Slew of legislation surfaces in Midwest in response to rise in fracking activity

By Ilene Grossman [1]

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Over the past three years, the hometown of North Dakota Republican Rep. Patrick Hatlestad has doubled in population size.

Thousands of workers have flocked to the city of Williston looking for work, “man camps” have been set up to make up for local housing shortages, and the area’s infrastructure — from housing to roads to water — is being stretched thin.

“We are growing too fast for our services to keep up,” says Hatlestad.

Williston, like many other North Dakota communities, has undergone a dramatic change as a result of the recent oil boom.

The boom, too, has helped catapult North Dakota to the top of key national economic and fiscal indicators: low unemployment figures, for example, and high rates of growth in tax revenue and personal income. More than half a million barrels of oil are now being produced in the state each day, a 30 percent increase over production from just a year ago.

The jump in activity is the result of new technologies that have dramatically increased oil production in the Bakken shale formation, which covers close to one-third of the state. Advances in hydraulic fracturing and horizontal drilling are allowing companies to tap into oil and gas deposits that, until recently, couldn’t be reached.

And this activity extends well beyond North Dakota, including to other parts of the Midwest where the potential for expanded oil and gas production is just beginning to be tapped.

States are bracing for a rise in the use of hydraulic fracturing, or fracking. It is a practice that holds the promise of increasing energy production, growing local economies and bolstering state tax revenues. But it also raises questions about the role of states in regulating operations, safeguarding
water resources, and protecting landowners and communities.

“I am in favor of utilizing the natural resources that we have available,” Ohio Democratic Rep. Tom Letson says, “and am of the mind that the regulations being discussed in Ohio are sufficiently protective of the environment.”

What’s needed, he says, are enough trained, experienced inspectors to enforce the state regulations, as well as sufficient disclosure requirements on operations, new protections for landowners and a public that is informed about the process.

Ohio is one of many states just beginning to tackle these issues; a slew of new fracking-related legislation has been introduced over the past year in nearly every Midwestern state.

**A look underground: ‘Shale plays’ in the Midwest**

The Bakken formation in North Dakota is between 4,500 and 7,500 feet deep. Like much of the newly available oil and gas in the U.S., Bakken oil is found in shale deposits.

Getting to the oil in these deposits often requires the use of horizontal drilling (a process that is more expensive than vertical drilling but that also yields more oil and gas reserves) and hydraulic fracturing.

Once a well is drilled, steel pipe casing is installed, the pipe is encased in cement, and fracturing fluids are injected deep underground. The fluids are mostly water (about 90 percent) and sand (about 9.5 percent), but also contain chemicals.

The fracking fluids are injected at high pressure into the rock, and the oil or gas is released and pumped out.

In addition to the Bakken, there are five other current “shale plays” — formations known to contain accumulations of gas and/or oil — in the Midwest, according to the U.S. Energy Information Administration [5].

The Bakken shale has largely been a source of increased oil production; in other parts of the region, fracking is expected to bolster the supply of natural gas.

The Antrim shale, for example, covers a good portion of Michigan, while exploration of the New Albany shale is beginning in southwest Indiana and southeast Illinois. Current shale plays are also in parts of Nebraska, Kansas and South Dakota.

And then there is the huge potential for natural gas exploration and discovery in the eastern part of Ohio.

According to a recent study by the Ohio Shale Coalition [6] — a partnership of local chambers of commerce and other groups — total economic output from Utica shale development, currently at $291 million, is expected to rise to $9.6 billion by 2014.

Development of the Marcellus shale play, which lies above the Utica formation, is further along in Ohio and neighboring states. It may be one of the largest gas discoveries in the world, covering 95,000 square miles and potentially holding more than 400 trillion cubic feet of natural gas, according to energyfromshale.org [7].

Shale exploration, in fact, has already proven to be a boon for Ohio’s steel industry, according to the online newsletter EnergyWire (the steel is needed for the piping to line the wells), and this increased
demand for steel as well as other goods has contributed to a drop in Ohio’s overall unemployment figures.

Still, there remain many questions and concerns about fracking, and states are just beginning to address them through new regulations and legislation.

In Ohio, for example, Republican Gov. John Kasich ordered a temporary moratorium on the drilling and use of wastewater wells within a five-mile radius of a site in Youngstown, where there has been a series of earthquakes. State and federal officials are investigating the possible link between the seismic activity and the underground injection of waste from fracking operations.

The overall level of uncertainty about the impact of fracking has led some lawmakers in Ohio and Michigan to propose broader moratoria, until more state and federal environmental studies can be completed.

Minus such bans, states are considering legislation to increase oversight, require more disclosure, and establish new rules and standards for fracking operations.

Various proposals, for example, would require new testing of the wells before they are used, set new guidelines governing the treatment and disposal of fracking fluids, and mandate reporting and disclosure of the chemicals contained in these fluids.

**Role for states: Proposals focus on fracking oversight, disclosure**

The U.S. Environmental Protection Agency is also tightening its oversight of hydraulic fracturing. Beginning in June, the first federal air-quality rule is scheduled to take effect for natural gas wells that are hydraulically fractured. It will require the operators of these wells to employ technologies that prevent the release of harmful emissions.

In announcing the new rule, the EPA said it was following the lead of states that have already instituted similar requirements.

The federal agency, meanwhile, continues to research the link between fracking activity and the contamination of groundwater.

In North Dakota, state regulators say an increased emphasis on well testing and inspections has helped prevent the threat of such contamination.

“We really stepped up the evaluation of the well in advance of fracking, so there is a lot of pressure testing and visual testing before [owners and operators] can frack a well,” says Lynn Helms, director of the state’s Department of Mineral Resources. “Those steps have made a major difference in terms of preventing failures during fracking.”

As part of legislation advancing in Illinois this year (SB 3280 [9]), the owners and operators of fracking operations would have to conduct tests to ensure the integrity of their well casings. But what happens if contamination occurs?

Proponents of fracking-related legislative proposals in Michigan want to make clear that responsibility lies with the owners and operators. Under HB 4736 [10], a company would be presumed liable if the chemicals it uses are discovered in the groundwater close to a well that has been used for fracking.

Another question for states is how to manage water use. Fracking requires a large amount of water, particularly when it involves explorations in deeper shale formations.

Regulations adopted last year by Michigan’s Department of Environmental Quality now require
owners and operators to document where they will get the water for their fracking activities and how much water they will use.

Michigan Democratic Rep. Jeff Irwin generally supports these new rules, but he also wants to put them into statute, along with a requirement that owners and operators obtain a permit for using large amounts of the state’s groundwater.

Water is the main part of the mixture used to create fractures in a rock formation — in order to extract the oil and natural gas — but it is the chemicals used in the process (less than 1 percent of the mixture) that often raise the most alarm.

“As the companies lease mineral rights from the state,” Irwin says, “they should disclose everything they put into the ground here.”

Most companies, though, consider their chemical mixtures to be proprietary information, a trade secret that they don’t want disclosed to competitors.

Some states now require fracking owners and operators to disclose basic information about the hazardous chemicals they use — sometimes through FracFocus, an online registry created by the Groundwater Protection Council and the Interstate Oil and Gas Compact Commission. (North Dakota recently began requiring such disclosure.)

In some cases, too, this information must be provided to regulators, who can then make the information available to the public.

But some say the exemptions being granted to companies — on the grounds that it is proprietary information — undercut the public’s right to know what is being injected underground.

The Michigan DEQ is already requiring chemical disclosure through its newly developed regulations. However, Irwin says proposed legislation (HB 5565) would strengthen these rules by requiring public comment before a permit is issued and by calling for the least harmful chemicals to be used. Ohio, Nebraska and Indiana are among the other Midwestern states where new disclosure laws are under consideration or where new regulations are being developed.

Rep. Letson says disclosure is one of many policy strategies that merit consideration now in Ohio.

Another idea, he says, is to adopt a “bill of rights” for landowners, with guidelines and standards for the leases signed and the royalty agreements agreed upon between them and the companies that want to use their land.

Beyond specific new laws and regulations, Letson says, the state should attempt to raise public awareness about fracking as more and more communities are affected by it.

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