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MULTI-JURISDICTIONAL GUIDE 2013/14
ENVIRONMENT

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Hydraulic fracturing regulation in the US: 2013 update

Samuel B Boxerman, Joel F Visser and Michael Krantz
Sidley Austin LLP

global.practicallaw.com/3-552-9787

Development of shale oil and gas resources using hydraulic fracturing has been one of the most significant advances in US energy production in the past decade. By combining horizontal drilling and hydraulic fracturing, previously unrecoverable oil and gas reserves have become economically viable. This development offers enormous potential for economic growth and energy security. According to the US Energy Information Administration (EIA), the US is expected to surpass Russia and Saudi Arabia as the world's largest oil and gas producer by the end of 2013 (*EIA, US expected to be largest producer of petroleum and natural gas hydrocarbons by 2013 (4 October 2013)*). Hydraulic fracturing has also spurred significant economic growth. According to recent estimates, upstream oil and gas activities associated with hydraulic fracturing have produced 1.7 million jobs and contributed US$63 billion in federal and state taxes (*IHS Global, America's Energy Future: The Unconventional Oil and Gas Revolution and the US Economy, Volume 2: State Economic Contributions)*.

In response to this rapid growth, federal, state, and local regulators have begun issuing new rules and guidance governing the use of hydraulic fracturing. Our 2012 article, *Hydraulic fracturing regulation in the US*, provided an overview of the state and federal regulations applicable to hydraulic fracturing. This article provides an update that addresses key changes in hydraulic fracturing that occurred during 2013. Specifically, the article addresses:

- Significant new state laws and regulations, including California's hydraulic fracturing legislation.
- Ongoing efforts by local governments to ban hydraulic fracturing.
- Increased regulatory oversight of silica mining and silica exposure.
- Federal regulatory updates for the US Environmental Protection Agency (EPA) and the Bureau of Land Management (BLM).
- Federal regulation of endangered species by the US Fish and Wildlife Service (FWS).

NEW STATE LAWS AND REGULATIONS

State regulators in the US have continued to take the lead in overseeing oil and gas development, and several states, including Illinois, Texas, Colorado and California, have issued or revised laws and regulations addressing hydraulic fracturing. The state of Illinois passed comprehensive new hydraulic fracturing legislation (*30 ILCS 105/5.826 (2013)*) that addresses:

- Well permitting and setback requirements.
- Well construction and well integrity testing.
- Chemical disclosure requirements.
- Storage and disposal of fracturing fluids and wastewater.

The Texas Railroad Commission issued well construction regulations for hydraulic fracturing (*16 Tex. Admin. Code §§ 3.13(a)(4), (6)*), that require well operators to:

- Test well casings at higher pressure.
- Monitor well casing integrity throughout the hydraulic fracturing process.
- Install new blowout prevention equipment.

The Colorado Oil and Gas Conservation Commission revised and expanded well setback requirements applicable to hydraulic fracturing activities (*Colo. Code Regs. § 604*).

Most significant, however, is California's hydraulic fracturing legislation, SB 4, which is anticipated to facilitate development of the Monterey Shale play. The EIA estimates that the 1,750 square mile Monterey Shale play located in central California holds 15.4 billion barrels of oil, representing nearly two thirds of US shale oil reserves (*EIA, Review of Emerging Resources: U.S. Shale Gas and Shale Oil Plays (2011)*). A recent study by the University of Southern California estimates that development of the Monterey Shale will produce more than 500,000 jobs and between US$4.5 and US$25 billion in state and local government revenue (*USC Price School of Public Policy, et al., Powering California: The Monterey Shale & California's Economic Future (2013)*).

SB 4 includes the first legal requirements in California directed specifically at hydraulic fracturing. The law has a strong focus on transparency throughout the well development and hydraulic fracturing process:

- Operators must pay for background water sampling conducted by independent state contractors (*Cal. Pub. Res. Code § 3160(d)(7)(B)*) and include results in mandatory pre-development notifications to nearby landowners (*§ 3160(d)(6)(A)*).
- SB 4 also requires chemical disclosure requirements for fracturing fluids within 60 days after well stimulation, including a list of names and concentrations of every chemical constituent of the well stimulation treatment fluids and the intended purpose of each additive (*§§ 3160(b)(2), (f)*). However, the law does provide procedures for protecting from public disclosure some chemical information submitted to the state that may be entitled to trade secret protection (*§ 3160(j)*).
- Operators must also explain the source, volume, and specific composition and disposition of all water associated with the project (*§ 3160(b)(2)(E)*). The law does not provide detailed technical requirements for well development and integrity testing, but directs the Division of Oil, Gas, and Geothermal Resources to study potential impacts associated with hydraulic fracturing and to develop, by 1 January 2015, technical regulations for well development (*§ 3160(b)(1)(A)*).
- A late amendment sought by Governor Brown streamlines the permitting process under the California Environmental Quality Act (CEQA). Rather than requiring an impact report for every well permit, California will conduct a state-wide impact report on the effects of hydraulic fracturing (*§ 3160(a)*).

LOCAL GOVERNMENT REGULATION OF HYDRAULIC FRACTURING

Local efforts to ban hydraulic fracturing have continued over the past year, with municipalities in a number of additional states enacting restrictive ordinances. In addition to outright bans, municipalities are turning to a variety

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of other legal mechanisms in an effort to prohibit hydraulic fracturing. In Washington County, Virginia, for example, the local government postponed all changes to existing zoning regulations in an effort to ensure that new development could not take place. Virginia's Attorney General has responded by asserting that state law prohibits municipalities from banning hydraulic fracturing (*Advisory Opinion Letter from Kenneth T Cuccinnelli, Attorney General, Virginia, to Hon. Terry G. Kilgore, Virginia House of Delegates (11 Jan. 2013)*).

In Youngstown, Ohio, citizens voted to reject a ban on well development using hydraulic fracturing in a May 2013 primary election (*David Skolnick, Youngstown fracking ban on Nov. ballot exempts some businesses, Youngstown Vindicator (17 October 2013)*). A similar ballot measure was rejected a second time by Youngstown voters in the November 2013 general election.

Colorado has also become a battleground over local moratoria:

- In July 2012, the Colorado Oil and Gas Conservation Commission filed a lawsuit challenging regulations issued by the city of Longmont that barred certain oil and gas development activities in the city (*Colorado Oil and Gas Conservation Commission v City of Longmont, Boulder Co. Dist. Ct. Case No. 2012cv702*).
- After the city of Longmont voted to enact a complete moratorium on hydraulic fracturing, the Colorado Oil & Gas Association subsequently filed a second lawsuit against the city challenging the moratorium on pre-emption grounds (*Colorado Oil & Gas Association v. City of Longmont, Weld Co. Dist. Ct. Case No. 2012cv960*). Neither case has proceeded yet to a decision on the merits.
- In November 2013 elections, the cities of Boulder, Broomfield and Fort Collins all approved temporary moratoria on hydraulic fracturing. In addition, voters in the city of Lafayette approved a permanent ban on hydraulic fracturing.

Existing litigation regarding local moratoria has also continued. While no state has yet reached a definitive answer as to whether local moratoria on hydraulic fracturing are pre-empted by state oil and gas laws, a number of such decisions are expected in the next year:

- In New York, an intermediate appellate court upheld two moratoria against claims of pre-emption (*Matter of Norse Energy Corp. v. Town of Dryden, 964 N.Y.S.2d 714 (N.Y. App. Div. 2013)*). The cases have since been appealed to the state's highest court, with oral arguments and a decision expected in 2014.
- In contrast, in Ohio an intermediate appellate court held that a local moratorium was pre-empted by the state's oil and gas laws (*State of Ohio ex rel. Morrison v. Beck Energy Corp., 2013-Ohio-356, 989 N.E.2d 85 (Ohio Ct. App. 2013)*). The Ohio case is also on appeal to the state's supreme court with briefing underway and a decision expected in 2014.
- In Pennsylvania, legal challenges to a state law prohibiting local moratoria are currently pending before the state supreme court (*Robinson Twp. v. Commonwealth of Pennsylvania, Penn. S. Ct. No. 100 MAP 2012*). Although oral argument occurred in 2012, the court has not issued a decision, and the state has since asked the court to rehear the case due to a change in the Pennsylvania Supreme Court membership.

SILICA REGULATIONS

In addition to directly regulating hydraulic fracturing, governments at all levels have begun to focus on silica, a fine-grained quartz sand commonly used as a proppant in hydraulic fracturing operations.

During the hydraulic fracturing process, silica is combined with water and fracturing fluids and pumped into the formation where it is left behind to prop open fissures in the shale. Silica sand is both strong enough to keep the fracture open and durable enough to permit pores where the oil and gas can escape. Silica is therefore a crucial resource to well operators engaged in hydraulic fracturing. Silica is most commonly mined in the mid-western US, with Minnesota, Wisconsin, Iowa, Illinois, and Texas among the most significant producers.

A number of state and local governments have considered moratoria on silica mining. In Minnesota, a state-wide moratorium failed in the legislature, but a compromise bill allows municipalities to regulate silica mining practices or impose local moratoria on new or extended silica mining projects (*Chap. 114 Sec. 91*). Silica mining is also prohibited state-wide within one mile of any trout stream (*Chap. 114 Sec. 91*).

In addition, a number of local governments in Minnesota, Wisconsin, Illinois, and Iowa have instituted either temporary or permanent moratoria on silica mining in response to concerns over possible environmental and public health effects. While no legal challenges are currently pending, these moratoria pose many of the same pre-emption questions as the hydraulic fracturing moratoria.

Further, at the federal level, the Occupational Safety and Health Administration (OSHA) proposed a new rule that would reduce by 50% the permissible exposure level to silica dust from hydraulic fracturing operations, along with other industry and construction sectors (*77 Fed. Reg. 56,273*).

EPA REGULATION OF HYDRAULIC FRACTURING

While EPA's role in directly regulating the hydraulic fracturing process remains limited when compared to state authority, the agency continues to make progress on several initiatives related to hydraulic fracturing. EPA's regulatory authority is constrained to a large degree because the Congress excluded hydraulic fracturing activities from the Safe Drinking Water Act's Underground Injection Control (UIC) programme unless diesel fuel is injected (*42 USC § 300(h)(d)*) (*see Hydraulic fracturing regulation in the US*).

In May 2012, the EPA issued draft guidance for obtaining UIC permits for hydraulic fracturing activities that use diesel fuels. In comments on the draft guidance, both environmental and industry groups urged EPA to withdraw the draft guidance and proceed instead with a formal rulemaking. In September 2013, the EPA sent the guidance to the White House Office of Management and Budget (OMB) for approval. The OMB has not formally responded to the EPA's request for approval.

Pursuant to a request from the Congress, EPA has been conducting a study to examine the potential effects of hydraulic fracturing on drinking water. Originally, the study was commissioned to measure only the effects of hydraulic fracturing on surrounding water sources, but it has since been expanded to explore all potential drinking water impacts associated with well development, production and waste disposal. In December 2012, EPA issued a progress report regarding this ongoing study (*EPA, Study of the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources: Progress Report (2012)*).

EPA convened a panel of the Science Advisory Board to review the progress report and also accepted public comments. The progress report did not include preliminary findings, but further defined EPA's research plans, which focus on five major areas:

- Water acquisition.
- Chemical mixing.
- Well injection.
- Water flowback.
- Wastewater disposal.

The final study will incorporate an analysis of:

- Existing data.
- Computer modelling-based scenario evaluations.
- Laboratory-based assessments of water treatment methods.
- Toxicity assessments for commonly used chemicals.
- Case studies from active hydraulic fracturing operations.

EPA anticipates issuing a final report by the end of 2014.

HYDRAULIC FRACTURING ON FEDERAL LANDS

As the primary agency charged with administering oil and gas development on federal land, the BLM has been very active on hydraulic fracturing issues. On the regulatory side, BLM continues to move forward with revised permitting regulations that specifically address hydraulic fracturing. BLM's initial rulemaking proposal (*77 Fed. Reg. 27,691 (11 May 2012)*) received more than 177,000 comments, prompting several changes from the BLM, and a revised proposal was issued in May 2013 (*78 Fed. Reg. 31,636 (24 May 2013)*). The revised proposal contains similar requirements for pre-approval of hydraulic fracturing operations, well development and integrity testing, and management of fracturing fluids and wastewater. However, the revised proposal provides increased flexibility for permit applicants in a number of areas, most notably with respect to chemical disclosures and trade secret protection. Public comment on the revised proposal ended in September 2013. BLM has not provided a timeline for completing the rulemaking.

BLM and other federal agencies managing land with shale oil and gas reserves must also comply with the National Environmental Policy Act (NEPA). NEPA is a procedural statute that merely requires federal agencies to evaluate environmental impacts, consider alternative actions, and provide opportunities for public involvement. However, opponents of hydraulic fracturing are increasingly attempting to use NEPA as a means to delay or halt altogether the development of shale oil and gas reserves on federal land. For example, a federal judge in California recently sided with hydraulic fracturing opponents and found that BLM failed to take the requisite "hard look" at the impact of hydraulic fracturing when it sold several oil and gas leases in California (*Center for Biological Diversity v. BLM, Case No. 11-6174 (N.D. Cal. Mar. 31, 2013)*). NEPA litigation or the threat of NEPA litigation has threatened to delay or de-rail other lease sales in California and Colorado.

Finally, in an effort to avoid future lawsuits in California, the BLM announced plans to prepare an Environmental Impact Statement for the entire 315,000 acre area covered by BLM's Hollister Field Office, to assess the potential environmental impacts of hydraulic fracturing (*78 Fed. Reg. 47,408 (Aug. 5, 2013)*).

ENDANGERED SPECIES ACT RESTRICTIONS

The FWS is contemplating actions under the Endangered Species Act (ESA) that could impact hydraulic fracturing in the western US. An FWS decision to list a species as threatened or endangered can have significant repercussions for development activities, both by restricting actions that directly harm a listed species and by limiting activities that can take place in areas designated as "critical habitat" for the listed species (*see generally 16 U.S.C. §§ 1532, 1538*).

FWS is currently considering listing decisions for the Lesser prairie chicken and the Gunnison sage grouse, both of which are present near shale plays in Colorado, Texas, New Mexico, and Wyoming. Some states are currently implementing their own conservation programmes in an effort to avoid FWS regulation under the ESA. For example, the Colorado Oil and Gas Conservation Commission added 2.2 million acres to state wildlife habitat areas to protect Gunnison sage grouse, Lesser prairie chickens, and other species. Therefore, regardless of the ultimate listing decision, even the potential for ESA regulations is resulting in protective measures that restrict lands available for oil and gas development using hydraulic fracturing.

Practical Law Contributor profiles

Samuel B Boxerman

Sidley Austin LLP
T +1 202 736 8547
F +1 202 736 8711
E sboxerman@sidley.com
W www.sidley.com

Qualified. District of Columbia, 1996; Illinois, 1987

Areas of practice. Environmental; litigation; international arbitration.

Recent transactions

- Representing clients in shale gas development and hydraulic fracturing matters, including assisting with comments on agency proposals, writing amicus briefs and handling regulatory litigation.
- Representing private and sovereign clients in international arbitrations, including investment treaty cases before the International Center for the Settlement of Investment Disputes.
- Defending clients in domestic environmental enforcement, regulatory and administrative litigation.

Joel F Visser

Sidley Austin LLP
T +1 202 736 8883
F +1 202 736 8711
E jvisser@sidley.com
W www.sidley.com

Qualified. Michigan, 2009; District of Columbia, 2011

Areas of practice. Environmental.

Recent transactions

- Representing clients in environmental regulatory, administrative and litigation matters.
- Representing clients' shale gas development and hydraulic fracturing in administrative rulemaking and regulatory litigation.

Michael Krantz

Sidley Austin LLP
T +1 202 736 8535
F +1 202 736 8711
E mkrantz@sidley.com
W www.sidley.com

Qualified. Illinois, 2013

Areas of practice. Complex commercial litigation.