

Proposed NC fracking rules: Baseline Testing of Water Supplies

The NC Mining and Energy Commission has proposed a package of 120+ proposed rules as a framework for fracking in North Carolina. This factsheet is one of a series intended as a resource for concerned citizens who want to comment on the proposed rules.

The issue: Fracking has the potential to adversely impact groundwater. To plan for and mitigate any health and safety issues that arise from fracking, North Carolina should ensure that permittees collect extensive baseline data on drinking water quality prior to exploration and drilling, and that testing is not the responsibility of the owner. This baseline sampling should then be followed with monitoring to evaluate the long-term impact of fracking on drinking water supplies.

Fracking has contaminated drinking water in other states

- Pennsylvania has confirmed at least 209 natural gas extraction related water-well contamination cases since 2007.¹
- Ohio had 37 complaints in 2010 and no confirmed contamination of water supplies; 54 complaints in 2011 and two confirmed cases of contamination; 59 complaints in 2012 and two confirmed contaminations; and 40 complaints for the first 11 months of 2013, with two confirmed contaminations and 14 still under investigation.²
- West Virginia has had 122 complaints that drilling contaminated water wells over the past four years, and in four cases the evidence was strong enough that the driller agreed to take corrective action.³

Baseline water testing is necessary to identify and remedy water contamination

- Baseline water quality testing of surface and ground waters before drilling is necessary to assess the impacts of drilling on water quality.
- Subsequent monitoring, during and after drilling operations, further ensures that contamination events connected with hydraulic fracturing are identified and remedied as soon as possible and that responsible parties are identified.
- Baseline testing and monitoring benefits landowners and drilling operators because it can resolve the causation questions that arise when a well is contaminated.

Strong presumptive liability standards encourage baseline testing

- Before the 2014 legislative session, drilling companies were presumed to be responsible for water contamination that occurs within a 5000 ft. radius of a wellhead. This distance was reduced by almost half by Session law 2014-4, to a half-mile radius.⁴

¹ <http://powersource.post-gazette.com/powersource/policy-powersource/2014/07/19/Corbett-administration-agrees-to-halt-new-natural-gas-leases-under-state-parks-and-forests/stories/201407190031>

² <http://www.usatoday.com/story/money/business/2014/01/05/some-states-confirm-water-pollution-from-drilling/4328859/>

³ *Id.*

- Duke University researchers found, in their 2011 peer reviewed study, that drinking well contamination is correlated with proximity to a gas well, and recommended a radius for baseline testing of at least 3,000 feet from the wellhead.⁵

North Carolina law implies that the owner is responsible for baseline testing

- Session Law 2014-4 specifies that permittees are responsible for paying for baseline testing and, but stops short of specifying that operators have to responsibility for **conducting** the tests, implying that it is the responsibility of the owner. This discourages baseline testing.
- The proposed MEC rules specify that if an owner does not conduct baseline testing, they waive the protection that presumptive liability provides.
- North Carolina law requires four samples in the two years after production has commenced. However, this is will not catch leaks that occur more than 2 years after production has commenced. A 2012 review of Pennsylvania's Department of Environmental Protection inspection and violation databases found that 6-7% of gas wells in Pennsylvania have compromised structural integrity within three years of being drilled and that the frequency of structural integrity problems increase over time.⁶

Recommendations

To plan for and mitigate any health and safety issues that arise from fracking, the Mining & Energy Commission should:

- Urge the General Assembly to restore the presumptive liability distance of 5,000 feet, as it was before the passage of Session Law 2014-4, or at a minimum of 3,000 feet as recommended by a 2011 Duke University study.⁷
- In addition to requiring baseline testing as required by S786, the MEC should require the horizontal aspects of the drill hole to be separated by at least 1000 vertical feet from groundwater to address the heightened risk that arises due to the shallow nature of the Deep River shale.
- Remove the implication that the landowner is responsible for baseline testing, requiring instead that operators implement the testing program, utilizing approved 3rd party labs.
- Extend the requirement for baseline testing from 2 years after drilling to 4, or even 6 years after drilling.

For more information, please contact: Mary Maclean Asbill (mamasbill@selcnc.org) or Brooks Rainey Pearson (bpearson@selcnc.org) at the Southern Environmental Law Center.

⁴ Site SL 2014-4

⁵ Robert Jackson et al., Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction, *PNAS*, June 2013.

⁶ A.I. Ingraffea. "Fluid Migration Mechanisms Due to Faulty Well Design and/or Construction: An Overview and Recent Experiences in the Pennsylvania Marcellus Play." Physicians, Scientists, and Engineers for Healthy Energy, 2012.

⁷ Robert Jackson et al., Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction, *PNAS*, June 2013.