

New Federal and State Rules Target Fracturing, Surface Use and SWD Injection



Industry digs in against EPA and BLM regulations while state rules see cooperation.

BY DAN LARSON

Even as the industry endures a slowdown in drilling and completion activity, a new surge of rules issued by federal and state regulators arrived to cover surface waters, well completions and saltwater disposal. And while the oil and natural gas industry pushes back on regulatory burdens imposed by the Environmental Protection Agency (EPA) and Bureau of Land Management

(BLM), industry cooperation is out in front of state rules on earthquake mitigation.

New federal rules layered on top of existing regulations “make the regulatory process for onshore oil and gas on public lands a veritable labyrinth of red tape,” says the Western Energy Alliance (WEA).

Continued >

WATERS OF THE U.S.

More than half the states in the union, from North Dakota to Texas and California to North Carolina, filed suit against the EPA shortly after the agency published its revisions to the Clean Water Act (CWA) in late June. The states seek a delay in implementation of the rules, which were set to become effective Aug. 28.

Several business groups, including the U.S. Chamber of Commerce and National Federation of Independent Business, joined the states in filing suit against the revised rules, saying the agency has “asserted unprecedented authority to regulate the nation’s waters.”

Fourteen national agriculture and land organizations and the Pacific Legal Foundation also took legal action. On the opposite side of the issue, at least nine environmental and conservation organizations filed against the agency accusing the EPA of removing protections from existing clean-water rules.

By expanding the definition of waters of the U.S. to include dry creek beds, prairie wetlands, vernal pools and other surface land areas, the EPA “is essentially burying landowners in a mountain of burdensome permitting and paperwork, all of which will be micromanaged by the federal government,” says Texas Agriculture Commissioner Sid Miller.

The states are seeking to delay implementation of the new rules, which had been set for Aug. 28.

EPA is essentially burying landowners in a mountain of burdensome permitting and paperwork.

The EPA rule changes were mirrored by changes in U.S. Army Corps of Engineer regulations. According to Jo-Ellen Darcy, assistant secretary for the Army (Civil Works), “This . . . responds to the public’s demand for greater clarity, consistency and predictability in jurisdictional determinations. The result will be better public service nationwide.”

The EPA and the Army Corps revised the definitions after Supreme Court decisions in 2001 and 2006 demanded clarification. The agencies responded with the revisions “to provide clarity on protections under CWA after a decade of requests from Congress, state and local officials, industry, agriculture, environmental groups, scientists, and the public for a rulemaking,” the EPA noted in a news release.

“About 117 million Americans—one in three people—get drinking water from streams that lacked clear protection before the rule change,” says Darcy. “Clean, reliable sources

of water are an economic driver for manufacturing, farming, tourism, recreation and energy production.”

In late July, the attorneys general from 30 states signed a letter to the EPA seeking a nine-month delay while legal challenges to the rules are considered.

“The rule is unnecessary, unlawful and will do nothing to increase water quality in our state,” says Wayne Stenehjem, North Dakota’s attorney general.

BLM FRACING RULES

The BLM released revised rules in March that require companies seeking to develop oil-and-gas resources on public lands obtain permits for hydraulic-fracturing operations in addition to the federal drilling permits currently required.

At a hearing before the House Subcommittee on Energy and Mineral Resources, BLM Director Neil Kornze testified the new rules are necessary to “address modern practices” such as fracing and wastewater disposal and that federal rules had not been updated in 30 years.

The rules protect ground water on federal and tribal lands, maintains Secretary of the Interior Sally Jewell, by adding new requirements for wellbore integrity, wastewater storage and disposal, and public disclosure of chemicals on the FracFocus website.

As the summer progressed, however, implementation of the BLM fracturing regulations, originally set for June 23, was delayed when a U.S. district court judge demanded the government’s record of the rulemaking process be filed. Then in late July, the judge granted a BLM request for more time to hand over its records, noting the rulemaking process had taken more than four years to complete.

Earlier, Wyoming District Judge Scott Skavdahl granted a stay in implementing the rule at the request of four states and several industry groups, saying the full record of BLM’s rulemaking was needed so he could make “a meaningful review and determination given the serious and difficult questions” raised by the new rules.

Judge Skavdahl set Aug. 28 as the deadline for the BLM to file its administrative record and indicated he would rule on the state and industry injunction request by mid-September.

Both the EPA waters and BLM fracking rules were due on Aug. 28. The former is the original implementation date, the latter a deadline for filing admin record by BLM.

In the meantime, according to the WEA, operators planning to develop leases on federal lands were allowed to continue filing applications for permit to drill as usual.

The BLM rules concerning fracturing on federal and tribal land are redundant, expensive and not justified under federal law, says the WEA.

The alliance adds that nearly 99 percent of wells on federal lands are in just seven western states: California, Colorado,

Montana, North Dakota, New Mexico, Utah and Wyoming.

“States have been regulating fracking for many years, and these states have strengthened their regulations as activity increased and technology improved,” notes the alliance. “This is a rule in search of a problem.”

CALIFORNIA COMPLETIONS

Joining the push by many oil-producing states to regulate fracturing, California on July 1 enacted new regulations covering well simulation and completion operations, including well construction, well casing and disclosure of fluid composition. Operators also must obtain a permit for stimulation or completions separate from the drilling permit.

The other key result of the California law, which passed the state legislature in 2013, is a requirement for a study of well stimulation and completions by the California Council on Science and Technology.

When the first section of the study, “Examination of Hydraulic Fracturing and Acid Stimulation,” was released in January, it immediately generated interest among industry and opposition organizations. However, about the only thing they found in common in the report was that there is very little fracturing taking place in California’s oilfields.

“People are concerned about hydraulic fracturing based on what they see of the high-volume fracturing in horizontal wells that occurs elsewhere. We don’t do that in California,” says a scientist who worked on the report.

The report concluded that only about 20 percent of oil-and-gas production in California comes from wells that were fractured.

The second and third sections of the study examined potential impacts of stimulation and completions on water, air, seismic activity, plants and animals, traffic and noise.



NEW HEATERS FOR FRACKING

CALL TODAY TO SCHEDULE DELIVERY OF NEW RIGS IN TIME FOR YOUR NEXT OPERATION

Our new line of portable rigs named FIRESTREAM™ heat feed water for fracking.

They increase water temperature 100 degrees F at a flow rate of 630 gpm (15 barrels per minute).

Their helical coil heater has numerous safety features to avoid mishaps common in fracking.

Heater output is 31.5 million Btu/hour. Its very high thermal

efficiency is boosted even higher by a heat exchanger that recovers waste heat from the exhaust stack.

Each rig includes a gen-set that powers the heater and related equipment.

For more information please phone Heatec at 423-821-5200.

Also visit our website at heatec.com.



HEATEC, INC. an Astec Industries Company

5200 WILSON RD • CHATTANOOGA, TN 37410 USA 800.235.5200 • FAX 423.821.7673 • heatec.com



The report noted that some chemicals used in completions can cause public-health issues and that the state was not monitoring their use. Shortly thereafter, Gov. Jerry Brown appointed a panel to review the report’s findings and recommend improvements in the state’s regulatory processes. Within a week of the governor’s announcement, an environmental group filed suit against California for inadequate protection of water and health from stimulation

and completion operations.

A significant finding of the study concluded there is no “science-based evidence” that fracturing damages the environment.

Additionally, the study reported saltwater disposal (SWD) well injections are not likely to cause earthquakes, that any impact on air quality from fracturing is very minor compared to other sources, fracturing activity is limited mostly to shallow, vertical wells in the existing fields in Kern County and the volume of water used in fracturing is very small compared to other uses.

On a related note, the state continues to review permits for SWD wells in areas where they are in proximity to non-exempt aquifers. Non-exempt water sources are generally considered to have total dissolved solids of 3,000 parts per million or less, are a potential source of public water and are not near an oil-bearing formation.

According to the Western States Petroleum Association (WSPA), of the approximately 50,000 permitted UIC Class II wells for either SWD or tertiary enhanced-oil recovery (EOR) operations, 2,550 were selected for review. Of those, 2,020 were considered low priority and the remainder classified as high priority. An analysis of the high-priority wells identified 176 for further review with 23 wells voluntarily shut in as a precaution.

“The greatest portion of produced water, something like three barrels out of four, is treated and reused in EOR operations,” notes Tupper Hull, vice president of communications at the WSPA. “Of the remainder, about 15 percent is injected, and the rest is treated for use in agriculture.”

OKLAHOMA EARTHQUAKES

When the topic of earthquakes comes up, most people think first of California. It may be surprising to learn then that Oklahoma recorded more earthquakes in the past year than California with its famous San Andreas Fault.

Concerns about a possible connection between SWD wells in Oklahoma and an increase in seismic activity were first raised in November 2011 when a magnitude 5.7 earthquake shook an area near Prague, Okla., 47 mile east of Oklahoma City. The quake is reported to have injured two people and damaged hundreds of buildings.

Subsequently, according to news-media reports, the U.S. Geological Survey and some academic seismologists linked the 2011 quake to oil-and-gas activity. However, no such correlation exists, the state geologist and the Oklahoma Geological Survey said at the time.

In the years since, seismic activity has increased. According to published reports, the number of magnitude 3

or greater temblors in Oklahoma has gone from 63 in 2011 to 585 in 2014, nearly three times as many as in California.

In a state where oil-and-gas activity plays a key role in the economy, the cause of the earthquakes raises difficult scientific, legal and political questions.

In June, the state Supreme Court ruled that SWD operators can be sued for injuries and damages in civil court if induced seismicity is proven. Previously, such cases were heard before the Oklahoma Corporation Commission (OCC), the state’s regulator of oil-and-gas activity.

The OCC in July added 200 disposal wells to a list of 347 SWD wells under review that are known to inject into or below the Arbuckle formation in seismically active parts of the state. Reports indicate that the formation is favored by operators for its porosity and isolation from sources of drinking water.

The OCC’s directive requires operators to verify injection depth and take more frequent pressure and volume measurements. Wells that are found to be injecting into what the OCC refers to as basement rock will be required to plug back to a shallower disposal depth.

The Oklahoma Independent Petroleum Association (OIPA) says its members are working with the state’s geologists and the OCC to provide information about seismic faults. Operators contacted by the OCC have voluntarily reduced injections, plugged back or shut in SWD wells, the association reports.

OIPA also notes that Oklahoma has a history of seismic activity and that no conclusive evidence has been produced to link the sharp increase in earthquakes to SWD operations.

The Oklahoma Geological Survey recently reported that while some earthquakes may be related to induced seismicity, most quakes originate in the deeper “crystalline basement and not in the shallower, sedimentary section where SWD is taking place.”

Additional funding for continued state research into the increase in earthquake activity was recently approved, notes the OIPA. ■

About the Author



Dan Larson is freelance writer based in Denver and a frequent contributor to *Shale Play Water Management*. He has a degree in journalism and worked as a reporter and editor before joining the public-affairs staff at a major oil company.