Ohio Limits Fracking After Series of Quakes

BY DANIEL GILBERT AND ALISON SIDER

Ohio officials are limiting hydraulic fracturing—or fracking—in a small area of the state after finding that the technique for tapping oil and gas may have triggered a series of minor earthquakes in March.

The state regulator is among the first government authorities to impose seismic-related restrictions on fracking, in which drillers shoot water, sand and chemicals down wells to crack open rock and extract fuel.

But other states, including Kansas, are looking at the links between oil and gas activity and small quakes. Researchers have previously found such tremors can be triggered by disposal of fracking waste water in deep wells near geologic faults.

The Ohio Department of Natural Resources said Friday it was halting fracking within a 3-mile radius of the epicenter of the quakes in northeastern Ohio, and said firms operating in the Utica Shale—a rock formation holding vast quantities of natural gas—must install seismic monitors if they drill within three miles of a known fault. They must suspend operations if they detect seismic activity greater than a magnitude of 0.5—a common and probably imperceptible tremor.

The March quakes included one big enough to shake homes in Poland Township, near a Hilcorp Energy Co. drilling site. Ohio regulators said there was a "probable connection" to fracking activity near a small, previously unknown fault.

"While we take the time necessary for understanding how these conditions impact Ohio operations, we remain fully committed to public safety and acting in a manner consistent with being a good corporate citizen in the communities where we operate," Hilcorp said. The company can continue to pump oil and gas from the five wells it had previously drilled.

Tom Stewart, executive vice president of the Ohio Oil and Gas Association, said he wasn't convinced fracking was to blame for the quakes. "The industry needs to work with the regulating agency" to ease worries, he said.

Several states are studying whether oil and gas activity, including fracking, is stimulating swarms of minor earthquakes. In Kansas, Gov. Sam Brownback appointed a commission earlier this year to study the issue, calling it a "matter of public safety." Researchers have reported a link between energy development and earthquakes big enough to be felt in Ohio, Texas, Arkansas, Colorado and Oklahoma. But other experts say it is exceedingly rare for such events to be caused by fracking, which happens at a shallower depth, and for a shorter period, than injecting waste water.

"When you look at the issues concerning shale-gas development overall and environmental impacts, this is pretty far down on the list of things for people to worry about," said Mark Zoback, a professor of geophysics at Stanford University. He estimated that of more than a million fracking jobs, only a handful had been linked to quakes.

In 2013, Oklahoma seismologists found fracking probably triggered a series of 86 small quakes south of Oklahoma City in 2011. "There are no new regulations because there is no indication that any seismicity due to fracking poses a hazard that would warrant such a step," said Randy Keller, director of the Oklahoma Geological Survey.

Regulations on disposal wells have been more common, including in Ohio in 2012. Arkansas regulators put a moratorium on them in one part of the state following minor quakes in 2010, and under rules proposed last year, Illinois' Department of Natural Resources will monitor seismic activity and, if it threatens public safety, order operators to shut down the wells.

Rustbelt Boom

The number of permits issued for drilling wells in Ohio's Utica Shale region

<table>
<thead>
<tr>
<th>Year</th>
<th>Permits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>2</td>
</tr>
<tr>
<td>2011</td>
<td>25</td>
</tr>
<tr>
<td>2012</td>
<td>300</td>
</tr>
<tr>
<td>2013</td>
<td>600</td>
</tr>
<tr>
<td>2014</td>
<td>2</td>
</tr>
</tbody>
</table>

*Through April 5.
Source: Ohio Department of Natural Resources The Wall Street Journal

A drilling rig sits outside the Covelli Center in Youngstown, Ohio. State regulators have found hydraulic fracturing may have triggered small earthquakes in March.