

Fracking Has Contaminated Drinking Water in Eleven States, EPA Study

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After years of asserting that hydraulic fracturing has never tainted drinking water, the Obama administration [issued a long-awaited study](#) of the controversial oil and gas production technique that confirmed “specific instances” when fracking “led to impacts on drinking water resources, including contamination of drinking water wells.”

The conclusion was central to a nearly 1,000-page draft assessment issued Thursday by the Environmental Protection Agency to address public concerns about the possible effects of fracking on drinking water.

In the past, top Obama administration officials such as former EPA administrator Lisa Jackson and Energy Secretary Ernest Moniz maintained that there was no evidence fracking had fouled drinking water, despite findings to the contrary by EPA’s own scientists in several highly publicized cases. The acknowledgment of instances of fracking-related contamination marks a notable reversal for the administration.

“Today EPA confirmed what communities living with fracking have known for years: fracking pollutes drinking water,” said Earthworks policy director Lauren Pagel. “Now the Obama administration, Congress and state governments must act on that information to protect our drinking water, and stop perpetuating the oil and gas industry’s myth that fracking is safe.”

Still, the EPA determined that the number of contamination cases “was small compared to the number of hydraulically fractured wells.”

“We did not find evidence that these mechanisms [of possible contamination] have led to widespread, systemic impacts on drinking water resources in the United States,” the study said.

Oil and gas companies have also consistently contended that fracking has never contaminated drinking water. In the face of the EPA study results, industry groups such as Energy in Depth [seized upon the conclusion](#) that contamination did not appear to be widespread to argue that fears over fracking were unfounded.

“With this new report, it couldn’t be clearer that shale development is occurring in conjunction with environmental protection—and the claims by anti-fracking activists have been thoroughly debunked,” wrote Katie Brown on Energy In Depth’s website.

But EPA officials said the study is not meant to provide a comprehensive tally of water contamination incidents. There is no national database of the number of wells fracked or contamination incidents at oil and gas sites. For 40 years, Congress and successive

administrations have exempted the oil and gas sector from a host of federal pollution rules that would require detailed reporting of its activities.

As a result, the report stitches together a piecemeal picture of fracking-related incidents. It relies on several case studies involving a handful of major incidents, such as a well blowout in Killdeer, N.D., that state regulators investigated. It also uses state data for possible contamination events, such as spills of fracking fluid at well pads, which EPA acknowledges provides a limited scope of the problem.

“The spills occurred between January 2006 and April 2012 in 11 states and included 151 cases in which fracturing fluids or chemicals spilled on or near a well pad,” the study said. “Due to the methods used for the EPA’s characterization of spills, these cases were likely a subset of all fracturing fluid and chemical spills during the study’s time period.”

The study notes that the small number of contamination incidents included in the report might not be due only to their rarity but “to other limiting factors,” including the lack of pre- and post-fracking data about drinking water resources; the dearth of long-term studies; and “the inaccessibility of some information on hydraulic fracturing activities and potential impacts,” most likely held by companies.

“This is a study of how we can best protect our water resources,” said Dr. Thomas A. Burke, EPA’s science adviser and deputy assistant administrator of the Office of Research and Development, which conducted the study. As far as fracking goes, Burke said during a press conference, “it’s not a question of safe or unsafe.”

Launched five years ago at the behest of Congress, the water study was supposed to provide critical information about the method’s safety “so that the American people can be confident that their drinking water is pure and uncontaminated,” said a top EPA official at a 2011 hearing.

But the report was delayed repeatedly, largely because the EPA failed to nail down a key component: the prospective, or baseline, sampling of water before, during and after fracking. Such data would have allowed EPA researchers to gauge whether fracking affects water quality over time, and to provide best industry practices that protect drinking water. EPA had planned to conduct such research, but its [efforts were stymied](#) by oil and gas companies’ unwillingness to allow EPA scientists to monitor their activities, and by an Obama White House unwilling to expend political capital to push the industry, an InsideClimate News report from March showed.

As a result, the study does not offer new empirical data gathered by the EPA about fracking’s effects, said several scientists who research oil and gas development’s impact on water. Rather, the EPA report provides an overview of existing literature and of cases of fracking-related water pollution investigated by state regulators.

“It’s comprehensive in its treatment of the literature, but it’s not very comprehensive in bringing new research or data from the field,” said Robert Jackson, professor of environment and energy at Stanford University. “That’s my biggest disappointment: They didn’t do prospective studies, they didn’t do well monitoring, they didn’t do much field research. I don’t feel like we have a lot of new information here.”

Despite its conclusion that fracking has not led to systemic water contamination, the report

nonetheless catalogues risks to drinking water at every step of the process: from acquiring water to use in stimulating the well and mixing the fracking chemicals with the water to constructing wells, injecting the fracking fluid into the well, and handling of fracking waste water that flows back up the well.

Further, the study confirmed problems that independent researchers have identified over the last five years in peer-reviewed scientific literature. The EPA cited the high number of chemical spills on well pads in places such as Colorado, where fracking fluid could leach into the water table. It confirmed the migration of methane into some people's drinking water in Pennsylvania. Moreover, it noted that oil and gas companies, especially in the West, frack in underground sources of drinking water--or USDWs--formations where pockets of water and hydrocarbons weave through each other.

Industry has denied such types of fracking. But Jackson and his Stanford colleague Dominic [DiGiulio presented research at a conference](#) last year that said oil and gas companies are fracking at much shallower depths than widely believed, sometimes through the underground water sites.

The draft report now goes to the EPA's Science Advisory Board for review and it will be open for public comment after June 5.

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