

## Food & Water Watch Testimony

### Senate Bill 103 An Act Concerning Hydraulic Fracturing in CT

To the Honorable Senator Miner, Senator Kennedy, Representative Demicco and distinguished members of the Environment Committee,

On behalf of:

- our 20,000 members and supporters in Connecticut
- the citizen groups and local legislators we have collaborated with across Connecticut
- the 37 towns and cities that have passed comprehensive local ordinances, and the constituents who urge state legislators to take action

#### **Food & Water Watch fully supports Senate Bill 103.**

Hydraulic fracturing waste needs to be permanently banned in CT. The current mandate in state law to write regulations will lead to future permits. Regulations cannot protect CT from future contamination.

In nearby states, where drilling and extraction activity is regulated, thousands of violations are occurring. The top violation reported is “failure to properly store, transport, process or dispose of residual waste”.

Real-time handling of this waste often lead to accidents, spills, leaks, improper testing for radioactivity and inadequate treatment, resulting in run-off and post-treatment still-contaminated effluent being discharged into waterways. The volume of the waste stream is excessive. In PA alone, billions of gallons of liquid waste and hundreds of thousands of tons of solid wastes have been produced in a single year.

Soils & sediments in waterways (creek, river and lake) in Pennsylvania and other states are now radioactive with high levels of Radium, and are contaminated with carcinogenic and endocrine- disrupting chemicals, iodides and chlorides. Surface waters, aquifers and drinking water have been contaminated.

**For all these reasons, we commend you for your consideration of changing current state law and permanently prohibiting hydraulic fracturing wastes.**

In New York, fifteen county legislatures have passed waste bans, protecting hundreds of municipalities. All fifteen county legislatures have included civil penalties, most with \$25,000 fines and up to 30 days imprisonment per each violation. We urge you to consider penalties for violating state law as a deterrent to illegal activity.

We also respectfully request that additional language be included to further strengthen this bill.

Hydraulic fracturing is **one** process of many used during drilling and extraction activity. It is the moment in time when each well is injected with an average of 4,500,000 gallons of chemically-laced solution. The waste that immediately flows back to the surface in the few weeks following is extremely toxic. It contains many hazardous chemicals pumped into the well, and naturally-occurring toxins buried deep in the ground that mix with this fluid after the rock is shattered.

Though the current state moratorium and Senate Bill 103 specifically prohibit types of wastes (wastewater, wastewater solids, brine, sludge, drill cuttings and other substance) there are **many** other processes that **also** produce these types of waste.

The issue with the state language is it ties the waste to this one process of hydraulic fracturing or “derived secondarily to the purpose” of this process. There is ambiguity in what *derived secondarily to the purpose of pumping a fluid in the ground* actually means. This wording may not cover other wastes produced during other drilling and extraction activity, such as:

- **Drilling Process:** Huge amounts of solid, and some liquid wastes are produced for a month *before* hydraulic fracturing occurs. This is not derived secondarily to hydraulic fracturing. This includes mostly drill cuttings, and drilling muds, brine and sludge. Liquids leach out of this wet, high-silt content solid waste. Leachate from solid waste sent to landfills can contain chemicals, radioactivity and other naturally-occurring toxins.
- **Dehydration Process:** When gas comes to the surface, a toxic brine is mixed into it and must be removed before shipping gas by pipe to other locations. This brine waste is derived from dehydrating gas in specialized tanks. This makes up the bulk of liquid wastes produced from extraction activity. Far more brine is produced for months and years after pumping the well is completed. It is unclear if *derived secondarily to the purpose of pumping a fluid* covers brines produced 1, 5, 10 or more years later during this dehydration process of gas. This brine can be radioactive, contain residual chemicals and other naturally-occurring toxins.
- **Storage Process:** Large quantities of gas are stored underground in caverns before it is shipped long distances. There is waste or “fall out brine” from underground storage and LPG storage. This is waste derived from storing gas.
- **Gas well drilling and extraction wastes** where the method of hydraulic fracturing is not used, and wastes from oil wells are not included.

Prohibition of wastes from all oil and gas drilling and extraction activity is needed to fully protect Connecticut. The enormous waste stream being produced to date is going to exponential increase in coming years. To date, more than 10,000 high

volume, horizontal wells have been fractured in PA. Each well can be repeatedly re-fractured as the well ages and produces less gas. It is estimated that 80,000 wells will be drilled in the highly radioactive Marcellus Shale play before this gas is exhausted, and each can be hydraulically fractured numerous times.

Lack of supervision, co-mingling of wastes together from many sources and sites, inadequate testing for radioactivity and treatment, and failure to categorize all toxins produced at each well site make it impossible for Commissioner Klee and DEEP staff to track this waste from “cradle to grave” or to reasonably know what contaminants are contained in each tanker load. This waste is clearly hazardous, and it also *exceeds* hazardous waste guidelines due to lack of monitoring and naturally-occurring radioactivity.

Radium 226 and 228 are radioactive contaminants commonly found in these wastes.

- Radium is known to cause breast cancer, bone cancer and liver cancer, and is associated with childhood and adult leukemia.
- Radium226 has a half-life of 1,600 years and decays into other radioactive progeny. When the decay cycle is completed, the final product is lead.

The time-consuming and costly testing and treatment methods needed for Radium contaminated wastes are not likely to be included in DEEP Best Management Practices. Regulations do not give DEEP additional enforcement capability and DEEP is currently operating with a severely reduced workforce and budget.

Regulations do not provide supervision for multiple out of state contractors or ensure manifests are accurately written. These problems are already being seen in other states where waste is produced, transported, transferred, treated and disposed.

With regard to use of by-products through Beneficial Use Determination (BUD) permits:

- The waste materials being sold by private contractors have limited oversight - no one is monitoring how these companies are testing their product for radioactivity.
- “Screening” or likely using Geiger counters, is not an adequate testing procedure for radioactivity (not calibrated properly, difficulty measuring low-level radioactivity, alpha & beta radiation, total decay progeny not tested).
- Expensive 15-30 day hold periods prior to specialized gamma spectroscopy testing is likely not done, due to storage limitations and impacts to profit margins.
- By-products that are processed and inadequately tested may no longer be classified as hazardous waste, due to faulty testing procedures, but nevertheless may still be radioactive and chemically contaminated, qualifying as hazardous.

The Pennsylvania Department of Environmental Protection ignored the testimony from public health and environmental advocates, urging them not to allow solid wastes to be given BUD permits. Inadequate testing and oversight were key oppositions. PA regulators ignored this advice and issued permits for 5 years. They later rescinded this policy, merely citing “lack of transparency” concerning materials that were being permitted.

The West Virginia State Legislature commissioned a study from Marshall University engineers. Engineers advised not allowing solid wastes to be used in construction fill and base material underneath paved roads due to:

- High silt and fluid content, which could result in future road settling and costly remediation
- Cost to transport and process
- Materials containing radioactivity and other contaminants

We ask each member to demonstrate strong leadership and pass Senate Bill 103 out of committee, preferably with amendments.

Additional information concerning the hazards of oil & gas drilling wastes, and incidences of contamination can be found through Concerned Health Professionals of NY (CHPNY). Their Compendium summarizes scientific research into short, easy-to-read paragraphs. Please see <http://concernedhealthny.org/>

Thank you for considering this testimony.

Signed,

Alex Beachamp

Northeast Region Director

Nisha Swinton

New England Senior Organizer

Jen Siskind

CT Local Coordinator