

EPA study whitewashes the effects of fracking

By Philip Guelpa
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The US Environmental Protection Agency (EPA) released the final draft of a study last month on the effects on drinking water of fracking (high volume hydraulic fracturing for the extraction of oil and natural gas). The study had been requested by Congress in 2010.

An earlier, 2004, EPA study had found that fracking had no adverse effect on drinking water. That conclusion was then used to exempt fracking from the Safe Drinking Water Act. Since then, there has been an accumulation of evidence that fracking has substantial negative consequences for a whole range of environmental and health concerns.

The EPA study found no evidence that fracking has caused “widespread, systemic impacts on drinking water resources in the United States.” It goes on to say, however, that, under certain circumstances, wells can leak and cause local contamination of the water table.

Energy industry representatives and political supporters of fracking have taken this as constituting a “clean bill of health” for the process, the use of which has expanded explosively over the last few decades.

Fracking is now taking place across substantial portions of the US, from California to Pennsylvania and Texas to the Dakotas, bolstering the position of the US as a major oil and gas producer. There are fracking wells in half of US states, with at least 12.2 million people living near or drinking water from a source within a mile of a fracked well. In Pennsylvania alone there are currently about 8,800 active fracking wells.

The EPA report is consistent with the Obama administration’s long-established support for fracking (see: White House announces pro-corporate fracking rules).

The EPA’s analysis is narrow in scope and the language carefully crafted so as to appear to say more than it really does. While stating that the numbers of documented incidents is low compared to the number of wells, the report represents an acknowledgement that contamination does occur, a fact that has long been denied by fracking supporters.

Furthermore, the agency acknowledges that there are gaps in the data on which its findings are based. This is the result of insufficient numbers of independent field studies, because

much of the data is derived from industry self-reporting, and because the industry habitually settles lawsuits with payments that are tied to gag orders preventing those injured from discussing their cases. In one notorious example, a lifetime ban on public comment encompassed not only the parents, but also their minor children (see: Gas drilling company imposes lifetime gag order on Pennsylvania children).

The study cites a range of weaknesses that can cause serious problems, including inadequately cased or cemented wells resulting in below-ground migration of gases and liquids; inadequately treated wastewater discharged into drinking water resources; and spills of hydraulic fluids and wastewater. Numerous examples of such failures are cited by the EPA. There is little information regarding how the integrity of fracking wells holds up over time. Many wells continue to be used significantly past their originally projected use life. As oil and gas prices continue to fall, there will be growing pressure to increase efficiency (i.e., cut corners), increasing the potential for accidents and equipment failures.

Furthermore, while the proportion of incidents is supposedly low, the severity of the consequences can be quite high, given the witch’s brew of toxic and carcinogenic materials involved. Over a thousand different chemicals are used in varying mixtures at sites across the country. The long-term effects on health and the environment of 92 percent of these chemicals are unknown.

EPA representatives were careful to state that their report was not a pronouncement on whether fracking is safe.

A more comprehensive, seven-year-long study recently released by the New York State Department of Environmental Conservation (DEC) provides a very different perspective than that of the EPA. It concluded that fracking poses significant environmental and health risks. As a result, the state, which has substantial gas-containing shale deposits that could be fracked, has now permanently banned the practice. The announcement of the ban states, “High-volume hydraulic fracturing poses significant adverse impacts to land, air, water, natural resources and potential significant public health impacts that cannot be adequately

mitigated.” The move makes permanent an earlier provisional ban, based on a study by the state’s Department of Health. The state of Maryland has recently placed a two-and-a-half year moratorium on fracking.

Research on a variety of harmful effects of fracking continues to be released. Among the most recent are studies on the impacts of environmental fragmentation, the growing consumption of water, and negative health effects on infants and children.

Scientists estimate that the average fracking well pad, along with all its associated appurtenances (roadways, pipelines, compressor stations, etc.) disturbs at least 30 acres. In areas such as northeastern Pennsylvania, where the countryside has suffered extensive fracking activity, large swaths of terrain have been denuded of vegetation, and the ground churned up and contaminated by a variety of toxic substances.

The residual effects of fracking, which will linger long after the drill rigs are gone, include not only the chemical pollution of land and ground water, but also severe disruption of plant and animal communities. One recent study found that intensive fracking reduced an area’s biodiversity by 75 percent. A number of species are being considered for listing under the Endangered Species Act because of habitat degradation due to hydraulic fracturing. Environmental disruption caused by fracking operations also opens the way for invasive species that can severely impact pre-existing ecological communities.

The effects of fracking on plant and animal species only compound the growing and potentially devastating impact of climate change.

Regulations that supposedly require restoration following the termination of a fracking well have had little impact. For example, a recent study by StateImpact Pennsylvania found that of 200 well sites in state forests, restoration activities had been carried out, even partially, at only 5 percent. None of the nearly 1,700 acres encompassed by these well sites have been fully restored. Furthermore, the long-term effectiveness of “restoration” is unknown.

A US Geological Survey study published by the American Geophysical Union reports that fracking for oil and natural gas now consumes 28 times more water than it did 15 years ago. A single well may use up to 9.6 million gallons of water, depending on the geology of the formation being fracked. This water is nearly impossible to decontaminate, becoming, for all practical purposes, unavailable for any further use. Much of this contaminated water is being disposed of deep underground through the use of injection wells, a process that has been shown to increase the frequency and severity of earthquakes. Cumulatively, in areas of intensive fracking activity, the amount of such

losses can be significant. The consequences are especially severe under drought conditions, which are currently occurring in some western portions of the United States where fracking is or may occur.

There is a growing body of evidence that people living near fracking sites are suffering severe health effects. Among the most alarming is the impact on children. A study funded by the Pittsburgh Foundation, based on data from eight Pennsylvania counties where intensive fracking is occurring, found significant increases in infant mortality, perinatal mortality, low-weight births, premature births and cancer in infants and children. Since the early 2000s, compared to the rest of the state, infant mortality in the counties under study rose by 13.9 percent, perinatal mortality by 23.6 percent, low-weight births by 3.4 percent, premature births/gestation less than 32 weeks by 12.4 percent, and cancer incidence in age 0-4 by 35.1 percent. Other recent studies have had similar results.

The EPA study, while formally concluding that it found no evidence of widespread drinking water contamination due to fracking is, in fact, a political smokescreen intended to serve the interests of the energy industry. Based on an ever-growing body of data, there is every reason to conclude that fracking, under the control of private, for profit energy companies, is highly dangerous to human health and the environment. Only a planned, socialist economy can develop an energy industry that provides safe, clean energy for the world’s population.

The author also recommends:

Scientific study confirms groundwater contamination by hydraulic fracturing
[9 July 2013]

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