Testimony from the Vermont Public Interest Research Group (VPIRG) in Support of S.20

Senate Committee on Health and Welfare

March 11, 2021

Introduction

For the record my name is Marcie Gallagher, and I'm the environmental associate of the Vermont Public Interest Group (VPIRG). VPIRG is Vermont's largest consumer and environmental advocacy organization with approximately 50,000 members and supporters across the state. Thank you for the invitation to testify this morning on S.20.

I believe the members of this committee are familiar with VPIRG's long history of engagement on policy proposals related to toxic chemicals and the risk they can pose to human health and the environment. It is because of the very real threat posed by PFAS chemicals and the other toxins addressed in the legislation that VPIRG strongly supports S.20.

Background PFAS

PFAS, or poly- and perfluoroalkyl substances, are manufactured chemicals used in products such as food packaging, stain-resistant carpets, nonstick cookware, outdoor gear, and firefighting foams. They are extremely persistent in the environment (hence the "forever chemicals" name), and many build up, or bioaccumulate, in people and animals over time. They have also become notorious as drinking water contaminants over the past several years.

Exposure to PFAS is linked to a number of serious health concerns: cancers, thyroid hormone disruption and disease, liver and kidney toxicity, reproductive and developmental toxicity, and harm to the immune system. Nearly every U.S. resident has PFAS in their body, with studies finding PFAS in blood, breast milk, umbilical cord blood, amniotic fluid, placenta, and other tissues.

Even worse, this summer, the federal Agency for Toxic Substances and Disease Registry released a statement on the intersection between PFAS exposure and Covid-19, which cites studies showing a correlation between exposure to PFAS and a suppression of the immune system's ability to make antibodies – a critical component for fighting Covid-19 and other infectious diseases.

As Dr. Linda S. Birnbaum, former director of the National Institute of Environmental Health Sciences and National Toxicology Program, said, "PFAS can weaken our immune system, making us more vulnerable to infectious diseases like Covid-19."

Equally concerning is the possibility for PFAS to reduce vaccine effectiveness. Nearly a dozen studies have found significant decreases in antibody production – up to 50% decrease - in people with high levels of PFAS exposure. This data included a number of vaccines such as tetanus, mumps, and the flu.

These findings raise strong concerns about the potential for PFAS exposure to impact effectiveness of the Covid-19 vaccine. Philippe Grandjean, who authored some of these studies, said regarding the Covid vaccine: "I would think what we've seen before is very likely to happen again," and that folks with high exposure to PFAS "may need more than the 1 or 2 shots recommended…because their antibody production may be suppressed".

Lastly, new research authored by Grandjean currently in the process of peer-review shows that among Covid-19 positive individuals, there is a strong positive correlation between hospitalization and/or death from Covid and high levels of a certain type of PFAS chemical (PFBA) in the body. The study showed that more than half of those that were seriously ill with Covid-19 had elevated levels of PFBA, while less than 20 percent of those with mild Covid symptoms had elevated levels of the chemical.

S.20 bans some of the most problematic uses of PFAS in products, including rugs & carpets, aftermarket treatment for rugs and carpets, firefighting foam, food packaging, and ski wax. I will briefly discuss why each product is essential in this bill.

Firefighting Foam

Class B firefighting foam is widely used in the U.S. to fight gas fires. PFAS are added to firefighting foam for surfactant quality and are mandated to be used at all airports governed by the FAA. A major use of the foam is training exercises. PFAS from foam are dispersed into the environment primarily through inhalation or absorption.

Use of firefighting foam accounts for about a third of total global PFAS pollution. But it's important to note that the fluorine-free foam market is well-established, cost competitive, and supported by firefighters.

I want to be careful not to minimize the health threat posed by PFAS to our firefighters or reduce human harm to a simple cost figure on a spreadsheet. These are very real threats with serious consequences. But it is also important to note that PFAS-containing foam is actually far more expensive than safer alternatives when you factor in the cost of cleaning up environmental contamination, and the cost to firefighters' health. Consider for instance, that firefighters have a 14 percent higher chance of dying from cancer than the general population.

Safer alternatives also perform well compared to PFAS-containing foam. Washington, New Hampshire, Colorado, New York and four other states have banned or restricted the PFAS-containing foam. Seven states have introduced similar policies this session.

Food Packaging

S.20 bans PFAS and toxic phthalates from our food packaging and would also allow Vermont's Department of Health to ban bisphenols from food packaging given that safer alternatives exist. Paper products used to make food packaging are often treated with PFAS for water and grease resistance. In testing, deli-sandwich wrappers, french-fry boxes, popcorn bags, bakery bags, and to-go containers have all been found to contain PFAS. When PFAS are used in food packaging, they can migrate to our food. For a typical adult, dietary exposure is likely to be the single largest exposure pathway of PFAS. That's why Maine, Washington, and New York, and retailers including Amazon, Taco Bell, Whole Foods Market, and Trader Joe's have banned PFAS in food packaging.

A recent report that gained national media attention showed nearly half of all fast-food packaging samples tested contained PFAS chemicals. This includes fast food chains like McDonald's, Burger King and

Wendy's. But the good news is that some of those chains are already committing to use PFAS- free packaging PFAS; McDonald's announced they would be phasing out PFAS from packaging in the next several years.

A study like this, which shows PFAS are still being used but don't need to be, shows that manufacturers have successfully produced price-competitive alternatives. Not only do alternatives exist, but as this study showed, lot of food packaging is not made with PFAS to begin with. Further proving this point, a study published by the Center for Environmental Health found that 60 percent of paper food packaging tested did not test positive for PFAS.

It's not just PFAS that manufacturers are turning away from. Regarding BPA - an article from Packaging Digest from two years ago found that even at that time, "at least 90% of cans no longer use BPA" and instead use acrylic and polyester. So, the market is moving away from toxic bisphenols to safer, cost-comparable alternatives. And this is the kind of successful, health-protective market change you see when laws pass like what VT has already done on BPA previously, and what we're pushing for in this bill.

Rugs and Carpets

PFAS are used to make rugs and carpets stain and water resistant. Carpets made with PFAS become "PFAS factories," releasing the chemicals over time into our air and dust. This is particularly concerning given the amount of time that children spend on rugs and carpets. The CDC named carpet as the number one exposure pathway to PFAS for infants and toddlers, and studies have shown that children are exposed to levels of PFAS up to 100X more than adults from rugs and carpets.

These textiles also release their toxins into landfills, and subsequently into leachate and waterways. Though Vermont would be the first state to enact this policy through legislation, this policy is well-supported. Industry giants like Lowe's, Home Depot, and Ikea have already banned PFAS from rugs and carpets that they sell. Additionally, the states of Washington and California are regulating PFAS in carpets and carpet treatment through their Environmental Agencies.

Despite the market's movement away from textiles containing PFAS, it remains an issue in Vermont. Testing done by Casella at Vermont's only active landfill shows that textiles and carpets provided the highest mass flux of PFAS into the landfill compared to other types of waste disposed. Down the line, this becomes a concern for communities like Montpelier, which currently accepts leachate contaminated with PFAS into its wastewater treatment plant. To be clear, this facility is not designed to treat PFAS. It's crucial to remember that PFAS cause harm from exposure to the products themselves, and then cause further problems contaminating the environment.

Aftermarket Treatment

This bill also bans PFAS from aftermarket treatments for rugs and carpets. PFAS have been used in stain and water resistance treatments since the 1950s. Of specific concern is the treatment of rugs and carpets with PFAS post-manufacture but pre-sale. This means that even though manufacturers may be banned from selling rugs and carpets with PFAS in Vermont, the products may have a PFAS treatment sprayed on and sold to the consumer all the same.

The Carpet and Rug Institute estimates that "most residential and commercial carpets are treated" with PFAS stain and soil repellants, and many require re-application. Aftermarket treatments, while maybe not an obvious source of PFAS exposure, are extremely dangerous. They are more likely to migrate into the air than pre-treated carpets and rugs, and multiple studies – including one by EPA – determined that treated carpets are the most significant sources of exposure from consumer products. Using the formula

developed by Washington State's Department of Ecology for their Priority Consumer Products report to the Legislature, we estimate that 352,740 pounds of aftermarket treatment is used in Vermont each year.

Ski Wax

PFAS are added to wax to decrease resistance to water and dirt, to increase speeds particularly in Nordic skiing races. Of the water systems tested in Vermont under Act 21, several that came back with high levels of PFAS are near ski resorts. Though the ANR is unable to draw a definitive connection, research shows PFAS can be found in the soil underneath ski tracks once snow has melted, and a study in Maine published this past December showed PFAS from ski wax attaches to snow and contaminates the soil and groundwater beneath it.

There is also a direct threat to human health. A 2010 Scandinavian study showed that World Cup ski technicians had on average 45 times as much fluorocarbon in their blood as nonskiers. Patrick Weaver, the Nordic coach at the University of Vermont, uses rubber chemical-resistant gloves and a $1,200 vacuum-pack face shield with toxin-mitigating fans to wax skis with PFAS wax. Fortunately, ski associations have recognized this threat to their community and have started moving away from PFAS.

The International Federation of Skiing, the governing body that organizes the Nordic Skiing World Cup, as well as the U.S. Ski and Snowboard and Canadian Nordic Ski Associations have banned PFAS in wax. And many Nordic ski leagues in the U.S. and Europe ban the wax—this includes nearly all Eastern Intercollegiate Ski Association races, including the one UVM participates in.

The retailer REI recently announced it would ban PFAS in ski wax and treatment for ski gear that it sells. And the major ski brand, Swix, and its subsidiary, Toko, are moving away from selling PFAS-containing wax. There's a burgeoning market for environmentally friendly and/or PFAS free wax - in fact, just last month an 'eco' ski wax company got funded on the TV show 'Shark Tank'. The U.S. Ski & Snowboard Association lists at least 10 different PFAS-free waxes on their website for supply.

Despite the positive movement by ski associations and brands, as long as this stuff is out on shelves, it will be purchased and used – potentially by those hoping to cheat the rules of the ban, or by those who are simply unaware of the danger of this wax. Banning it is the only way to ensure it doesn't continue to put human and environmental health at risk.

Regulating PFAS as a class/Adding PFAS to Act 188

The problem with regulating chemicals in a one at a time "whack a mole" approach, is that these chemicals are often replaced with newer chemicals of similar composition, that are equally as dangerous but for which less research exists. This is called a "regrettable substitution" and it is a strategy often employed by manufacturers. Consider BPA for instance, which was banned in Vermont in 2010, and was replaced to a large degree by a similarly harmful chemical, BPS. In another example, DuPont faced backlash after releasing GenX, a replacement for PFOA that was equally toxic.

The rate at which PFAS chemicals are entering the marketplace is astounding. Until recently we were talking about 4,000 chemicals in the class. Now there are thought to be more than 7,500. And even in Vermont, where we have been something of a leader on the issue because of the terrible contamination problem in Bennington and elsewhere, we still only address a handful of the chemicals.

The industry knows that to regulate each of these chemicals individually would be a far too long and onerous process, but they will argue against a class-based approach because there's "not enough data." Don't be fooled. You have all the data you need to protect public health.

As early as 1963, a 3M technical manual classified PFAS as toxic. In 1970, DuPont found PFAS "highly toxic when inhaled," and in 1973 they found that there is no safe level of exposure to PFAS in food packaging. In 1989, a 3M study found elevated cancer rates among PFAS workers, and in 1992 a DuPont study found the same. In 1999, a 3M scientist described PFOS as "the most insidious pollutant since PCB."

So why didn't the public know? These studies sat in 3M's private files for decades while they downplayed the health effects in other published work. Meanwhile, PFAS were accumulating in the environment and in people, and 3M was expanding to a $120 billion net worth. There is plenty of scientific support for you to regulate the class of PFAS and get them out of our consumer products. Claims that Vermont would be the first state to take a step like this are incorrect; last year, Washington passed a law to allow its commissioner to add chemicals by class to the chemicals of high concern to children, and New York just passed legislation to do the same.

The Vermont DEC submitted comments to the EPA last year suggesting that EPA require extensive reporting of all PFAS, "not just those substances currently active in commerce." Additionally, DEC recommended a reporting threshold "that is much lower than the level recently established by Congress," and to add certain PFAS chemicals to the Toxics Release Inventory list as individual listings, and all other PFAS to the list as a "chemical category."

Under the regulatory system in the United States, chemicals are considered innocent until proven guilty, meaning we the people are often burdened with the task of conducting research and pressing for protective regulation of toxic chemicals used in everyday products. It's a backwards system – and it doesn't have to be this way – the EU, for example, has a much stronger chemical regulatory system and for this reason has already banned all long-chain PFAS from non-essential use and is considering a ban of short-chain as well.

But given the context in the U.S., its essential that states act on toxic chemicals rather than waiting on the federal government or trusting their standards for what is safe. It is necessary in order to protect Vermonters and our environment.

Thank you for the opportunity to testify in favor of S.20.