

From: "Karl Seeley" <SeeleyK@hartwick.edu>
To: Edward Hanlon/DC/USEPA/US@EPA
Date: 04/05/2010 11:26 AM
Subject: Hydraulic fracturing: scope of study

Dear Mr. Hanlon,

I am writing in connection with the hearing this Thursday on the water-quality impacts of horizontal drilling and hydraulic fracturing for natural gas extraction.

The scope of the evaluation seems generally good, except for the glaring omission of consideration of cumulative impacts. A single HF well is almost certainly a non-issue: even if there's a problem, the damage is inherently limited, and the odds of a problem may be low. 1,000 wells are a different story. First of all, even if an individual well has only a 1% chance of failure and failures are independent (which is a questionable assumption), the probability of there being no failures at all is essentially zero; the probability of more than 10 failures is over 40%. And we're not talking about just 1,000 wells, but more like 10,000.

Presumably the chemicals of concern are in part dose-dependent. The dose a person is likely to be exposed to is clearly related to the number of likely events, so the possible impacts can't be reasonably assessed without an examination of the probable scope of HF activity, the likelihood of individual events, and the possible degree of interdependence among events.

In addition, though your current charge from Congress focuses on water quality, there are other environmental implications of HF that your rule-making should be taking into consideration:

1. Local air quality impacts from large increases in trucking and operation of drilling rigs and compressors.
2. Global warming impacts: Methane delivers more energy per unit of CO₂ from combustion than either coal or petroleum, but the extraction of methane through HF entails burning large amounts of petroleum, so the life-cycle impact should be compared with the life-cycle impacts of coal and petroleum. Also, some amount of leakage of the methane itself is likely, and methane is a much more potent greenhouse gas than is CO₂.
3. Road damage may not seem directly like an environmental impact, but it contributes to siltation of waterways.

Thank you for your attention to these matters. I hope that EPA regulation of high-volume hydraulic fracturing

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