

Oil regulators increasing risk of earthquakes in California

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By Shaye Wolf

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Californians got another sobering reminder recently that we're overdue for a massive earthquake. The San Andreas Fault, one expert said, is "locked, loaded and ready to roll." This looming temblor could be big enough to kill or injure thousands of people.

So why are California regulators letting oil companies increase quake risks by drilling injection wells near faults across the state?

Scientists say injecting oil wastewater underground can lubricate faults, triggering damaging seismic activity. These man-made earthquakes have become a major threat in Oklahoma and other states.

Here in California, a recent scientific study linked oil waste injections to a 2005 earthquake swarm five miles away on the White Wolf Fault near Bakersfield. The study's authors wrote that "considering the numerous active faults in California, the seismogenic consequences of even a few induced cases can be devastating."

Yet state records analyzed by my organization show that California's Division of Oil, Gas and Geothermal Resources has given oil companies dozens of permits since



California's Division of Oil, Gas and Geothermal Resources has given oil companies dozens of permits since April 2015 to drill new wastewater wells or rework existing ones near faults in Los Angeles, Santa Barbara, Kern and other counties. Rich Pedroncelli Associated Press file

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Gov. Jerry Brown's regulators even recently approved four new injection wells about 8 miles from the San Andreas Fault. Other wells were drilled just yards from faults.

Astonishingly, 26 of the 33 permits to rework existing waste injection wells issued in the past year were for wells within 5 miles of a fault. That includes a permit for work on one of the Tejon Oil Field wells linked to the 2005 earthquakes.

A recent U.S. Geological Survey analysis found that 7 million people in other parts of the country live and work in areas vulnerable to damaging oil-industry-induced earthquakes. The federal agency says its studies “have shown a strong connection” between oil industry injections and the growing number of quakes.

In California, millions of peoples in cities like Los Angeles and Bakersfield live in areas where high densities of wastewater injection wells are operating near active faults. I coauthored a 2014 analysis that found that a majority of the oil industry’s wastewater-injection wells are near active earthquake faults in California.

And those wells are injecting a massive and growing amount of fluid.

Oil-wastewater injection volumes in California more than doubled between 1995 and 2015, according to state records. More than 38 billion gallons of wastewater were injected into California disposal wells in 2015 alone.

What’s driving this huge increase? One key factor is the oil industry’s use of hydraulic fracturing, steam injection and other water-intensive recovery techniques.

But even as injections increase, state regulators are doing little to even monitor the threat. They don’t require oil companies to report daily injection pressures or other critical data called for by seismologists.

Most critically, officials seem utterly unconcerned about allowing companies to drill new injection wells virtually on top of faults.

That’s disturbingly consistent with other recent failures at the scandal-plagued oil division, which has failed to stop oil companies from dumping wastewater into open pits in the Central Valley or operating disposal wells in protected aquifers across the state.

But we have to draw the line at practices that could trigger devastating seismic activity.

Brown needs to order oil officials to reduce the risk of man-made quakes by halting dangerous drilling near faults. And he’s got to strike at the root of the wastewater problem by halting water-intensive practices like fracking.

The governor needs to rein in the oil industry’s reckless wastewater injections before tragedy strikes.