



# Investor Environmental Health Network

HEALTHY PEOPLE...HEALTHY BUSINESS

March 26, 2010

Edward Hanlon  
Designated Federal Officer  
EPA Science Advisory Board (1400F)  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

Re: Comments to SAB Panel on Hydraulic Fracturing

Dear Mr. Hanlon:

As requested by EPA, I am submitting a hard copy of my five minute oral statement for the SAB hydraulic fracturing panel, and am also submitting an unsigned copy of this cover letter and the statement electronically.

The oral statement is accompanied by two short attachments—a list of the companies at which shareholder resolutions have been filed and the specific resolution filed at Cabot Oil & Gas stating our major concerns.

Thank you for providing this opportunity to comment.

Sincerely yours,

Richard A. Liroff  
Executive Director

Oral Statement of Richard Liroff, Investor Environmental Health Network  
To  
EPA SAB Environmental Engineering Committee  
Panel on Hydraulic Fracturing Review  
April 7, 2010

My name is Richard Liroff. I am Executive Director of the Investor Environmental Health Network (IEHN). IEHN is a network of investors focused on the risks and opportunities associated with environmental issues in their portfolio companies. With Green Century Capital Management in Boston, we are coordinating an investor campaign to promote improved disclosure by the natural gas companies our members own about the business and environmental hazards of fracturing.

IEHN strongly supports this new EPA initiative because investors depend on good science to help make sound investment decisions. But we're finding enormous information gaps that need to be addressed. EPA's research can fill these gaps.

Investors make decisions to invest in sectors and individual companies based on evaluation of risks and rewards. Some key risks include:

- Regulatory and litigation risk
- Competitive risk
- Reputational risk
- Physical risk, and
- Supply chain risk

Currently, investors lack sufficient information on the environmental health hazards of fracturing--which carry litigation, reputational, competitive, and regulatory risks. We also have insufficient information to distinguish the companies that fully understand and are addressing the risks attendant to fracturing from those that are not.

In our own efforts to learn more about environmental hazards, investors have engaged approximately 20 companies via letters, phone calls, and meetings.

We have specifically requested:

1. increased disclosure of the environmental hazards from fraccing
2. information about corporate risk management policies—adoption of precautionary best management practices\* and policies beyond currently uneven state regulatory requirements
3. information about financial risks arising from environmental concerns

Investors have filed shareholder resolutions at 12 of the 20 companies. Resolutions have been withdrawn in some cases when companies have agreed to enhanced disclosures.

We have four priority recommendations for EPA's review:

1. **We support EPA taking a "Life Cycle Approach" to fracturing.** In narrow, definitional terms, fracturing is a physical operation thousands of feet below the surface. Hazards seem remote. But viewed in life cycle terms, the fracturing of each well requires moving literally millions of gallons of water, chemicals, and wastewater; environmental hazards are present at every step in this process. The most immediate hazards from

fracturing operations are on or near the surface, including transport to and from the site, on-site storage, and inadequate cementing of the bore hole.

2. **We support EPA taking a hard look at the volumes of chemicals used, their toxicity, and their associated risks.** Fracturing additives may comprise only 0.5-2% of a fracturing job, but as the USGS points out, 0.5% of a three million gallon fracturing job is 15,000 gallons of chemicals, many of which are highly toxic in minute concentrations.
3. **EPA should look at the cumulative regional impact of fracturing.** In New York State and Pennsylvania, there are major outstanding questions regarding capacity for wastewater disposal and the disposal of the waste residuals generated from wastewater recycling. In Texas, Colorado, and Wyoming, there may be regional air quality impacts.
4. **Investors strongly support EPA's plan for systematic stakeholder engagement with this study.**

Investors believe that natural gas has an important role to play in addressing our nation's energy and national security needs, but hydraulic fracturing must be done in an environmentally responsible manner.

Thank you very much for providing this opportunity to comment.

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\*Although investors' intent is not to "micromanage" companies, we believe best management practices to reduce environmental risks can include, for example:

- Specifying use of lower toxicity fracturing fluids that meet functional and cost requirements
- Cement bond logging to assure integrity of cementing jobs
- Recycling and reuse of fracturing waste water, where technically feasible, to reduce freshwater demand and reduce impacts associated with transport and discharge of wastewaters
- Pre-drilling water quality monitoring, to establish baseline water quality conditions
- "Green completions" where technically feasible, to reduce resource waste and air quality impacts
- More robust public disclosure of chemicals used
- Candid acknowledgement of public concerns about the volumes of chemicals and wastewaters resulting from fracturing, accompanied by adoption of best management practices such as those above to allay these concerns

Attachments: List of resolutions, representative resolution at Cabot Oil and Gas

Status of Shareholder Resolutions Filed at Natural Gas Companies as of March 26, 2010

Company	Status	Lead Filer
Cabot Oil and Gas	Company challenge at SEC unsuccessful	New York State Common Retirement Fund
Chesapeake Energy Corporation	Company challenge at SEC pending	New York State Common Retirement Fund, Green Century Capital Management
El Paso Corporation		Miller/Howard Investments
Energen Corporation	Withdrawn; procedural grounds	Miller/Howard Investments
EOG Resources	Company challenge at SEC unsuccessful	Green Century Capital Management
EQT Corporation	Omitted, per SEC, on procedural grounds	Miller/Howard Investments
ExxonMobil		As You Sow Foundation
Hess Corporation	Withdrawn in response to corporate commitments	New York State Common Retirement Fund
Range Resources		New York State Common Retirement Fund
Ultra Petroleum	Company challenge at SEC pending	Green Century Capital Management
Williams Companies		Green Century Capital Management
XTO Energy, Inc.	Company has merger agreement with ExxonMobil	New York State Common Retirement Fund

**Safer Alternatives for Natural Gas Exploration and Development**

**Whereas,**

Onshore “unconventional” natural gas production requiring hydraulic fracturing, which injects a mix of water, chemicals, and particles underground to create fractures through which gas can flow for collection, is estimated to increase by 45% between 2007 and 2030. An estimated 60-80% of natural gas wells drilled in the next decade will require hydraulic fracturing.

Fracturing operations can have significant impacts on surrounding communities including the potential for increased incidents of toxic spills, impacts to local water quantity and quality, and degradation of air quality. Government officials in Ohio, Pennsylvania and Colorado have documented methane gas linked to fracturing operations in drinking water. In Wyoming, the US Environmental Protection Agency (EPA) recently found a chemical known to be used in fracturing in at least three wells adjacent to drilling operations.

There is virtually no public disclosure of chemicals used at fracturing locations. The Energy Policy Act of 2005 stripped EPA of its authority to regulate fracturing under the Safe Drinking Water Act and state regulation is uneven and limited. But recently, some new federal and state regulations have been proposed. In June 2009, federal legislation to reinstate EPA authority to regulate fracturing was introduced. In September 2009, the New York State Department of Environmental Conservation released draft permit conditions that would require disclosure of chemicals used, specific well construction protocols, and baseline pre-testing of surrounding drinking water wells. New York sits above part of the Marcellus Shale, which some believe to be the largest onshore natural gas reserve.

Media attention has increased exponentially. A search of the Nexis Mega-News library on November 11, 2009 found 1807 articles mentioning "hydraulic fracturing" and environment in the last two years, a 265 percent increase over the prior three years.

Because of public concern, in September 2009, some natural gas operators and drillers began advocating greater disclosure of the chemical constituents used in fracturing.

In the proponents’ opinion, emerging technologies to track “chemical signatures” from drilling activities increase the potential for reputational damage and vulnerability to litigation. Furthermore, we believe uneven regulatory controls and reported contamination incidents compel companies to protect their long-term financial interests by taking measures beyond regulatory requirements to reduce environmental hazards.

**Therefore be it resolved,**

Shareholders request that the Board of Directors prepare a report by September 1, 2010, at reasonable cost and omitting proprietary information, summarizing 1.the environmental impact of fracturing operations of Cabot Oil & Gas; 2. potential policies for the company to adopt, above and beyond regulatory requirements, to reduce or eliminate hazards to air, water, and soil quality from fracturing; and 3. other information regarding the scale, likelihood and/or impacts of potential material risks, short or long term, to the company's finances or operations, due to environmental concerns regarding fracturing.

**Supporting statement:**

Proponents believe the policies explored by the report should include, among other things, use of less toxic fracturing fluids, recycling or reuse of waste fluids, and other structural or procedural strategies to reduce fracturing hazards.