

Testimony

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Good evening. Many thanks to the members of the Committee for not only extending me the opportunity to testify tonight but for hosting this hearing in the communities most impacted by its central concern. It has been heartening, through out this troubled event, to see how present and transparent the State Government of Vermont has been.

My name is David Bond and I teach on the environment at Bennington College. I am also the Associate Director of the Center for the Advancement of Public Action. Tonight I'd like to take a few minutes to tell you about some of the work we've been doing around PFOA at Bennington College and some of the lessons we've learned.

As the discovery of PFOA in the groundwater unfolded in Hoosick Falls and Petersburg, NY and in North Bennington, VT, several faculty at Bennington College – Tim Schroeder in Geology and Janet Foley in Chemistry and myself – got together to discuss what we might do to help. One of the questions we asked ourselves was this: What role should a college play during a nearby and unfolding environmental problem? We decided that our analytic fluency and ability to explain complicated scientific problems might be an asset to the community, especially if we could link those skills to active research on PFOA.

With the crucial help of a \$90,000 NSF RAPID Response grant that we received last February, Bennington College was able to design and offer a new course on the basic chemistry, geology, and environmental policy surrounding PFOA. Alongside our students, we opened this course up to community members from Hoosick Falls and North Bennington free of charge. We thought of this class as a primer on PFOA that could equip students and citizens alike to better navigate the very complicated science of PFOA and demand better protections for their water resources going forward. We have offered this class twice now, in the Spring of 2016 and in the Fall of 2016.

Bennington College also sponsored a speaker series on PFOA that brought leading national voices on PFOA to Bennington for public talks. In the past year, we have hosted top journalists on the issue (Brendan Lyons), leading environmental advocacy groups (Dave Andrews, Environmental Working Group), key officials charged with writing federal policy on PFOA (EPA), scientists pushing the boundaries of what we know of PFOA and the risks it poses to human health (Laura MacManus-Spencer, Union College; Chris Higgins, Colorado School of Mines). Next month, we will also be hosting attorney Rob Bilott (Feb 23), whose groundbreaking legal cases against manufactures of PFOA was featured in the *New York Times Magazine* last year.

The primary thing we've done, however, is research. Throughout the past year we have been out in the communities of Hoosick Falls and Petersburg in New York and Bennington North Bennington and Pwnal and Shaftsbury in Vermont. With a select group of our students, we've taken hundreds of water samples from homes and wetlands and creeks and analyzed them for perflourinated compounds. From this research, we've begun to put together independent assessments and maps of the sources, extent, and trajectory of PFOA contamination in our region.

This research was designed in conversation with questions the community was asking. It was also designed from the get-go to not compete with VT DEC but to compliment state efforts. One of the ways we accomplished this was by focusing our research on address community concerns that fell outside the scope of the initial emergency response (which rightfully focused on protecting the health of residents).

Some of the questions that we have fielded thus far include:

-- *“Is there any PFOA in my maple syrup?”* We analyzed sap from maple trees near the ChemFab site and found very low levels of PFOA in the sap (about 8 ppt).

-- *“I filled my pool with my well, which has PFOA, a few years ago. Does my pool have PFOA?”* It did, but at lower levels than we found in the well.

-- *“My well had high levels of PFOA but now the state has installed a filtration system. When the state comes to check that there is no PFOA in my water, they only check right after the filtration system. I wonder if there was any PFOA build-up in the water pipes inside my house. Could any PFOA still be in my drinking water from build-up in the indoor plumbing?”* We’ve checked two homes at the faucet and have found no indication of PFOA.

-- *“My well is non-detect but my neighbors is off the charts. How long until the PFOA in their well makes its way to my well?”* This has been one of our bigger research questions. We’ve found clusters like this in Hoosick Falls and Bennington, and have been monitoring homes in close proximity to one another but with very different readings of PFOA every month. We have not found a conclusive pattern yet – in some neighborhoods, the initial readings have fluctuated over time; in other neighborhoods, the initial readings have been very stable over the past year. Through ongoing geological investigations and chemical analysis, we hope to have a better understanding of these variations soon.

We’ve also begun focusing our attention on surface waters like creeks, wetlands, ponds, and springs. A number of these bodies of water in the North Bennington area have PFOA in amounts (100 ppt – 400 ppt) that have led us to wonder how much PFOA may be residing in the shallow soils of our community. It’s been almost two decades since PFOA was last used in manufacturing in our community, so how comes some springs and wetlands still have such high levels? There has been some speculation that our soils may be an unexpected reservoir of PFOA and other perfluorinated compounds, and that PFOA continues (and likely will continue) to leach out of the soils and into our surface waters. We are taking a closer look at this question this month and hope to know more soon.

So that’s a very quick summary of some of the things we’ve done. I want to turn in my final remarks to the question of what we might do moving forward.

One of the things we’ve learned is how complicated PFOA is, both in its pathways through our environment and in the ongoing research into its health risks. Over the past year, citizens have been asked to navigate this astoundingly complex topic with very few accessible and scientifically sound resources. State officials and agencies have been wonderfully present and transparent about their own work, but for those citizens looking to better understand the science and policy of PFOA, there have been few public resources.

In addition, we have noticed a few other things that might be improved. At meetings, different officials frequently use different metrics when talking about PFOA (“parts per trillion” versus “micrograms per

liter”). This can be confusing. Also, when residents get their laboratory results the sheet can be difficult to make sense of (especially around “non-detect” readings). It would be helpful to have some resources on how to read laboratory results. Lastly, I feel that colleges and universities can offer important analytic, pedagogical, and investigative resources to help VT towns and villages navigating the discovery of contaminants in their community. I look forward to working with you in the future exploring some of these themes.

As the state begins to not just respond to PFOA contamination but also draft more forward thinking legislation around toxics, I wonder if Vermont has considered not just regulating individual chemicals but families of chemicals. While we now have a large enough database on PFOA to advance robust risk assessments and legislation on this chemical, there are a host of other perfluorinated compounds still in circulation (and more so now that PFOA has been phased out). This family of chemicals, PFAS, share chemical properties with PFOA and it is highly likely that they share the environmental risk profile with PFOA. Forward thinking and preventative legislation might start addressing not just the problem we have today but the related problems we will likely have in the coming years.

Thank you.