

NM targets wastewater wells to prevent quakes

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New Mexico has placed stricter rules on oil field wastewater injection wells in the state's southeastern corner after an increase in small earthquakes this year.

The state Oil Conservation Division issued guidelines last week requiring operators southeast of Malaga in Eddy County to report water injection amounts and pressure each week and monitor for seismic activity around injection wells.

The rules will help regional oil and gas operators “be on the same page” in responding to and preventing seismic events, OCD Director Adrienne Sandoval said.

“We’ve been really pretty lucky not to have the type of activity that’s occurred across the (Texas) border, or even in other states such as Oklahoma,” Sandoval said. “But, you know, the good thing of not being the first is we can take a look at what other states have done, what’s worked, what hasn’t worked, and adopt that in our own unique New Mexico plan.”

About four barrels of produced water – a brackish, salty mixture – surfaces with every barrel of oil in New Mexico.

The state encourages operators to recycle the water for future drilling. But many companies dispose of the water in underground injection wells.

New Mexico Bureau of Geology and Mineral Resources research lists wastewater injection as a possible origin of human-caused earthquakes, or “induced seismicity.”

Well pressure and depth, as well as proximity to geologic faults, can determine whether an earthquake will happen.

The state Bureau of Geology and U.S. Geological Survey collect data from 25 seismic monitoring stations in southeastern New Mexico.

Those stations recorded seven earthquakes with magnitudes from 2.5 to 4.0 in the Malaga region from March to September of this year, along with dozens of other events greater than 2.0.

“Sometimes clusters of lower magnitude (events) can indicate something bigger could happen on the horizon,” Sandoval said. “That data is going to help show if a large volume of water was going in at one particular time and is triggering any activity, and we can start to look at trends.”

New Mexico already requires significant spacing between injection wells.

Under the new guidelines, operators will reduce injections if one magnitude 3.0 event occurs in the area.

The OCD will also pause approvals on 70 applications for disposal wells in the region.

“Before we inject any more uncertainty or water into the area, we want to see how the area’s going to respond to these testing and monitoring protocols,” Sandoval said.