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Empowering Communities, Advocating Solutions.

**Testimony to the CGA Environment Committee
By Louis W. Burch
Citizens Campaign for the Environment**

**February 23, 2018
Hartford, CT**

Senator Kennedy, Senator Miner, Representative Demicco, distinguished vice chairs, ranking members and esteemed members of the CGA Environment Committee, thank you for the opportunity to submit testimony today.

My name is Louis Burch, Connecticut Program Director for Citizens Campaign for the Environment (CCE). Supported by over 80,000 members in Connecticut and New York State, CCE works to empower communities and advocate for solutions that protect public health and the natural environment. CCE appreciates the opportunity to offer testimony in support of SB 103, SB 104, and HB 5130:

SB 103- AAC Hydraulic Fracturing Waste in Connecticut

The CT General Assembly passed a law in 2014 (PA 14-200) establishing a three year moratorium on the storage, treatment and disposal of hydraulic fracturing waste in our state, requiring the approval of regulations by the CT Dept. of Energy and Environmental Protection (DEEP) that would ensure any fracking waste products brought into Connecticut do not pose an adverse risk to our air, water and soil resources or public health. This was done with an understanding that fracking wastes and fracking waste by-products pose inherent risks to our environment and health, due to the wide variety of toxic chemical compounds contained therein, as well as the potential for contamination with high levels of naturally occurring radioactive materials.

Toxic Fracking Waste Comes in Many Forms

An independent analysis revealed that one-third of all natural gas wells are fracked with the use of carcinogenic compounds, including formaldehyde, methanol, ethylene glycol, diesel fuel, hydrochloric acid, ethyl benzene, and toluene.¹ Contaminated *flowback fluids* that return to the surface during the drilling process typically contain highly concentrated quantities of these toxic chemicals used in this process. The *production brine* that flows out of a producing gas well can be five times saltier than seawater, can contain trace amounts of chemicals used for fracking, and bring up other naturally occurring contaminants that have been buried underground.

¹ U.S. House of Reps Committee on Energy & Commerce Report- Chemicals Used in Hydraulic Fracturing
http://www.conservation.ca.gov/dog/general_information/Documents/Hydraulic%20Fracturing%20Report%204%2018%2011.pdf

Drill cuttings, or drilled rock removed from the well bore, can be contaminated with naturally occurring contaminants such as radioactivity. Drill cuttings are commonly disposed of at landfills or dumped illegally. Dewatered drill cuttings can leak onto roads, and end up in landfill leachate. Landfill leachate is typically treated and disposed of at wastewater treatment facilities, which are not technologically equipped to treat or remove those toxic and radioactive constituents.

Perhaps the greatest challenge in addressing fracking waste stems from the inability to accurately detect and mitigate radioactivity from fracking waste products in real time. Shale formations contain high levels of Naturally Occurring Radioactive Materials (NORMs), including Radium-226, which has a half-life of over 1,600 years. Radon occurs naturally as a decay product of Radium-226, and therefore is present in rocks and soils. Radon is the leading cause of cancer among non-smokers, and Radium-226 is linked to bone, liver and breast cancer. *Flowback fluids, production brines, and drill cuttings from affected shale formations can all be contaminated with high levels of radiation.*

The radioactivity of production brines from vertical wells drilled in New York's Marcellus Shale was found to exceed Safe Drinking Water Act standards by up to 320,500%². Due to the high salinity and ionic strength of the chemical compounds found in fracking waste, radioactive materials are notoriously difficult to accurately detect outside of a laboratory setting. **Research shows that state regulators have been drastically underestimating the true radioactivity of liquid and solid fracking waste products by relying on technology that is inadequate for accurately measuring radiation levels in highly concentrated production brines**³. This makes it increasingly difficult to identify and address radioactive materials coming into our state, a reality DEEP has indicated they are grappling with to this day.

The Movement to Ban Fracking Waste in Connecticut

Due to the overwhelming science indicating that fracking wastes are toxic, potentially radioactive and pose significant threats to our air, water and public health, a movement has emerged and grown across Connecticut to prohibit the storage, treatment and disposal of these hazardous materials. To date, 35 towns in our state have passed local ordinances that go beyond the requirements of the current moratorium. In addition, more than 15 counties in New York have taken action to prohibit fracking waste within their borders.

CCE strongly supports a permanent prohibition on fracking waste in Connecticut and applauds this committee for taking up this important issue. We look forward to working with the committee to ensure the definitions in the legislation are clarified to ensure that all manner of fracking waste and fracking waste byproducts are included in the scope of this legislation (e.g. solid wastes, gas production waste, and any products derived from such materials). We support the passage of strong language to ban fracking waste in our state, which is comprehensive and complementary to the strong local ordinances that have been enacted around Connecticut.

² NYS DEC 2011 SGEIS on the Oil, Gas and Solution Mining Program
<http://www.dec.ny.gov/data/dmn/rdsgeisfull0911.pdf>

³ Matrix Complications in the Determination of Radium Levels in Hydraulic Fracturing Flowback Water from Marcellus Shale, Schultz, Nelson, et al, Environmental Science and Technology, February 2014:
<http://pubs.acs.org/doi/abs/10.1021/ez5000379>

SB 104- An Act Prohibiting the use of Residential Automatic Pesticide Misting Systems

A growing number of households are using outdoor pesticide misting systems to address insects. These devices spray a fine mist to kill or ward off mosquitoes, ticks and other insects, and often use pyrethrin or permethrin, which are highly toxic to fish and aquatic invertebrates and have been shown to cause liver and kidney damage in laboratory mice⁴.

Misting systems can be set to turn on at preset intervals using a timer, while others may be activated using a switch or remote control. Unfortunately, the U.S. Environmental Protection Agency (EPA) does not currently regulate these products, and many homeowners simply set their misters to spray chemical pesticides on a continuous stream.

Outdoor pesticide misting systems have not been studied sufficiently to document their effectiveness in controlling mosquitoes, nor have they been scientifically proven to control the spread of mosquito-borne illnesses such as West Nile Virus and other diseases. Additionally, they create a constant, low level exposure which can adversely affect the development of small children and wildlife. Excessive use of such systems, when chemicals are not used in accordance with their product labels, may pose unseen risks, especially among vulnerable populations.

Additionally, since pyrethrins and permethrin are toxic to *all* insects, they may also pose a threat to pollinators such as honeybees, butterflies and other non-target species. Connecticut has recently taken steps to preserve and promote the health of pollinators in our state, and banning pesticide misters would be another step in the right direction regarding the health of our struggling pollinator populations. **CCE strongly supports the Environment committee in their effort to further enhance protection of our pollinator species and human health by prohibiting residential pesticide misting systems as soon as possible.**

HB 5130- AAC the Sewage Right-to-Know Act and Expanding Continuing Education for Wastewater System Operators

Many communities across Connecticut are served by outdated and inefficient wastewater infrastructure. When sewage infrastructure fails or is not properly maintained millions of gallons of raw or partially treated sewage can enter our waterways, which carry potentially devastating impacts on the environment. Raw sewage overflows contaminate surface water resources, flood our streets, cause beach closures and fish die-offs. *According to the CT Department of Energy and Environmental Protection (DEEP), over 1 billion gallons of raw or partially treated sewage are discharged into our local waterways and the Long Island Sound each year.*

In 2012, CCE successfully advocated to pass Public Act 12-11, which established an electronic sewage overflow reporting system to inform the authorities and the public about sewage spills in a timely manner. The intent was to warn Connecticut families about spills happening in their area, so they may avoid health and safety risks that they may be exposed to while fishing, swimming, diving and boating. Unfortunately, the final version of that legislation did not explicitly require sewage treatment plant operators to actually use that reporting system. In order to fully protect the public from sewer overflows, it is essential that all sewer plant operators in the state be required to report sewer spills in a timely fashion, using the electronic sewer overflow reporting system.

⁴ http://www.pestgon.com/PDF/SDS/Pyrethrin%20Fogger_SDS.pdf

In October of 2016, a power failure at a sewer plant in Waterbury led to a discharge of more than 6 million gallons of raw sewage into the Naugatuck River. The spill took place over the weekend, and the appropriate state authorities were not notified until the following Monday. As a result, members of the public did not receive warning about the spill, and many discovered the event only after observing raw sewage for themselves. Worse yet, there was no communication between the City of Waterbury and its downstream neighbors, exposing the unsuspecting residents of Naugatuck to millions of gallons of untreated sewage. This is dangerous to public health.

This event highlights the urgent need for a real-time notification system to warn the public whenever sewage spills enter state waterways. Connecticut should take swift action to ensure that all sewer plant operators are required to participate in the program, while compelling DEEP to optimize the public notification component, within available resources. By exploring opportunities to optimize the system via social media or prominently displaying that info on the DEEP homepage, DEEP can take a first step toward enhancing the current public notification system to ensure Connecticut residents have timely, easy to access information about sewage spills in their area. **CCE strongly supports the intent of HB 5130 continuing education for operators, and recommends that this committee amend the bill to require sewer plant operators to participate in the electronic reporting system and charge DEEP to create a more user-friendly public notification process, within existing agency resources.**

Thank you for the opportunity to submit testimony on these important issues. CCE appreciates the committee's consideration and we look forward to working with you on these initiatives moving forward.