



Connecticut  
Petroleum Council

A Division of API

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**Testimony of the Connecticut Petroleum Council in Opposition to HB-5409**  
**Hydraulic Fracturing / Hazardous Waste Bill**

The Connecticut Petroleum Council---whose members include many companies that drill wells and hydraulically fracture (HF) for oil, natural gas and propane---strongly opposes HB-5409, which requires DEEP to regulate hydraulic fracturing waste as hazardous waste under current CT hazardous waste rules. Oil & gas wastes, long categorized as “special wastes,” are already regulated by a strict combination of federal/state rules; imposing an additional layer of rules is scientifically unjustified, prohibitively expensive, and unnecessarily burdensome.

It is unlikely that oil and gas wastes would be treated in Connecticut because of the current moratorium on high-volume hydraulic fracturing in New York, our distance from the portion of upstate New York that contains the natural gas-rich Marcellus Shale, and the fact that much of the waste stream is now being treated on-site. Still, the possibility exists wastes could be treated here at a date far down the road, once the moratorium is lifted, so we want to address HB-5409.

**Reasons for Objections**

- EPA has already ruled that wastes from the exploration & production of oil and gas wells are not hazardous wastes, because they do not rise to that level. EPA “issued a regulatory determination stating that control of E & P wastes under RCRA Subtitle regulations is not warranted.” Instead, they are regulated as “special wastes,” a category used for many common wastes such as cement kiln and mining wastes. Usurping EPA’s technical experience on this topic---without any scientific findings to the contrary---is technically unjustifiable. No state has ever classified oil and gas wastes as hazardous wastes. See attachment on water (90%), sand (9.5%), and additives (0.5%) in the waste stream.
- All oil and gas “special wastes” are heavily regulated under both federal and state rules and every oil and natural gas well is individually permitted. “Special wastes” from those wells are *not* unregulated as some have suggested. See Attachment showing regulation under federal rules. Actual physical inspections of well sites take place in addition to paperwork requirements. Some permits may require up to 20 different plans (e.g. waste water plan, storm water plan, spill prevention plan); many plans require approval by a Professional Engineer (P.E.) See Attachment showing 7 different waste-related permits required just in Pennsylvania. See also the Attachment on API industry-recommended practices, HF-1 (wells), HF-2 (water), HF-3 (surface impacts).
- If Connecticut passes this bill, once again we will have a two-tier regulatory system---with differing federal and state rules---a major source of contention within the business community here. There is no need to go further than the already-stringent EPA rules.

- This bill discourages recycling and reuse---a longtime priority of the Connecticut General Assembly. In Pennsylvania, about 90% of the water used in HF is being recycled, thereby reducing the waste stream, truck traffic and operating costs. Oil & gas wastes, so long as they remain categorized as “special wastes,” can be recycled---frequently on site---but if classified as hazardous waste, treatment options---including recycling---are quite limited. EPA says less than 4% of hazardous wastes are recycled, so it greatly benefits the environment to retain the “special waste” designation and continue current recycling activity.
- Treating common oil & gas wastes as hazardous wastes instead of special wastes will substantially increase the cost of treating them. One major energy producer in NY calculated projected cost increases at an *additional* \$5.5 million per well, and possibly as much as \$15 million, if oil & gas wastes are re-categorized as hazardous waste in that state. Ultimately it is natural gas customers who pay for that.
- Classification as a hazardous waste would eliminate and discourage new technologies related to re-use and recycling by requiring that all wastes be transported and disposed of in hazardous waste facilities. New technologies are constantly being evaluated and should be encouraged. Some of them will bring new jobs.
- How can Connecticut reconcile passage of last year’s Comprehensive Energy Strategy---which relies heavily on natural gas from the Marcellus Shale (NY) to convert 280,000 customers to natural gas---with such severe restrictions on treating the wastes coming from that very fuel source? How can state policy advocate for enormous amounts of additional natural gas, yet treat the waste stream from that gas as hazardous waste when after extensive analysis the EPA itself has found no reason to do so? Hydraulic fracturing has made natural gas supply plentiful, helped reduce sulfur, PM and mercury emissions, reduced greenhouse gas emissions, and reduced foreign fuel imports. We recommend leaving the current system as is---because it works!
- The study required in section (c) of the bill is unworkable. We are aware of no product in commerce (including drinking water) that could meet the proposed standard of “do not threaten in any way” as required in this bill. This section should be deleted entirely or completely rewritten using much more practical language.
- Finally, we strongly recommend against including any language that prohibits or limits transporting, treating, discharging, processing, recycling, storing and/or disposing of HF wastes. Incorporating that language is the equivalent of a “back-door ban,” since all cuttings and fluids at some point will have to be transported, treated, discharged, processed, recycled, stored and/or disposed of. If that can’t be done, natural gas cannot be produced. Including that language is inconsistent with the governor’s plan to bring more gas to Connecticut.

Thank you for considering our testimony. Please contact us if you have questions or comments.



March 4, 2014

### **Benefits and Key Facts About Hydraulic Fracturing (for Natural Gas and Oil)**

- The U.S. is now the world's leading producer of natural gas, surpassing Russia. Over 60% of the natural gas produced in the U.S. today comes from hydraulic fracturing, which **reduces imports of foreign oil and gives us energy independence**. The U.S. is becoming an energy superpower.
- Hydraulic fracturing, or “fracking,” has created an enormous supply of natural gas in the U.S., **pushing down the price** (nationally) from \$13.58 per million BTU's (MMBTU's) (July, 2008) to under \$5.00 (February, 2014). That benefits homeowners, municipalities, manufacturers and the state itself. It helps reduce the cost of electricity, since over 50% of the region's power is generated by natural gas.
- **Oil produced in the U.S., (much of it fracked), continues to cost less** (about \$102/barrel) than non-hydraulically fractured Brent crude oil (about \$110/barrel), thereby helping reduce the cost of gasoline, diesel fuel and heating oil.
- Increased use of natural gas is **environmentally beneficial**: it reduces to almost zero sulfur, particulate matter (PM) and mercury emissions, and reduces greenhouse gas emissions by 30% compared to oil and 45% compared to coal. The water used in fracking can be recycled. Fracked gas is needed to comply with the state's new energy plan (CES) passed last year, and the climate change law passed by the CT legislature in 2008.
- Connecticut has no commercial oil or natural gas resources, **so no fracking takes place here**.
- Hydraulic fracturing (in states that produce oil and gas, such as NY, PA, and OH) **is heavily regulated by a combination of federal rules** (Clean Water Act, Safe Drinking Water Act, Superfund, and Clean Air Act) **and state rules**.
- In CT, DEEP regulations already bar the underground injection of oil and gas wastes (Class II wells), so **no fracking wastes from other states can be buried here**. No additional rules are needed because there is no oil or natural gas production here. Bans, moratoriums and other restrictions send a mixed message, discourage investment, and should be avoided. Recycling should be encouraged. Connecticut does need more natural gas pipelines.
- A safe history of fracking: Done over 1 million times with **no groundwater contamination**.

###

# Stimulation

The fracturing mixture consists primarily of fresh water mixed with some sand and a small proportion of common chemicals.



## 0.5% CHEMICAL ADDITIVES

90% WATER

9.5% SAND

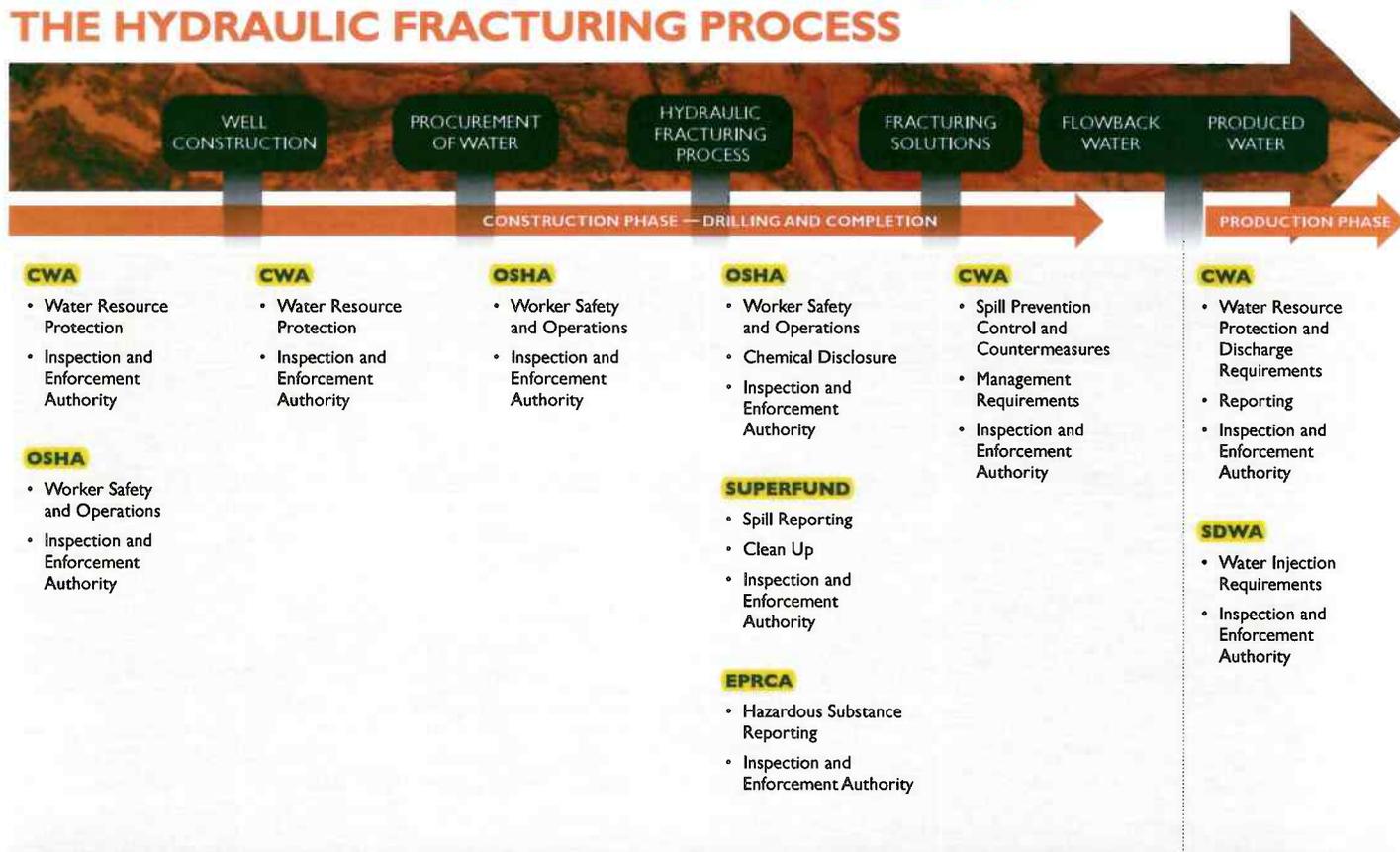
Compound	Purpose	Common Application
<b>Acids</b>	Helps dissolve minerals and initiate fissure in rock (pre-fracture)	Swimming pool cleaner
<b>Sodium Chloride</b>	Allows a delayed breakdown of the gel polymer chains	Table salt
<b>Polyacrylamide</b>	Minimizes the friction between fluid and pipe	Water treatment, soil conditioner
<b>Ethylene Glycol</b>	Prevents scale deposits in the pipe	Automotive anti-freeze, deicing agent, household cleaners
<b>Borate Salts</b>	Maintains fluid viscosity as temperature increases	Laundry detergent, hand soap, cosmetics
<b>Sodium/Potassium Carbonate</b>	Maintains effectiveness of other components, such as crosslinkers	Washing soda, detergent, soap, water softener, glass, ceramics
<b>Glutaraldehyde</b>	Eliminates bacteria in the water	Disinfectant, sterilization of medical and dental equipment
<b>Guar Gum</b>	Thickens the water to suspend the sand	Thickener in cosmetics, baked goods, ice cream, toothpaste, sauces
<b>Citric Acid</b>	Prevents precipitation of metal oxides	Food additive; food and beverages; lemon juice
<b>Isopropanol</b>	Used to increase the viscosity of the fracture fluid	Glass cleaner, antiperspirant, hair coloring

Source: DOE, GWPC: Modern Gas Shale Development in the United States: A Primer (2009)

After the wells on a pad are drilled, cased and cemented, a device perforates the horizontal part of the production pipe to make small holes in the casing, exposing the wellbore to the shale. Then a mixture of water (90 percent), sand (9.5 percent) and chemicals

(0.5 percent) is pumped into the well under high pressure to create micro-fractures in the shale and free natural gas or oil. Sand keeps the fractures open after the pressure is released. The chemicals are chiefly agents to reduce friction and prevent corrosion.

### FEDERAL STATUTES REGULATE EVERY STEP OF THE HYDRAULIC FRACTURING PROCESS



CWA: Clean Water Act • OSHA: Occupational Safety and Health Administration • SDWA: Safe Drinking Water Act • EPRCA: Community "Right to Know" Act

Source <http://energyindepth.org/wp-content/uploads/2009/03/Federal-Hydraulic-Fracturing-Process.pdf>

Contrary to popular myth federal regulations provide a broad regulatory foundation for energy development in the United States. Key federal regulations governing shale development include: Clean Water Act; Clean Air Act; Safe Drinking Water Act; National Environmental

Policy Act; Resource Conservation and Recovery Act; Emergency Planning and Community Right to Know Act; Endangered Species Act and the Occupational Safety and Health Act.

# State Regulation

Effective hydraulic fracturing regulation can only be achieved at the state level as state regulations can be tailored to geological and local needs. Key state regulations include: Review and approval of permits; Well design, location and spacing; Drilling operations; Water

management and disposal; Air emissions; Wildlife impacts; Surface disturbance; Worker health and safety; and Inspection and enforcement of day-to-day oil and gas operations.

## For example, the following are just some of the permits required in Pennsylvania:

1	Well drilling permit (w/ well location plat, casing and cementing plan, PNDI for threatened or endangered species, landowner/water well owner notifications, coal owner or operator notification and gas storage field owner notification)
2	<b>Water management plan for Marcellus Shale wells</b>
3	Proposed alternate method of casing, plugging, venting or equipping a well
4	Bond for Oil and Gas Well(s) (individual or blanket, various bond types allowed)
5	Waiver of distance requirements from spring, stream, body of water, or wetland (to put the well closer than 200 feet)
6	Variance from distance restriction from existing building or water supply (to put the well closer than 100 feet)
7	Proposed alternate method or material for casing, plugging, venting or equipping a well
8	<b>Approval for alternative waste management practices</b>
9	<b>Approval of a pit for control, handling or storage of production fluids</b>
10	Use of alternate pit liner
11	NPDES GP-1 for discharges from stripper oil wells
12	Water Quality Management Permit for treatment facilities
13	Alternative pit liners
14	Inactive status
15	<b>Roadspreading plan approval</b>
16	Transfer of well permit or registration
17	Orphan well classification
18	<b>Off-site solids disposal</b>
19	<b>Residual waste transfer stations and processing facilities</b>
20	<b>Transportation of residual waste</b>
21	Road use permit – construction of access to state roadway
22	Road use bond (PennDOT or municipality)
23	Surface use permit (if in the Allegheny National Forest)
24	PASPGP-3 or PASPGP-4 for pipelines crossing streams (if < 1 acre)
25	Water Obstruction – Encroachment – US Army Corps of Engineers Section 404 Joint Permit
26	Dam permit for a centralized impoundment dam for Marcellus Shale gas wells
27	GP-11 for non-road engine air emissions
28	GP-05 for natural gas compression facilities emissions
29	Earth disturbance permit (if > 5 acres)
30	Erosion and sedimentation control permit (if > 25 acres)
31	NPDES storm water for construction activities
32	Water allocation (SRBC, DRBC or DEP for Ohio River basin)
33	GP-3 for bank rehabilitation, bank protection, and gravel bar removal
34	GP-4 for intake and outfall structures
35	GP-5 for utility line stream crossings
36	GP-7 for minor road crossings
37	GP-8 for temporary road crossings
38	GP-11 Maintenance, Testing, Repair, Rehabilitation or Replacement of Water Obstructions and Encroachments

# Industry Standards

Existing regulations covering well design requirements and hydraulic fracturing operations are specifically formulated to protect groundwater.

Working through API's ANSI-accredited standards program, the industry has adopted standards and practices for continuous improvement, hundreds of which are referenced in state regulations thousands of times.

Several federal agencies, including the Environmental Protection Agency, the Bureau of Land Management, and the Occupational Safety and Health Administration, also cite API standards.



Source: <http://www.api.org/policy-and-issues/policy-items/hf/shale-answers>

Working through API's ANSI-accredited standards program, the industry has adopted standards and practices for continuous improvement, hundreds of which are referenced in state regulations thousands of times. Several federal agencies, including the Environmental Protection Agency, the Bureau of Land Management and the Occupational Safety and Health Administration, also cite API standards. Industry also works closely with STRONGER, a non-profit organization

that helps states formulate environmental regulations associated with oil and natural gas development. The FracFocus.org chemical disclosure registry provides information on hydraulic fracturing fluid used in nearly 56,000 wells. Industry activity is subject to a number of federal and state laws including the Safe Drinking Water Act, the Clean Water Act, the Clean Air Act and the National Environmental Policy Act.