁶⁷ *Id.* at 31658.

⁶⁸ *Id.*

without tying an ingredient to a particular additive. This is not consistent with the intent of FracFocus. The FracFocus form was originally set up to accommodate reporting of ingredients included on Material Safety Data Sheets (“MSDSs”) for products used in formulating fracturing fluids. Linking these “MSDS-level” ingredients with the additives in which they are found does not raise trade secret concerns because the ingredients are publicly reported that way on MSDSs. However, there has never been an expectation that ingredients that are not reported in MSDSs would be tied to particular additives on the FracFocus form. Listing all ingredients this way would provide a complete list of ingredients in a particular additive, which would be tantamount to providing the formula for a product given the ability of knowledgeable competitors to “reverse engineer” formulas based on partial composition information. For this reason, states such as Colorado have allowed reporting of ingredients on an aggregated basis, and HESI and other service companies provide information to operators in this way for posting on FracFocus.⁶⁹

For the same reasons, BLM needs to revise the proposed disclosure provisions to clarify that the maximum concentration of a chemical ingredient in an additive is not required to be publicly disclosed. Again, FracFocus was originally set up to accommodate reporting of MSDS-level ingredients, and it has never been the expectation that maximum concentrations of non-MSDS ingredients in an additive would be reported for all constituents. A requirement to do so would force the public disclosure of trade secret information. No state currently requires this level of detail to be publicly disclosed. Instead, states require reporting of the maximum ingredient concentration in the *HF fluid*, which provides the public with sufficient information about the chemical make-up of the HF fluid used in a given well.

BLM also needs to clarify some aspects of its disclosure regulations that currently have the potential to create confusion. HESI believes that BLM misused the word “chemical” in the disclosure provisions and instead intends to require disclosure of certain information associated with an “additive.” As currently drafted, the proposed regulations would require disclosure of the following: “for each *chemical* used (including base fluid) the trade name, supplier, purpose, ingredients.”⁷⁰ This language does not make sense because chemicals do not have trade names, purposes, or ingredients. Therefore, HESI believes that BLM instead means to refer to an *additive’s* trade name, supplier, purpose, and ingredients. HESI has proposed language below to address this error.

Finally, the requirement that the operator must provide CAS numbers for *all* chemicals is unworkable as written. BLM states in the preamble that it has considered this point but did not change the proposed rule language because “the information required is important to its overall goal of ensuring public safety and environmental protection.”⁷¹ However, this response does not make sense, as some chemicals lack CAS numbers and so the information that would be required to be reported simply does not exist. Requiring the reporting of nonexistent information does not ensure public safety and environmental protection. Therefore HESI

⁶⁹ An example of the reporting format used by HESI is attached. This form of reporting is consistent with all current state requirements.

⁷⁰ 78 Fed. Reg. at 31676.

⁷¹ *Id.* at 31658.

suggests that BLM resolve this issue by following state regulatory approaches, which typically require the disclosure of a “Chemical Abstracts Service Registry Number, **as applicable.**”⁷²

Accordingly, BLM should amend proposed Section 3162.3-3(i)(1) as follows:

(1) The true vertical depth of the well;⁷² total water volume used;⁷³ ~~and for each chemical additive used (including base fluid) the trade name, supplier, and purpose;~~ and for each chemical intentionally added to the hydraulic fracturing fluid ingredients, the Chemical Abstract Service Number (CAS #) if applicable, maximum ingredient concentration in additive (% by mass), and maximum ingredient concentration in hydraulic fracturing fluid (% by mass).

C. BLM Needs to Revise the Definition of Hydraulic Fracturing

BLM should revise the definition of “hydraulic fracturing” proposed in Section 3160.0-5 to include the concept of pressure as the mechanism used to fracture the formation. Including this concept in the definition provides a more accurate representation of the HF process and is consistent with other regulatory definitions of HF. For example, the U.S. Environmental Protection Agency’s New Source Performance Standards for the Crude Oil and Natural Gas Production, Transmission and Distribution sector define “hydraulic fracturing” to include the concept of “directing pressurized fluids.”⁷³ In addition, Colorado’s oil and gas regulations define “hydraulic fracturing treatment” as “all stages of the treatment of a well by the **application of hydraulic fracturing fluid under pressure** that is expressly designed to initiate or propagate fractures in a target geologic formation to enhance production of oil and natural gas.”⁷⁴

BLM’s definition of “hydraulic fracturing” similarly needs to mention the concept of the application of fluids by pressure to fracture the formation. Accordingly, BLM should amend proposed Section 3160.0-5 as follows:

Hydraulic fracturing means those operations conducted in an individual wellbore designed to increase the flow of hydrocarbons from the rock formation to the wellbore through modifying the permeability of reservoir rock by fracturing it applying fluids under pressure to initiate or propagate fractures in the formation. Hydraulic fracturing does not include enhanced secondary recovery such as water flooding, tertiary recovery, recovery through steam injection, or other types of well stimulation operations such as acidizing.

⁷² See 2 CCR 404-1 § 205A(b)(2)(A)(xii) (emphasis added).

⁷³ 40 C.F.R. § 60.5430.

⁷⁴ 2 CCR 404-1 § 200 (emphasis added).

D. Compliance with State Disclosure Rules Should be Deemed Compliance with BLM Rules

BLM has requested comment on whether compliance with state disclosure rules should be deemed compliance with BLM rules where state rules meet or exceed BLM standards.⁷⁵ HESI fully supports this suggested approach because it would provide a streamlined means of compliance and solve the issue of regulated entities potentially having to juggle duplicate reporting under state and federal requirements. Moreover, it would achieve BLM's goal of maintaining consistency with state requirements and provide the public with the transparency about the chemical make-up of HF fluids. BLM should provide further guidance regarding how state compliance with BLM disclosure standards would be determined.

V. Conclusion

For the reasons outlined above, BLM has not identified a need for the proposed disclosure provisions in light of the lack of harm to human health or the environment from the HF process and the existing state programs that provide adequate public transparency. At the same time, HESI believes that key aspects of the proposed disclosure and trade secret protection provisions are burdensome or inadequate to protect trade secret information and will result in significant negative consequences for oil and gas development and for service companies without providing additional protection to human health or the environment. Accordingly, BLM should reconsider the need for the disclosure provisions. If the Bureau nevertheless proceeds to finalize the provisions, BLM should modify them to make the requirements more consistent with state reporting schemes and provide adequate trade secret protection.

Again, HESI appreciates the opportunity to submit these comments on such an important issue, and respectfully requests that BLM consider its comments when revising the proposed regulations.

⁷⁵ 78 Fed. Reg. at 31640.

Example of a hydraulic fluid product component information disclosure report to operators if HESI's Proposed Language for 43 CFR § 3162.3-3(j), (i)(1) is adopted:

Fracture Date	XX/XX/20XX
State:	STATE
County:	COUNTY
API Number:	xxxxxxxxxx
Operator Name:	OPERATOR
Well Name and Number:	XXXXXX
Longitude:	XXXXXXXXXX
Latitude:	XXXXXXXXXX
Long/Lat Projection:	XXXXXXXXXX
Production Type:	Oil
True Vertical Depth (TVD):	6,000
Total Water Volume (gal)*:	600,000

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS#)	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
4% KCl Water	Operator	Base Fluid			78.054	
CERAMIC PROP PLUS	Halliburton	Proppant				
CL-31 Crosslinker	Halliburton	Crosslinker				
MO-67	Halliburton	pH Control Additive				
CL-22 UC	Halliburton	Crosslinker				
CLA-WEB	Halliburton	Additive				

BE-7	Halliburton	Biocide		
LoSurf-300D	Halliburton	Non-Ionic Surfactant		
MC S-2263	Halliburton	Scale Inhibitor		
LVT-200	Operator	*3 rd Party Additive		
Scale Inhibitor LO65	Operator	Scale Inhibitor		
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker		
SP BREAKER	Halliburton	Breaker		
WG-36 GELLING AGENT	Halliburton	Gelling Agent		
BE-6 MICROBIOCIDE	Halliburton	Biocide		
		1,2,4 Trimethylbenzene	95-63-6	0.0059011
		2-Bromo-2-nitro-1,3-propanediol	52-51-7	0.0014122
		Acrylate Polymer	Confidential Business Information	0.00089935
		Aluminum Silicate	1302-76-7	20.63729
		Amine Salts	Confidential Business Information	4.77088
		Amine Salts	Confidential Business Information	4.77088
		Ammonium persulfate	7727-54-0	0.022137
		Ammonium salt	Confidential Business Information	0.025924
		Bentonite, benzyl(Hydrogenated tallow alkyl) dimethylammonium stearate complex	121888-68-4	0.0095706

	Borate salts	Confidential Business Information	0.053961
	Crystalline silica, cristobalite	14464-46-1	5.6185
	Crystalline silica, quartz	14808-60-7	0.0024914
	Cured Acrylic Resin	Confidential Business Information	0.0073144
	Diatomaceous earth	61790-53-2	6.19119
	Ethanol	64-17-5	0.035615
	Formaldehyde	50-00-0	0.020637
	Guar gum	9000-30-0	0.17371
	Heavy aromatic petroleum naphtha	64742-94-5	0.017801
	Hexamethylenetetramine	100-97-0	0.0020637
	Iron Oxide	1309-37-1	1.03186
	Mullite	1302-93-8	18.728
	Naphthalene	91.20.3	0.0029732
	Oxyalkylated Phenolic Resin	Confidential Business Information	0.0065392
	Phenol	108-95-2	0.20637
	Phenol/formaldehyde resin	9003-35-4	1.0319
	Phosphoric Acid	15827-60-8	0.0050235
	Poly(oxy-1,2-ethanediyl), alpha-4-nonylphenyl-omega-hydroxy-branched	127087-87-0	0.0029759
	Potassium formate	590-29-4	0.048971
	Potassium hydroxide	1310-58-3	0.0018734

	Potassium metaborate	13709-94-9	0.022426
	Quaternary Amine	Confidential Business Information	0.0023854
	Quaternary Amine	Confidential Business Information	0.00047709
	Quaternary Amine	Confidential Business Information	4.77088
	Silica, amorphous – fumed	7631-86-9	5.6185
	Silica Gel	112926-00-8	0.0019141
	Sodium carboxymethyl cellulose	9004-32-4	0.00089935
	Sodium chloride	7647-14-5	0.0043558
	Sodium glycollate	2836-32-0	0.000089935
	Sodium hydrochlorite	7681-52-9	0.0074438
	Sodium hydroxide	1310-73-2	0.029668
	Sodium persulfate	7775-27-1	0.0025122
	Sodium sulfate	7757-82-6	2.7627
	*Supplied by Operator	NA	0.058951
	*Supplied by Operator	NA	0.046011
	Surfactant Mixture	Confidential Business Information	0.0019141
	Surfactant Mixture	Confidential Business Information	0.0019141
	Titanium dioxide	13463-67-7	1.0319
	Water	7732-18-5	0.21474