

BLM Releases Final Hydraulic Fracturing Regulations

On March 20, 2015, the U.S. Interior Department's Bureau of Land Management (BLM) released a much-anticipated final rule regulating hydraulic fracturing activities on Federal and Indian lands. The final rule includes new well-bore integrity requirements, imposes standards for interim storage of recovered waste fluids, and requires notifications and waiting periods for key parts of the fracturing process, which could lead to delays in fracturing and/or drilling operations. The rule also mandates disclosure of the chemicals used in the process, which can be done via the industry-supported FracFocus website. The rule will take effect 90 days after it is eventually published in the Federal Register.

Background

BLM reviews and approves permits and licenses from companies to explore, develop, and produce energy on the 700 million sub-surface acres of mineral estate under Federal and Indian lands. As a result, BLM currently regulates roughly 6 percent of domestic onshore oil production and 13 percent of onshore natural gas production. There are more than 100,000 existing oil and gas wells on federally-managed lands—over 90 percent of which employ hydraulic fracturing techniques. BLM estimates that the new rule will impact about 2,800 hydraulic fracturing operations per year, but that it could impact up to 3,800 operations per year based on previous levels of activity on Federal lands and growing activity on Indian lands.

The new rule is the first revision to BLM's hydraulic fracturing regulations since 1988. The agency unveiled its first proposal to update these rules on May 4, 2012.¹ In the three years since then, the agency has reviewed a total of more than 1.5 million public comments and revised the rule several times. BLM withdrew its 2012 proposal after receiving an extraordinary large (177,000) number of public comments and heavy opposition from industry members who criticized the proposal as unnecessarily onerous and duplicative of state regulatory regimes already addressing these issues. In 2013, BLM issued a revised proposal² again focused on the same three main objectives as the 2012 proposed rule: (1) chemical disclosure, (2) well construction and cementing requirements, and (3) flowback management plans. On March 20, 2015—almost two years after the previous proposal, and nearly three years after the initial proposal—BLM issued a final rule that tracks the 2013 proposal in most respects, but also contains a few key changes.

The Final Rule

BLM Approval for Hydraulic Fracturing and Pre-Fracturing Submissions

The final rule requires operators to obtain BLM approval before beginning hydraulic fracturing activities by providing two different administrative vehicles whereby an operator may request BLM's approval for hydraulic fracturing activities—an Application for Permit to Drill (APD) and a notice of intent (NOI).³ The rule also allows operators to submit a "master hydraulic fracturing plan" for a group of wells in formations with substantially similar geologic

¹ Oil and Gas; Well Stimulation, Including Hydraulic Fracturing, on Federal and Indian Lands, 77 Fed. Reg. 27,691 (proposed May 4, 2012) (to be codified at 43 C.F.R. pt. 3160) [hereinafter 2012 Proposal].

² Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands, 78 Fed. Reg. 31,636 (proposed May 16, 2013) (to be codified at 43 C.F.R. pt. 3160) [hereinafter 2013 Proposal].

³ Oil and Gas; Well Stimulation, Including Hydraulic Fracturing, on Federal and Indian Lands, RIN 1004-AE26 (Mar. 20, 2015) (to be codified at 43 C.F.R. pt. 3160), available at http://www.blm.gov/style/medialib/blm/wo/Communications_Directorate/public_affairs/news_release_attachments.Par.6134.File.dat/HF-Final-Agency-Draft.pdf [hereinafter Final Rule], Section 3162.3-3(c).

characteristics.⁴ These operators must also obtain an approved APD for each individual well⁵ in order to satisfy other BLM requirements.⁶ For wells that are already in various stages of permitting, drilling, and completion, the rule sets forth a detailed table clarifying exactly which provisions of the rule are applicable based upon the timing of various administrative and operational milestones in relation to the final rule's effective date.⁷ Operators with wells currently in the permitting, drilling, or completion phases should carefully review this table, as well as the associated preamble text,⁸ to determine what portions of the rule apply to their operations and what specific vehicles are available to obtain BLM approval before beginning hydraulic fracturing activities.

BLM significantly narrowed the scope of its regulations in the final rule to regulate only "hydraulic fracturing." The final rule defines "hydraulic fracturing" as "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 applying fluids under pressure to fracture it."⁹ The 2012 proposed rule would also have regulated "well stimulation" to include such activities as acidization and could have been interpreted to apply to such activities as thermal stimulation and maintenance fracturing. The definition in the final rule specifically notes that "[h]ydraulic 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."¹⁰ The final rule also dropped all references to refracturing because the requirements for permitting, performing, monitoring, and reporting hydraulic fracturing operations are identical whether the well is hydraulically fractured for the first time or any subsequent stimulation.¹¹

The pre-fracturing submissions must include various types of information concerning topics such as:

- the formation: the measured or estimated depths of usable water based on a drill log from the specific well or type well, the top and bottom depths of the formation where the hydraulic fracturing fluids (or "frac fluids") will be injected, and the "confining zones;"¹²
- the fluids: the source and anticipated access route and transportation method for bringing such water to the site, anticipated volumes, and estimated fluid recovery volumes, and the proposed method for handling and disposal of recovered fluids;¹³
- wellbore information: the maximum anticipated surface pressure, wellbore trajectory, the estimated direction and length of fractures, and the locations,

⁴ Final Rule, Section 3162.3-3(c)(3); see Final Rule, at 375.

⁵ Final Rule, Section 3162.3-3(c)(3)

⁶ Final Rule, at 59.

⁷ Final Rule, Section 3162.3-3(a).

⁸ See Final Rule, at 79-82.

⁹ Final Rule, Section 3160.0-5.

¹⁰ Final Rule, Section 3160.0-5.

¹¹ Final Rule, at 61.

¹² Final Rule, Section 3162.3-3(d). BLM's definition of a "confining zone" tracks the definition used by the Environmental Protection Agency in its Underground Injection Control program. See 40 C.F.R. §146.3.

¹³ Final Rule, Section 3162.3-3(d).

trajectories, and depths of existing wellbores within a half mile of the wellbore;¹⁴ and

- seismicity: as, a map showing the location, orientation, and extent of any known or suspected faults or fractures within one-half mile (horizontal distance) of the wellbore trajectory that may transect the confining zone(s).¹⁵

Baseline Monitoring

The final rule does not require “baseline monitoring” but expresses BLM’s view that such testing and monitoring is a “best management practice.”¹⁶ BLM noted that complicated split-estate ownership issues and the wide variety of hydrogeological conditions across BLM lands would, in its view, make a broad baseline testing requirement “confusing and of limited value.”¹⁷ However, BLM reserved its authority to require baseline testing and monitoring on a case-by-case basis through two specific mechanisms—either as a “condition of approval” (COA) in a BLM drilling permit in cases where BLM also manages the surface,¹⁸ or, where BLM’s assessment of impacts to water quality as part of the National Environmental Policy Act (NEPA) process reveals that such impacts are not sufficiently addressed, as a condition to BLM’s approval for a project under NEPA.¹⁹

Fluid Storage

In addition to the information related to flowback management required in the pre-fracturing submissions described above, the final rule also imposes substantive requirements on the storage of recovered fluids. The rule requires all recovered fluids to be stored in above-ground tanks unless BLM approves storage in lined pits in advance.²⁰ This requirement differs from the 2013 proposal, which would have allowed operators to use lined pits or tanks. The above-ground tanks required under the final rule must be rigid and enclosed, covered, or netted and screened.²¹ The tanks may be vented (unless Federal, state or tribal law require vapor recovery or closed-loop systems), but may not exceed a 500-barrel (bbl) capacity unless approved in advance.²² Approval to use lined pits will only be granted in limited circumstances when the operator demonstrates that use of a tank is infeasible for environmental, public health or safety reasons.²³ The pit must also meet additional requirements—which include minimum distances from certain bodies of water, residences, schools, and businesses—as well as quality and inspection requirements.²⁴

Cementing and Construction Requirements

The final rule includes a number of provisions designed to protect “usable water” from hydraulic fracturing activities. “Usable water” is defined as underground sources of drinking water, zones used for water supply for industrial or agricultural purposes, and zones designated

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ Final Rule, at 7.

¹⁷ *Id.* at 228-29.

¹⁸ *Id.* at 34-35.

¹⁹ *Id.* at 229.

²⁰ Final Rule, Section 3162.3-3(h)(1).

²¹ *Id.*

²² *Id.*

²³ Final Rule, Section 3162.3-3(h)(1).

²⁴ Final Rule, Section 3162.3-3(h)(1).

by the state or tribe as requiring isolation or protection from oil and gas operations or water with 10,000 ppm total dissolved solids (TDS) or lower.²⁵ The final rule requires operators to isolate all usable water from mineral-bearing formations and to protect water-bearing formations from contamination.²⁶

The final rule also requires operators to monitor and record several important metrics associated with cementing operations including the flow rate, density, and pump pressure.²⁷ Operators must also submit a cement operation monitoring report “for each casing string used to isolate and protect usable water”²⁸ Cement monitoring reports must be submitted at least 48 hours prior to commencing hydraulic fracturing operations unless the authorized officer approves otherwise.²⁹ If a well was already completed pursuant to an APD that did not authorize hydraulic fracturing operations, the operator must submit documentation to demonstrate that adequate cementing was achieved no less than 48 hours before conducting hydraulic fracturing operations.³⁰ For such wells, BLM may require additional testing or verifications of cementing on a case-by-case basis before approving the hydraulic fracturing.³¹

Additionally, operators must provide documentation of adequate surface casing.³² If the casing is not cemented to the surface, the operator must also run a Cement Evaluation Log (CEL) demonstrating that there is at least 200 feet of adequately bonded cement protecting the deepest usable water zone.³³ The final rule also obligates operators who become aware that cementing is inadequate on “any well” to notify BLM within 24 hours of determining there is inadequate cement. Operators must then submit and plan to remediate the issue, obtain approval to perform the plan or other remedial actions, and document performance of the remedial actions.³⁴ Operators must also submit test results demonstrating that the remedial actions were successful at least 72 hours before starting hydraulic fracturing operations.³⁵

The rule also requires that operators perform a Mechanical Integrity Test (MIT) prior to hydraulic fracturing,³⁶ and that operators continuously monitor and record the annulus pressure.³⁷ When pressures within the annulus increase by more than 500 psi, the operator must stop hydraulic fracturing operations and determine the reasons for the increase.³⁸

Chemical Disclosure

The final rule also requires operators to disclose the liquid mixtures, or frac fluids, pumped into wells during hydraulic fracturing operations.³⁹ Frac fluids typically consist of 98

²⁵ Final Rule, Section 3160.0-5.

²⁶ Final Rule, Sections 3162.3-3(b), 3162.5-2(d).

²⁷ Final Rule, Section 3162.3-3(e)(1)(i).

²⁸ *Id.*

²⁹ *Id.*

³⁰ Final Rule, Section 3162.3-3(e)(1)(ii).

³¹ *Id.*

³² Final Rule, Section 3162.3-3(e).

³³ Final Rule, Section 3162.3-3(e)(2).

³⁴ Final Rule, Section 3162.3-3(e)(3). The rule requires operators to submit a form requesting approval, but provides that operators may request oral approval in emergency situations. See Final Rule, Section 3162.3-3(e)(3)(ii).

³⁵ *Id.*

³⁶ Final Rule, Section 3162.3-3(f)(1)-(2).

³⁷ Final Rule, Section 3162.3-3(g)(1)-(2).

³⁸ *Id.*

³⁹ Final Rule, Section 3162.3-3(i)(1).

percent to 99.5 percent water and 2 percent to 0.5 percent chemical additives.⁴⁰ Many industry members consider the exact recipe of their frac fluid to be valuable intellectual property and confidential information.

The final rule does not require operators to make disclosures until after completion of the fracturing operation⁴¹ which allows operators the flexibility to customize frac fluid composition during drilling. Submissions must be made within 30 days after the last stage of hydraulic fracturing operations on each well is complete.⁴² Operators must describe and report the base fluid and each chemical added to the hydraulic fracturing fluid, including disclosure of all additives by trade name, supplier, purpose, and Chemical Abstract Service number (CAS), and maximum ingredient concentrations.⁴³

The final rule clarifies that the industry website, FracFocus, will be the forum for public disclosure.⁴⁴ FracFocus is already used by many state regulatory regimes for these types of chemical disclosures. Operators may disclose directly to FracFocus or to BLM, who will in turn submit the reports for public disclosure via FracFocus.

The final rule allows operators to protect some trade secret information in their frac fluid formulas, but only such information exempt from public disclosure pursuant to a Federal statute or regulation that would prohibit BLM from disclosing the information if it were in BLM's possession, such as the Federal Trade Secrets Act.⁴⁵ The final rule expands the requirements of the accompanying affidavit asserting a trade secret: the operator's affidavit must identify any other entity, such as a contractor or supplier, which would be the owner of the withheld information, and must submit an affidavit from that entity providing any information upon which the operator relies in executing the operator's affidavit.⁴⁶ The operator also must affirm that it has possession of the withheld information so that BLM could have access to it upon request. A corporate officer, managing partner, or sole proprietor must then sign the operator's affidavit. Finally, the operator must maintain the withheld information for the later of: (1) BLM's approval of the final abandonment notice for the well, or (2) six years for Indian lands, and seven years for Federal lands.⁴⁷ As in the 2013 proposed rule, BLM may require the operator to provide the withheld trade secret information to the agency.⁴⁸

Duplicative Regulation and Variances

Many in the industry opposed BLM's 2012 proposal, arguing that the rules both duplicated and conflicted with pre-existing state regulations. BLM took some measures in the 2013 proposal to lessen these duplications, including reducing some of the information requirements in the revised draft to reduce the burden on operators and avoid redundancy of regulations. BLM also stated that it would enter formal agreements with the states and tribes to reduce duplication of efforts in implementing the proposed rule.

⁴⁰ U.S. Department of Energy, Modern Shale Gas Development in the United States, republished at Hydraulic Fracturing Fluids - Composition and Additives, Geology.com, *available at* <http://geology.com/energy/hydraulic-fracturing-fluids/>.

⁴¹ Final Rule, Section 3162.3-3(i).

⁴² *Id.*

⁴³ Final Rule, Section 3162.3-3(i)(1).

⁴⁴ Final Rule, Section 3162.3-3(i).

⁴⁵ *Id.*; Final Rule, at 181.

⁴⁶ *Id.*; Final Rule, Section 3162.3-3(j).

⁴⁷ Final Rule, Section 3162.3-3(j)(5).

⁴⁸ Final Rule, Section 3162.3-3(j)(3).

Under the final rule, BLM allows individual operators to request variances in writing.⁴⁹ Such requests must specify the provision for which relief is sought, explain the reason relief is needed, and identify how the operator proposes to “satisfy the objectives of the regulation for which the variance is being requested.”⁵⁰ State or Indian variances are also available, and will depend on formal agreements between the “involved agency” and BLM.⁵¹ While BLM does not provide for statewide exemptions from the entire hydraulic fracturing rule, variances may be granted for individual provisions of the rule, if the variance proposal meets or exceeds the objectives of the rule.⁵² There is no formalized process in the regulations for how they will reach these agreements. Under the final rule, a decision on a variance request is not subject to administrative appeal either to the State Director or under 43 C.F.R. part 4.⁵³

Estimated Cost

BLM estimates that the compliance cost will be about \$11,400 per operation, or about \$32 million per year.⁵⁴ According to BLM, this equates to approximately 0.13 to 0.21 percent of the cost of drilling a well. This figure is similar to the figure given for the 2012 proposed rule (about \$11,833), but higher than the estimations ranging from \$3,138 to \$5,110 per operation in the 2013 proposal. A large portion of these costs are related to new requirement to store recovered fluids in above-ground tanks, which BLM anticipates will be largely borne by only a small sub-set of operators in states that do not already require tanks, and where the volume of recovered fluids is particularly high.⁵⁵ For these operators, the new tank requirement will add an incremental cost per operation of \$74,400.⁵⁶ BLM explained that steel tanks would cost less than lined pits for jobs where the volume of recovered fluids is less than 32,368 bbl, whereas lined pits would cost less for jobs where the volume of recovered fluids is greater than 32,368 bbl.⁵⁷ BLM anticipates that these additional costs will most likely effect operators in Arkansas, Louisiana, Mississippi, Ohio, Oklahoma, and Pennsylvania, where less than one percent of oil and gas activities occur on public lands.⁵⁸ BLM also noted that many operators have already taken steps to comply with the rule’s requirements voluntarily or as a result of state-level regulations.⁵⁹

To read the final rule, click [here](#).

For further information, please contact Vinson & Elkins lawyers [Larry Nettles](#), [Jay Rothrock](#), or [Corinne Snow](#) or one of the members of V&E's Shale and Fracking practice group: [John B. Connally](#), [Casey Hopkins](#), [Jim Prince](#), [Sue Snyder](#), or [Jim Thompson](#). Visit our website to learn more about V&E's [Environmental practice](#).

⁴⁹ Final Rule, Section 3162.3-3(k)(1).

⁵⁰ *Id.*

⁵¹ Final Rule, Section 3162.3-3(k)(2); Final Rule at 197.

⁵² Final Rule, Section 3162.3-3(k)(2).

⁵³ Final Rule, Section 3162.3-3(k).

⁵⁴ Final Rule, at 278.

⁵⁵ Final Rule at 302-7.

⁵⁶ Final Rule at 307.

⁵⁷ Final Rule at 302-3.

⁵⁸ Final Rule at 318.

⁵⁹ Final Rule, at 317.

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