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PROTECTING AMERICANS AT RISK OF PFAS CONTAMINATION AND EXPOSURE

HEARING

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE

OF THE

COMMITTEE ON ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

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C O N T E N T S

	Page
Hon. Paul Tonko, a Representative in Congress from the State of New York, opening statement	1
Prepared statement	3
Hon. John Shimkus, a Representative in Congress from the State of Illinois, opening statement	4
Prepared statement	6
Hon. Frank Pallone, Jr., a Representative in Congress from the State of New Jersey, opening statement	7
Prepared statement	8
Hon. Greg Walden, a Representative in Congress from the State of Oregon, opening statement	10
Prepared statement	11

WITNESSES

Emily Marpe, Mother and Community Member, Petersburgh, New York	13
Prepared statement	16
Jamie C. DeWitt, Ph.D., Associate Professor, Department of Pharmacology and Toxicology, Brody School of Medicine at East Carolina University	22
Prepared statement	24
Brian Steglitz, Manager, Water Treatment Services, City of Ann Arbor	30
Prepared statement	32
G. Tracy Mehan III, Executive Director, Government Affairs, American Water Works Association	48
Prepared statement	50
Jane C. Luxton, Partner, Co-chair of the Environmental and Administrative Law Practice, Lewis Brisbois	59
Prepared statement	61
Erik D. Olson, Health Program Director, Natural Resources Defense Council	66
Prepared statement	68

SUBMITTED MATERIAL

H.R. 535, the PFAS Action Act of 2019	112
H.R. 2377, Protect Drinking Water from PFAS Act of 2019	114
H.R. 2533, Providing Financial Assistance for Safe Drinking Water Act	116
H.R. 2566, the Safe Choice StandardAct	120
H.R. 2570, the PFAS User Fee Act of 2019	122
H.R. 2577, the Right-to-Know Act of 1986	128
H.R. 2591, the PFAS Waste Incineration Ban Act of 2019	132
H.R. 2596, Protecting Communities from New PFAS Act	135
H.R. 2600, the Toxic PFAS Control Act	137
H.R. 2605, the PROTECT Act of 2019	142
H.R. 2608, the PFAS Testing Act of 2019	144
H.R. 2626, the PFAS Accountability Act of 2019	149
H.R. 2638, To direct the Administrator of the Environmental Protection Agency to issue guidance on minimizing the use of firefighting foam containing PFAS, and for other purposes.	157
Letter of May 15, 2019, from Diane VanDe Hei, Executive Officer, Association of Metropolitan Water Agencies, to Mr. Tonko, submitted by Mr. Tonko	159
Letter of May 14, 2019, from Kristen L. Mello, Co-founder, Westfield Residents Advocating for Themselves, to Mr. Tonko, submitted by Mr. Tonko	163
Letter of May 12, 2019, from Dr. Masami Kawamura, Director, the Informed-Public Project, Okinawa, Japan, to Mr. Tonko, submitted by Mr. Tonko	165

Page

Letter of May 15, 2019, from Neil L. Bradley, Executive Vice President and Chief Policy Officer, Chamber of Commerce, to Mr. Tonko and Mr. Shimkus, submitted by Mr. Tonko 170

Letter of May 14, 2019, from Robert J. Simon, Vice President, Chemical Products and Technology, American Chemistry Council, to Mr. Tonko, submitted by Mr. Tonko 172

Fact sheet of April 10, 2019, Maximum levels of PFAS compounds, Wisconsin, PFAS Community Campaign. Community Partners, et al., submitted by Mr. Tonko 174

Statement of April 2019, "Joint Position Statement Supporting Regulation of PFAS as a Class," Casa Maria Community, et al., submitted by Mr. Tonko 175

Statement of February 8, 2019, "Joint Position Statement: PFAS Treatment and Disposal Should Avoid Present and Future Toxic Effect," by CSWAB, et al., submitted by Mr. Tonko 176

Statement of a National PFAS Roadmap, by Dr. Matt Reeves, Western Michigan University, submitted by Mr. Tonko 177

PROTECTING AMERICANS AT RISK OF PFAS CONTAMINATION AND EXPOSURE

WEDNESDAY, MAY 15, 2019

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:32 a.m., in room 2322 Rayburn House Office Building, Hon. Paul Tonko (chairman of the subcommittee) presiding.

Members present: Representatives Tonko, Barragán, Blunt Rochester, Soto, Schakowsky, Matsui, McNerney, Luján, Ruiz, Dingell, Kuster, Pallone (ex officio), Upton, Shimkus (subcommittee ranking member), Rodgers, McKinley, Johnson, Long, Carter, Duncan, and Walden (ex officio).

Staff present: Jacqueline Cohen, Chief Environment Counsel; Adam Fischer, Policy Analyst; Waverly Gordon, Deputy Chief Counsel; Rick Kessler, Senior Advisor and Staff Director, Energy and Environment; Brendan Larkin, Policy Coordinator; Mel Peffers, Environment Fellow; Teresa Williams, Energy Fellow; Jerry Couri, Minority Deputy Chief Counsel, Environment and Climate Change; Peter Kielty, Minority General Counsel; Mary Martin, Minority Chief Counsel, Energy and Environment and Climate Change; Brannon Rains, Minority Staff Assistant; and Peter Spencer, Minority Senior Professional Staff Member, Environment and Climate Change.

Mr. TONKO. The Subcommittee on Environment and Climate Change will now come to order. I recognize myself for five minutes for the purposes of an opening statement.

OPENING STATEMENT OF HON. PAUL TONKO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Our legislative hearing this morning will examine solutions to reduce environmental and health risks from per- and polyfluoroalkyl substances, commonly known as PFAS. This hearing builds on good work that began under the leadership of our Republican colleagues last year when they held a hearing to better understand these substances as well as EPA and DoD's response to the growing number of communities dealing with contaminations.

At that hearing, we established that PFAS are a large class of chemicals numbering between 4 and 5 thousand, commonly used in firefighting foams, food packaging, nonstick cookware, and water-resistant fabrics. These chemicals are remarkably persistent in the environment and incredibly toxic and dangerous to human health,

even in very small concentrations, equivalent to a few drops in an Olympic-sized swimming pool.

We are still learning the full extent of the dangers, but PFAS exposure has already been linked to kidney disease, thyroid dysfunction, and various forms of cancer. Other committees have held hearings on the risk and toxicity of PFAS chemicals, and it is clear that there is considerable interest from members on both sides of the aisle and in both chambers to determine how Congress should proceed in the face of this growing crisis.

I know there are many members, including members of this committee, dealing with PFAS contamination back home. Over the past few years, I have had numerous opportunities to meet with families of Hoosick Falls and Petersburgh in Rensselaer County, New York, including Ms. Marpe who we will hear from this morning, and her daughter Gwen. And just last week, I visited the water system and other sites in Horsham, Pennsylvania, learning from and seeing the challenges they have faced firsthand.

I know these communities, their local leaders, and their water systems are trying to do everything possible to protect their residents. These contaminations and the resulting harm to public health are not their fault and it is incumbent upon us to make sure that they have the resources, information and legal authorities to remediate contaminations to protective levels and to hold polluters accountable even when those polluters are a Federal entity.

Today's hearing is the first that will examine concrete solutions being offered by our colleagues. We will consider 13 bills that have been referred to the subcommittee. These bills address how we can reduce exposure, expedite cleanups, and dispose of these chemicals safely. While addressing PFAS in drinking water is a top priority of mine, today we will also hear that PFAS exposure concerns go beyond water. These bills range across multiple statutes including the Safe Drinking Water Act, Superfund, TSCA, and the Clean Air Act.

Earlier this year, EPA released its PFAS action plan. I do not doubt that the motivations of the administration are good, but there can be no question that the response has been inadequate. First, EPA's plan is not comprehensive. The plan focuses primarily on two chemicals in a class of thousands, PFOA and PFOS. These are certainly the best known PFAS, but domestic manufacture of these two ceased years ago. Real and ongoing risks for future exposure will come as companies substitute them with other emerging and dangerous substances such as GenX.

Second, EPA has given us little reason for confidence that they will act with the urgency that impacted communities now know is needed. EPA has not even committed to setting a national drinking water standard and even on the most aggressive timeline, regulatory action will take years. To be clear, this is as much a criticism of the Safe Drinking Water Act as that of this EPA.

In the past 22 years, there has been just one contaminant determined to need a national standard. It has been years since that determination and we are still waiting for it to be finalized. It will likely take many years for PFOA and PFOS to have a finalized, enforceable, and protective standard should EPA determine that to be their course of action. We need to have a larger conversation about

SDWA regulatory reform, but that issue cannot stop us from taking action on PFAS. SDWA's shortcomings are bigger than PFAS and PFAS issues are bigger than drinking water. We must consider what is needed to be done right now.

This is just the beginning of this process. I welcome feedback from any stakeholder or member interested in these or other bills so that we can move forward in a way that best protects our communities from the damage these substances are causing. But one thing is clear. We cannot wait for EPA to act. Congress needs to be actively involved to ensure the protection of Americans' health. My hope is some combination of the bills considered today can enable us to make progress to reduce the risks of exposure, increase testing and monitoring, and require as well as provide resources to support remediation.

I thank my colleagues for their work on this timely issue as well as our witnesses for sharing their insights and sometimes painful experiences. I look forward to working together to find potential agreement.

[The prepared statement of Mr. Tonko follows:]

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These chemicals are remarkably persistent in the environment and incredibly toxic and dangerous to human health even in very small concentrations—equivalent to a few drops in an Olympic-sized swimming pool.

We are still learning the full extent of the dangers, but PFAS exposure has already been linked to kidney disease, thyroid dysfunction, and various forms of cancer.

Other committees have held hearings on the risks and toxicity of PFAS chemicals.

And it is clear that there is considerable interest from Members on both sides of the aisle and in both chambers to determine how Congress should proceed in the face of this growing crisis.

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Over the past few years, I have had numerous opportunities to meet with families of Hoosick Falls and Petersburgh in Rensselaer County, New York, including Ms. Marpe, who we will hear from this morning, and her daughter Gwen.

And just last week, I visited the water system and other sites in Horsham, Pennsylvania, learning from and seeing the challenges they have faced first-hand.

I know these communities, their local leaders, and their water systems are trying to do everything possible to protect their residents.

These contaminations and the resulting harm to public health are not their fault, and it is incumbent upon us to make sure they have the resources, information, and legal authorities to remediate contaminations to protective levels and to hold polluters accountable—even when those polluters are a Federal entity.

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But one thing is clear: we cannot wait for EPA to act.

Congress needs to be actively involved to ensure the protection of Americans' health. My hope is some combination of the bills considered today can enable us to make progress to reduce the risks of exposure, increase testing and monitoring, and require, as well as provide resources to support, remediation.

I thank my colleagues for their work on this timely issue, as well as our witnesses for sharing their insights, and sometimes painful experiences. I look forward to working together to find potential agreement.

Mr. TONKO. With that, I will now recognize the ranking leader of our subcommittee, Mr. Shimkus.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. SHIMKUS. You can call me—Ranking Member Walden is not here, so you can call me Ranking Member Shimkus. I am good with that.

Thank you, Mr. Chairman. I appreciate that we are meeting to learn more about the bills introduced in this Congress to tackle various forms of contamination linked to highly fluorinated chemicals known as PFAS, for short.

Based on a cursory read of all the long titles of the bills introduced and referred to our committee this Congress, we are looking at a comprehensive set of proposals that range from instituting sweeping mandates in just about every law this subcommittee oversees, authorizing a significant amount of Federal money for PFAS-related actions on top of those programs currently operated by the Federal and State Governments, and creating labeling programs for consumer products that do not contain PFAS.

If you are serious about these proposals becoming law, they need a full and fair airing with a complete legislative history and record. I hope you will at the very least commit to us today that you will bring EPA in as part of this hearing, but on another day for questioning on the technical aspects of these bills, before the committee

schedules any markups on these bills, or they are considered on the House floor.

Mr. Chairman, this is not a delay tactic. This is a plea to prevent major expensive mandates on states as well as unintended consequences on EPA's ongoing work both on PFAS and many other substances who would have to take a backseat to the mandates in these bills. In addition to our subcommittee's current lack of Agency input, I am concerned that almost one-third of our subcommittee's members were not around last fall when this subcommittee held both a member briefing with EPA career staff and an oversight hearing about PFAS, ways the Federal Government was and could respond under existing laws, and ways to address contamination and appropriately communicate risk.

That said, I am sympathetic to my colleagues whose communities want urgent action to address PFAS. I also, though am not a fan of rushing to install broad-based major changes to Federal law at a time when high levels of anxiety exceed what we know, this does not mean "do nothing," rather, I believe we should not make shortcuts in the law while EPA is taking steps based upon solid scientific data to make regulatory decisions. Moreover, if the problem is urgent, the Federal Government has imminent hazard authority under many of the laws we will talk about today to go in and take immediate action.

This view may not be popular with some of my colleagues, but I believe we cannot only support the use of good science or public input when it guarantees our preferred policy solutions. This was a major principle for me during enactment of the major reforms of the Toxic Substances Control Act. It is striking to me that we are disregarding both these tenets to regulate between 3 to 5 thousand substances by statutory fiat. Moreover, these bills do not give the Federal Government the ability to prioritize the risk of PFAS versus greater environmental and public health efforts or other currently ongoing work, meaning scarce resources would need to be moved to meet the mandates in this bill before us at the expense of other items.

It may not sound like it, but I may be open to getting yes on some of these proposals, yet of the bills for which I have seen text and without getting technical feedback from the agency that needs to implement it, I have too many questions about the wholesale regulation of this large class of chemicals when there are only a handful of these chemicals that we know something about such as the ability to detect them in water or their causal effects on health.

Further, states and the Federal Government including the EPA and the Agency for Toxic Substances and Disease Registry, have been taking collaborative and independent action to drive down and properly communicate the risk, and the equipment to detect and treat all the substances is still evolving. Fundamentally, I just need more information about the impacts both positive and negative that these proposals could have to make sure they are tailored to address the established risk without establishing bad presence for regulatory efforts driven by fear rather than by data.

I look forward to hearing from our witnesses today and hope that this will not be the last word on these bills in committee before they are considered.

And let me just—that was the prepared statement. Let me just say this, Mr. Chairman. This is a whole class of chemicals that can range from 3 to 5 thousand chemicals. We did pass the Toxic Substance Control Act which was to address using real science and real data to make decisions on health-related chemicals. I think we have got to be very careful as with the hearing we last week of by legislative fiat banning things which we may or may not know are harmful.

Now I don't question that there is probably some of the PFAS categories that are harmful. But to threaten the 3 to 5 thousand list of those is not in line with the scientific approach that we agreed to under TSCA and I look forward to having EPA hopefully help us muddle through this. And this is not a no on these bills, and this is not a delay tactic. This is, just give me a little more time appeal. And with that I yield back.

[The prepared statement of Mr. Shimkus follow:]

PREPARED STATEMENT OF HON. JOHN SHIMKUS

Thank you, Mr. Chairman. I appreciate that we are meeting to learn more about the bills introduced this Congress to tackle various forms of contamination linked to highly fluorinated chemicals—known as PFAS, for short.

Based on a cursory read of the long titles of the bills both introduced and referred to our Committee this Congress, we are looking at a comprehensive set of proposals that range from instituting sweeping mandates in just about every law this subcommittee oversees, authorizing significant amounts of Federal money for PFAS related actions—on top of those programs currently operated by Federal and State Governments, and creating labeling programs for consumer products that do not contain PFAS.

If you are serious about these proposals becoming law, they need a full and fair airing, with a complete legislative history and record. I hope you will, at the very least, commit to us today that you will bring in EPA as part of this hearing, but on another day, for questioning on the technical aspects of these bills before the Committee schedules any markups of these bills or they are considered on the House floor.

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feedback from the Agency that needs to implement, I have too many questions about wholesale regulation of this large class of chemicals when there are only a handful of these chemicals that we know something about, such as the ability to detect them in water or their causal adverse health effects. Further, States and the Federal Government, including the EPA or the Agency for Toxic Substances and Disease Registry, have been taking collaborative and independent action to drive down and properly communicate the risks, and the equipment to detect and treat all these substances is still evolving. Fundamentally, I just need more information about the impacts—both positive and negative—that these proposals could have, to make sure they are tailored to address established risks without establishing bad precedents for regulatory efforts driven by fear rather than data.

I look forward to hearing from our witnesses today. And hope they will not be the last word on these bills in committee before they are considered.

I yield back the balance of my time.

Mr. TONKO. The gentleman yields back. The Chair now recognizes Mr. Pallone, chairman of the full committee, for five minutes for his opening statement.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman.

PFAS contamination is a very serious issue affecting communities nationwide. These are persistent chemicals that spread throughout our water, air, and soil. They are toxic, with studies showing increased cancers, immune impacts, and effects on growth, development, and fertility. And these chemicals are everywhere in our environment, in our bodies, and with new affected communities being discovered all the time.

Although chemical companies have known the hazards of these chemicals for many years, we are still realizing the scope of contamination and it is increasingly clear that we will need to attack PFAS contamination with every tool we have as quickly as we can. So I want to thank the many members in the House who have introduced legislation to address the PFAS problem, and I wanted to kind of go through that list.

Representatives Dingell and Upton have worked together to introduce two important bills to address PFAS contamination through the Superfund program. Representatives Boyle and Fitzpatrick have a bill to set a binding, enforceable, and strong drinking water standard for all PFAS. Representative Soto has introduced a bill to provide industry with a voluntary PFAS-free label for cookware so consumers can take steps to protect themselves from exposure.

Representative Delgado introduced a bill to require reporting of PFAS releases on the Toxic Release Inventory. TRI reporting provides an essential tool to communities impacted by environmental pollution and has a strong record of driving polluters to reduce their releases. Representative Khanna has introduced a bill to ban incineration of PFAS waste including firefighting foam. Incineration has been a serious concern for the local communities where it is happening.

Representative Kuster introduced a bill to ban new PFAS chemicals under TSCA. There are already 4,700 PFAS chemicals in commerce and it is astonishing that we continue to approve more of these chemicals given what we know about them. Then we have

Representative Dean who has a bill that comprehensively regulate PFAS under TSCA, including a phase-in ban of new and existing PFAS standards for safe disposal of PFAS and labeling for articles containing PFAS.

Representative Sean Patrick Maloney has introduced a bill to address PFAS under TSCA, also using EPA's authorities under that law to require health effects testing and reporting on all PFAS chemicals. Representative Stevens has a bill to list all PFAS as hazardous air pollutants under the Clean Air Act. His bill, or that bill was written in response to increasing evidence that air emissions of PFAS are dangerous and avoidable.

Representative Fletcher has legislation requiring EPA to issue guidance for first responders to minimize the use of PFAS and also deals with firefighting foam and cuts the risks they face from that foam. We heard from the International Association of Firefighters in March about the fear among firefighters about how these chemicals are affecting their health, so we have to address those fears. And then we have Representative Rouda who introduced a bill to establish a trust fund financed by user fees from PFAS manufacturers, and these funds will help pay the ongoing operation and maintenance costs of drinking water utilities and water treatment works that are paying to clean up PFAS contamination.

And finally, I introduced a bill, the Providing Financial Assistance for Safe Drinking Water Act, and my bill offers significant Federal investments to help water utilities pay the capital costs needed to adopt treatment techniques that can remove PFAS from drinking water. And these treatment techniques are very expensive and may be beyond what is affordable for many affected communities.

Now I have mentioned or described 13 bills, obviously a very bipartisan effort. More are being introduced every day. And I think these bills are all important and they all address the different aspect of the PFAS problem. Many people think of PFAS as solely a drinking water issue, but all the PFAS in our drinking water came from industrial activity. They will keep showing up in our drinking water sources if we continue to produce and use thousands of different PFAS chemicals.

So we need to stop PFAS pollution at the source, contain the pollution before it spreads further, and get it out of our air, soil, and drinking water. And we don't have a lot of time to waste, so I look forward to working together quickly to address PFAS contamination and implement some of the solutions we are going to hear about today.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

PFAS contamination is a very serious issue, affecting communities nationwide. These are persistent chemicals that spread through our water, air, and soil. They are toxic—with studies showing increased cancers, immune impacts, and effects on growth, development, and fertility. And, these chemicals are everywhere—in our environment and in our bodies, with new affected communities being discovered all the time.

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that we will need to attack PFAS contamination with every tool we have, as quickly as we can.

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Representative Delgado introduced a bill to require reporting of PFAS releases on the Toxics Release Inventory (TRI). TRI reporting provides an essential tool to communities impacted by environmental pollution, and it has a strong record of driving polluters to reduce their releases.

Representative Khanna has introduced a bill to ban incineration of PFAS wastes, including fire-fighting foam. Incineration has been a serious concern for the local communities where it is happening.

Representative Kuster introduced a bill to ban new PFAS chemicals under the Toxic Substances Control Act of TSCA. There are already around 47-hundred PFAS chemicals in commerce, and it is astonishing that we continue to approve more of these chemicals given what we now know about them.

Representative Dean has a bill to comprehensively regulate PFAS under TSCA, including a phased-in ban of new and existing PFAS, standards for safe disposal of PFAS, and labeling for articles containing PFAS.

Representative Sean Patrick Maloney has also introduced a bill to address PFAS under TSCA, using EPA's authorities under that law to require health effects testing and reporting on all PFAS chemicals.

Representative Stevens has a bill to list all PFAS as hazardous air pollutants under the Clean Air Act. This bill responds to increasing evidence that air emissions of PFAS are dangerous and avoidable.

Representative Fletcher has legislation requiring EPA to issue guidance for first responders to minimize the use of PFAS firefighting foam and cut the risks they face from that foam. We heard from the International Association of Firefighters in March about the fear among firefighters about how these chemicals are affecting their health. We must address these fears.

Representative Rouda introduced a bill to establish a trust fund, financed by user fees from PFAS manufacturers. These funds will help pay the ongoing operations and maintenance costs of drinking water utilities and water treatment works that are paying to clean up PFAS contamination.

And finally, I introduced the Providing Financial Assistance for Safe Drinking Water Act. This bill offers significant Federal investment to help water utilities pay the capital costs needed to adopt treatment techniques that can remove PFAS from drinking water. These treatment techniques are very expensive and may be beyond what is affordable for many affected communities.

I have described 13 bills, but there are more being introduced every day. These bills are all important, and all address a different aspect of the PFAS problem.

Many people think of PFAS as solely a drinking water issue. But, all the PFAS in our drinking water came from industrial activity. They will keep showing up in our drinking water sources if we continue to produce and use thousands of different PFAS chemicals. We need to stop PFAS pollution at the source, contain the pollution before it spreads further, and get it out of our air, soil, and drinking water. We have no time to waste.

I look forward to working together, quickly, to address PFAS contamination and implement some of the solutions we will hear about today.

Thank you, I yield back.

Mr. PALLONE. Whatever time I have left I yield to the gentlewoman from Michigan, Mrs. Dingell.

Mrs. DINGELL. Thank you, Mr. Chairman and Chairman Tonko. Today's hearing is obviously important as both have you, everybody, both sides has pointed out. But briefly, I would like to acknowledge that one of the witnesses is from my district and he serves on the front lines to provide clean drinking water to the residents of Ann Arbor, Michigan, but he is a national expert. Brian Steglitz is the manager for water treatment services for the

City of Ann Arbor, and this year he marks his 22nd year of service. He helped EPA toward them and showed them the water treatment center with both Mr. Upton and I last summer.

This committee can learn a great deal from his experience and all the good work that is being done at the local level, along with the challenges that we still face to safeguard the public from the PFAS chemicals. So thank you for being here and I look forward to hearing from all of you and asking more questions later. Yield back.

Mr. TONKO. The Congresswoman yields back. The Chairman yields back and—oh, OK. And we will now recognize Mr. Walden, the Republican leader of the full committee, for five minutes for his opening statement.

OPENING STATEMENT OF HON. GREG WALDEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WALDEN. Go ahead and ad lib a minute, Mr. Chairman. I will get my breath. Thank you. I was down at the FCC hearing. So welcome, good morning.

I know the experience of your constituency in Hoosick Falls, New York has driven your intense interest in preventing and addressing PFAS contamination. Not only have I heard from Republican members like Mr. Upton and Mr. Hudson about the anxiety that discoveries of PFAS contamination have caused their constituents in Michigan and in North Carolina, but I also know the Air National Guard at Kingsley Air Force Base in Klamath Falls that they have used this foam with PFAS to fight fires in the congressional district I represent in Oregon.

So, this is a big issue we are all concerned about. In fact, a few of these chemicals are quite prevalent while some occur in just a few states. Complicating the issue is the limitation of what we know about the very broad class of chemicals and what we can do about it under existing law. So, we need to address the concerns about uncertainty that PFAS presents. The test for me in addressing PFAS contamination is not the number of bills we pass or the creative ways we try to shoehorn solutions into existing statutes; rather, it is whether the response we provide can be reasonable, reliable, and responsible remedial efforts that get help to people sooner rather than later and without detours to the courthouse.

This is about public health and public safety. For this reason, I am not convinced the existing body of environmental law may be the best approach to the PFAS contamination conundrum and we should not be limited by that universe. We may need to think outside the box here. So, I think it makes sense to think about addressing this problem within these overarching principles.

First, we need to contain the existing damage and fix the demonstrated problem before us. Second, in the process of doing that do no harm either to existing sites and communities nor exacerbate the existing problem with overreach. And last, we need to learn more about the toxicity of the larger class of chemicals, commit resources, and take future steps based on what we know, not just what we suspect.

So, if I could give you a couple of examples. Where there is merit to the use of Superfund authority to make Federal funds available

as well as compel reluctant parties such as the Department of Defense to clean up these sites, the idea of instantly making municipal governments and airports liable for every PFAS chemical through no fault of their own is concerning. I know some people want the EPA to publish a maximum containment level, or MCL, for all PFAS in drinking water; however, an MCL is not essential for a Superfund cleanup. The EPA has already adjusted downward its lifetime health advisory and EPA is working on making a legally defensible decision on the regulation PFOA and PFOS.

I am concerned that short-circuiting the evidence-based, science-driven, risk-informed process could force the EPA to shortcut necessary elements to issuing a strong and legally sustainable regulation. I know right-to-know reporting of PFAS holdings is a priority for many and there are places where it makes sense. But the bill that was recently introduced would massively expand the number of chemicals that would need to be reported under the Toxic Release Inventory by as much as 5,000. It would also reduce by 90 percent the threshold at which a person would be required to report and apply these requirements to businesses with less than 10 people.

Finally, if we are to assume the majority would like all these proposals enacted, the cumulative and aggregate effect of all these statutory requirements and regulations could have a stifling impact on EPA activities. States could face significant unfunded mandates while foisting obligations on private parties who are currently unaware of potential liability, like farmers using biosolids from wastewater treatment facilities to improve soil health. All this is likely to result in litigation to prevent or prolong the situation rather than move to promptly address contamination.

So, I want to be part of the solution, preferably the one reported by this committee and I hope our friends on the other side of the aisle are serious, and I believe they are, and sincere in their willingness to work with us, which I think they are, because this is a big deal and we have got to get it right. As currently constituted, the language in the bills before us present an enormous sweeping response to the PFAS chemical class. It is important we take a close look to make sure the actions we take are justified by science.

So, Mr. Chairman, I appreciate you having this hearing. I know we got notice of it Friday and our team were working through the weekend to look at all of these bills, but it is important to do. We want to move on this as well. With that, Mr. Chairman, I yield back.

[The prepared statement of Mr. Walden follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

Mr. Chairman, thanks for recognizing me.

I know the experience of your constituency in Hoosick Falls, NY has driven your intense interest in preventing and addressing PFAS contamination. Not only have I heard from Republican members, like Mr. Upton and Mr. Hudson, about the anxiety that discoveries of PFAS contamination have caused their constituents in Parchment, Michigan and within the Cape Fear River watershed of North Carolina; but I know that the Air National Guard at Kingsley Air Force Base in Klamath Falls have used foam with PFAS to fight fires in the congressional district I represent as well as two other sites in Oregon. In fact, a few of these chemicals are quite prevalent while some occur in just a few States.

Complicating the issue is limitation of what we know about the very broad class of chemicals - and what we can do about it under existing law. We need to address the concerns about uncertainty that PFAS presents.

The test for me in addressing PFAS contamination is not the number of bills we pass or the creative ways we try to shoe horn solutions into existing statutes. Rather, it is whether the response we provide can be a reasonable, reliable, and responsible remedial effort that gets help to people sooner rather than later - and without detours to the courthouse.

For this reason, I am not convinced that the existing body of environmental law is the best way to approach the PFAS contamination conundrum and we should not be limited by that universe.

I think it makes sense to think about addressing this problem within these overarching principles:

First, we need to contain the existing damage and fix the demonstrated problem before us.

Second, in the process of doing that, do no harm either to existing sites and communities, nor exacerbate the existing problem with overreach.

Last, learn more about the toxicity of the larger class of chemicals commit resources and take future steps based on what we know, not just what we suspect.

Let me give some examples.

While there is merit to the use of Superfund authority to make federal funds available as well as compel reluctant parties, such as the Defense Department, to cleanup these sites; the idea of instantly making municipal governments and airports liable for every PFAS chemical, through no fault of their own, is concerning.

I know some people want EPA to publish a maximum contaminant level (MCL) for all PFAS in drinking water. However, an MCL is not essential for a Superfund cleanup, EPA has already adjusted downward its lifetime health advisory, and EPA is working on making a legally defensible decision on regulation of PFOA and PFOS. I am concerned that short-circuiting the evidence-based, science-driven, risk-informed process, will force EPA to short cut necessary elements to issuing a strong and legally sustainable regulation.

I know Right to Know reporting of PFAS holdings is a priority for many and there are places where it makes sense, but the bill that was recently introduced would massively expand the number of chemicals that would need to be reported under the Toxic Release Inventory by as much as 5,000. It would also reduce by 90 percent the threshold at which a person would be required to report and apply these requirements to businesses with less than 10 people.

Finally, if we are to assume the Majority would like all these proposals enacted, the cumulative and aggregate effect of all these statutory requirements and regulations will have a stifling impact on EPA activities. States would face significant unfunded mandates, while foisting obligations on private parties who are currently unaware of potential liability - like farmers using biosolids from wastewater treatment facility to improve soil health. All of this is likely to result in litigation to prevent or prolong the situation, rather than move to promptly address contamination.

I want to be part of the solution—preferably the one reported by this Committee. I hope my Democrat colleagues are serious about a sincere effort to work with us to address our concerns about breadth and adverse consequences—if so, we can get there. As currently constituted, the language in the bills before us presents an enormous, sweeping response to the PFAS chemical class. It's important that we take a closer look to make sure the actions we take are justified by science.

Mr. Chairman, I join you in welcoming the witnesses and I look forward to learning more in an effort to make our work more precise and effective, and EPA's response nimble, informed, and positive.

I yield back.

Mr. TONKO. The gentleman yields back. I was about to recognize Representative Upton as you walked in the room, and so why don't we recognize you for 30 seconds?

Mr. UPTON. Well, I just want to say, Mr. Chairman, thank you for holding this hearing. I appreciate it. I intend to be here most of the morning and ask questions at my turn at the end as I am not a member of the subcommittee. I am glad that we are looking at a whole number of bipartisan bills. This is an issue that maybe Michigan knows better than anybody else just because we have done more discovery than anybody else, and that should then not

be an excuse for the rest of us to be engaged on an issue that truly impacts the health and safety of every American.

So, I want to thank both of you. And just to conclude, the work on TSCA, a bill that we moved with strong, unanimous support out of this committee, set the stage for where we are today. So again, your leadership there has brought us to where we are. We want to work with the administration and get it done and I look forward to continuing my questions at the end of the hearing. Thank you. I yield back.

Mr. TONKO. OK, the gentleman yields back. The Chair would like to remind Members that pursuant to committee rules, all Members' written opening statements shall be made part of the record.

With that we will proceed to introduce our witnesses for today's hearing. First, I will introduce Ms. Emily Marpe, mother and community member from Petersburgh, New York. Emily and I have had conversation in the past, and you have a painful story and we really appreciate you sharing with us this morning.

Next, we have Dr. Jamie DeWitt, Associate Professor of the Department of Pharmacology and Toxicology at Brody School of Medicine at East Carolina University. Then we have Mr. Brian Steglitz, who received praise from Congresswoman Dingell, as manager in water treatment services at the City of Ann Arbor.

Then, Mr. Tracy Mehan, Executive Director of Government Affairs at American Water Works Association. Then, Ms. Jane Luxton, Partner, Co-chair of the Environmental and Administrative Law Practice of Lewis Brisbois. Thank you. And, Mr. Erik Olson, Health Program Director with Natural Resources Defense Council.

We thank each and every one of you for being here. Before we begin with your statements, I would like to explain our lighting system, which I believe we have up and running today. In front of you are a series of lights. The lights will initially be green at the start of your opening statement. The light will turn yellow when you have 1-minute remaining. Please begin to wrap up your testimony at that point. The light will turn red when your time expires.

And at this point, the Chair will now recognize Ms. Emily Marpe for five minutes to provide her opening statement.

STATEMENTS OF EMILY MARPE, MOTHER AND COMMUNITY MEMBER, PETERSBURGH, NEW YORK; JAMIE C. DEWITT, PH.D, ASSOCIATE PROFESSOR, DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY, BRODY SCHOOL OF MEDICINE AT EAST CAROLINA UNIVERSITY; BRIAN STEGLITZ, MANAGER, WATER TREATMENT SERVICES, CITY OF ANN ARBOR; TRACY MEHAN III, EXECUTIVE DIRECTOR, GOVERNMENT AFFAIRS, AMERICAN WATER WORKS ASSOCIATION; JANE C. LUXTON, PARTNER, CO–CHAIR OF THE ENVIRONMENTAL AND ADMINISTRATIVE LAW PRACTICE, LEWIS BRISBOIS; AND ERIK D. OLSON, HEALTH PROGRAM DIRECTOR, NATURAL RESOURCES DEFENSE COUNCIL

STATEMENT OF EMILY MARPE

Ms. MARPE. Good morning, everyone. Thank you for the opportunity to testify today. My name is Emily Marpe and I am a moth-

er of three. At the beginning of this I was only a mother of two. Now I have three. Oh, first up, that is different.

OK, so first I want to start by thanking two men that started the journey for everyone involved, Mr. Rob Bilott and Michael Hickey, a resident of Hoosick Falls, for finding the contamination in our area. To those two gentlemen I am forever grateful and thankful. They saved my family. okay, so in February of 2016, I was informed by a letter in the mail that they wanted to do a study and test our water for PFOA. After the letter, I called, scheduled it. They came, they tested. Our private well tested at 2.1 parts per billion of PFOA.

We called our house "Cloud Nine," because throughout the buying process, like we came from a 2-bedroom trailer. At times there were seven of us crammed in the 2-bedroom trailer. I don't know if you have ever lived in one, but one bathroom—not fun. And then I worked so hard to become a first-time homebuyer at 29 and to give my children their first home. It was a 3-bedroom ranch on spacious 2.38 acres, beautiful, private, secluded, everything we wanted after we had neighbors at our back door for 10 years. I mean, it was great.

The day I received the results I was just told, "Stop brushing your teeth immediately." That is what he said to me on the phone. It is just like a drop of water in an Olympic-sized swimming pool. We then went on to get our blood tested. When I pulled in the driveway and got the results, I opened my son's first because he spent weekends with his father so I knew he was exposed the least. His blood level was 103 parts per billion.

I then moved on to my 10-year-old daughter. She was 207 parts per billion. That was a little tough to take, seeing the increase. I then opened my own. I was 322 parts per billion, and then Gwen's father was 418 parts per billion. He was comparable to a DuPont worker. And I would like to remind you, we only lived there for 4–1/2 years. It is still mind-blowing to this day.

I lost myself. My kids lost their mom. I started missing games. I started missing concerts. I was consumed. I fell in the PFOA rabbit hole. I couldn't read enough. I couldn't research enough. I couldn't meet enough people. I couldn't—I brought my calendar from then to show you. Like this is pre-PFOA, okay. This is after, like it consumed me, literally. Gwen, my daughter who is sitting behind me, I still hear it today because I still attend meetings and I still do things like this.

They are my family. My job is to protect them. You know, we were living the American Dream; our bubble was popped in a horrible way. The safety and security of home fell from under our feet. I couldn't sleep at night. How do you open your window knowing that the stacks are blowing and your kids are out in the tent sleeping in your yard and it is falling on them, literally falling on them as they sleep? It is not a comfortable feeling.

I ended up selling my home and that was a challenging experience in itself. And then 2–1/2 years after I stopped drinking the water, I became pregnant with my daughter Eliana. I can't express to you the fear of knowing the story of West Virginia and Parkersburg and all the towns in Ohio and West Virginia. At 20 weeks, most mothers are so excited to find out the sex of their child. I was

just praying for two nostrils and her eyes to be okay. I didn't want her to have to suffer like others have. This is Ellie. She is 10 months now. She is beautiful.

When you say there is not enough studies, I have been diagnosed with thyroid disease. My daughter Gwen now has a pediatric endocrinologist. We are suffering the health effects. They are already here and we are only six years later. I don't know what else to say, that I mean our lives should be more than profit. It is really mind-blowing that it is not.

Congress needs to treat this as a crisis because it is a crisis. I mean all the mothers out there, I couldn't breastfeed. I couldn't do the most basic thing a mother does for my child because I knew that it would elevate Ellie's levels. She already got it from me. When she was seven weeks old, she tested at 75.9 parts per billion. She was higher than 1,573 people out of 2,081 tested in the first round of blood testing in Hoosick Falls, New York.

That is disgusting. Disgusting. At a minimum, Congress needs to force companies like Taconic Plastics to report their PFAS releases and to force our water utilities to tell us if our drinking water is polluted with PFAS chemicals. Most importantly, private wells, I mean these people are left hanging. My house was a half a mile from the plant. The municipal supply got tested before mine. That was a mile away. Thank you for the opportunity to testify today.

[The prepared statement of Ms. Marpe follows:]

Testimony of Emily Marpe

Before the

Environment and Climate Change Subcommittee

of the

House Committee on Energy and Commerce

on

"Protecting Americans at Risk of PFAS Contamination and Exposure"

May 15, 2019

Thank you for the opportunity to testify. My name is Emily Marpe, and until recently, I was a resident of an upstate New York home my family once called "Cloud Nine."

On February 11, 2016, I received a letter from the Rensselaer County Health Department. The letter offered free water sampling and reassurance that PFOA had been detected in our water but that the levels were not likely to be above EPA guidelines.

Residents were being given bottled water – but only during the town clerk's office hours, and only if you had tickets, which was a major inconvenience for a working mom with two kids. For the first time in my life, I had to ration my water.

On March 2, my tap water was tested. On March 12, my daughter, Gwen, and I returned home from recycling our bottles and found a message on the answering machine from Rich Elder, from the Rensselaer County Health Department. I called Rich, and he told me: "You guys better stop brushing your teeth" with tap water.

The test results for the water in my home in Petersburgh showed PFOA levels of 2,100 parts per trillion.

I immediately dropped to me knees and started to dry-heave while still on the phone. Rich tried to comfort me by saying it was like a drop of water in an Olympic-sized pool, that I would be the first on the list to get a filter.

That was the day I was forced to become an expert on PFOA – something no mom should ever have to do.

Before moving into Cloud Nine, we lived in a two-bedroom, one-bath trailer. At times, there were seven of us in the trailer.

In 2010, with help from my mom, I began the long and daunting process of buying my dream home – a spacious three-bedroom ranch on 2.38 acres in Petersburgh, with no neighbors in sight and a view to die for.

Although it was my dream house, many repairs were needed, and my family and I spent a month working around the clock to make the necessary upgrades. Every step of the process, I'd joke, was a different cloud, until the seller handed me the keys and I said, "I am on Cloud Nine."

Our family tradition is to name our properties, and my stepfather surprised me with a sign in the shape of a cloud and the words "Cloud Nine."

That day in October 2011 when my two children walked to the end of the driveway to finally pull out the "For Sale" sign was probably the proudest moment of my life. I wasn't even 30 and I had my own home.

Little did I know then that our closest neighbor – Taconic Plastic – would change everything we had worked so hard for.

After the call from Rich, I learned everything I could about PFOA. The more I read, the more upset, anxious and angry I became. With the help of Michael Hickey, who detected PFAS in the water after his dad died from kidney cancer, I learned about the impacts of PFOA on other communities, including Parkersburg. The more I read, the more I realized that town officials were trying to play down the water contamination crisis. After I raised concerns, one town supervisor accused me of threatening hundreds of jobs. Nevertheless, I resolved to be at every town meeting and to take my case to state officials in Albany. It was not a role I ever wanted, but no one else was willing to step up to the plate.

Around the same time, my daughter, Gwen, was diagnosed with a lump in her breast, which sent me into a tailspin, given everything I had learned about the links between PFOA, cancer and other health effects. None of the people charged with protecting families like ours were listening – not even the medical community. By March 21, I was so beside myself with fear that I was rushed to the emergency room with a panic attack. I was so afraid of our water that our family didn't shower without the window open.

The next day, Taconic Plastic offered to install a water filtration system into my home. But when the contractor came, he refused to share any documentation. It was only after I threatened to call the local news station that two Taconic Plastic employees relented.

On March 31, my family had their blood tested for PFOA. Many of my neighbors were being denied blood testing and water filters unless the PFOA in their well water was above 70 ppt.

On June 6, we finally got the blood test results in the mail. I stopped my car in the driveway and opened each envelope.

Keep in mind that the national average for PFOA in blood is about 2 parts per billion, or ppb.

I opened my son's first, because he spent weekends with his father, and I figured his results would be the lowest. I was right, but the number still shocked me: 103 ppb

Next I opened my daughter Gwen's results: 207 ppb.

Then I open the results for me and my boyfriend: 322 ppb and 418 ppb, respectively.

I was completely floored. We had only been living in Cloud Nine for four and a half years!

Less than two weeks later, I learned that the water in our local elementary school was also contaminated with PFOA.

I knew I had to sell my dream house, even though we would ultimately lose all the equity we had built. For a while, we split up among friends and were basically homeless. Ultimately, we bought a home in Hoosick Falls. The mortgage is more expensive, my daughter has been forced to change schools, I have a longer drive to work – and we still have to buy bottled water.

In December 2017, I found out I was pregnant. I was concerned from the start about birth defects and, as an expert on PFOA, I knew that I would not be able to breastfeed my baby.

Most women at 20 weeks are excited to to find out the sex of their baby; I was just relieved that Eliana's eyes were in the right place and she had two nostrils.

Not surprisingly, she weighed just over six pounds, the smallest of my three children. I say "not surprisingly" because low birth-weight is a common health effect of PFAS chemicals like PFOA.

When my baby Eliana was just seven weeks old, we had her blood tested. To get it done, I had to hold her down while she screamed. The result: 75.9 ppb, even though it had been more than two years since I had stopped drinking contaminated water.

As I said, no mom should ever have to go through I've been through.

Congress needs to treat this contamination crisis like a crisis. It needs to end PFAS pollution and clean up PFAS contamination. At a minimum, Congress needs to force companies like Taconic Plastic to report their PFAS releases and force our water utilities to tell us if our drinking water is polluted with PFAS chemicals.

Thank you for the opportunity to testify today.

Mr. TONKO. Thank you. Thank you, Ms. Marpe.

Next, we will move to Dr. DeWitt. You have five minutes to present your opening statement.

STATEMENT OF JAMIE C. DEWITT, PH.D.

Dr. DEWITT. Chairman Tonko, Ranking Member Shimkus, and distinguished members of the subcommittee, good morning and thank you for inviting me to speak with you about health effects of exposure to per- and polyfluoroalkyl substances or PFAS, chemicals that are estimated to contaminate the drinking water of 19 million Americans. My name is Dr. Jamie DeWitt and I am an associate professor of Pharmacology and Toxicology at East Carolina University.

I have been conducting research on health effects of PFAS since 2005 with a focus on the immune system. PFAS as you know are a class of nearly 5,000 closely related chemicals. They all contain a carbon-fluorine bond. This bond makes them highly stable, heat resistant, and versatile in manufacturing processes and consumer goods. This bond also makes PFAS extremely long-lived in the environment and in our bodies as they do not readily biodegrade.

The Centers for Disease Control and Prevention assesses the U.S. population's exposure to environmental chemicals in a cross-section of the population. They have reported that 98 percent of Americans have at least one or more PFAS in their blood. Currently, my State of North Carolina is part of the PFAS crisis. To better understand PFAS contamination in our State and their health risks, I am part of this PFAS Testing Network. It is a collaborative partnership of seven different North Carolina-based universities using both Federal grants and a substantial State investment to focus our PFAS research efforts.

The North Carolina Policy Collaboratory, which was created in 2016 by the North Carolina General Assembly to better utilize academic expertise across institutions of higher learning within our state, oversees the network. We can be a model for other states to understand PFAS. Our scientific understanding of health effects of PFAS is still growing. Of the 5,000 PFAS, two have been very well studied and a handful have limited data.

That said, in the last couple of years there has been a concerted effort among researchers to expand our understanding of PFAS. A comprehensive evaluation of toxicological data for 14 different PFAS compiled by the Agency for Toxic Substances and Disease Registry reported that people exposed to PFAS experience a variety of health effects. These associations include decreased antibody responses to vaccines, liver damage, changes in serum lipids and cholesterol, increased risk of thyroid disease, increased risk of asthma, increased risk of decreased fertility, decreases in birth weight, and increases in pregnancy-induced preeclampsia and hypertension. Some populations have also seen increases in the incidence of kidney and testicular cancer associated with exposure.

These health effects indicate that developing organisms, the immune system, the endocrine system, and metabolic systems all are sensitive endpoints to PFAS exposure. These also indicate that PFAS have carcinogenic abilities. These adverse health effects also have been observed in experimental animals fed individual PFAS.

Data from experimental animals is an important component of human health research. It is this combination of data from studies of exposed human populations, experimental animals, and molecular mechanisms that has broadened our understanding of how PFAS exposure leads to adverse health effects in humans.

Prevention, including vaccines, is the first line of defense against diseases. We need vaccines to be effective. Exposure to PFOA and PFOS, two well-studied PFAS, reduces the immune system's ability to produce antibodies, making our vaccines less effective. PFAS-associated immune system effects observed in epidemiological studies of children and adults and in experimental animal studies of individual PFAS have supported a causal relationship. In 2016, the National Toxicology Program evaluated immune studies of PFOA and PFOS and concluded that they are presumed to be immune hazards to humans because they can suppress the ability of the immune system to make antibodies. There is also evidence that these chemicals can have effects on allergic responses, resistance to infectious disease, and autoimmune disease.

It is time for Congress to act. Of the 5,000 known PFAS, the vast majority have no associated research data or standards for human biomonitoring. But it is not really feasible from a time or resource perspective to test our way out of this crisis. Employing a class approach for all PFAS will be protective for vulnerable subpopulations as well as the general public. It is not too late. Following the voluntary removal of PFOA and PFOS from our environment, levels of these PFAS have decreased in the environment and in our bodies. Since that time, however, replacement PFAS have increased in production. We need to learn more about these replacement compounds and ask ourselves, "Are these essential for the public good?"

Thank you for understanding the need for legislation that will diminish the number and amounts of PFAS contaminating our environment and our bodies.

[The prepared statement of Dr. DeWitt follows:]

United States House of Representatives
Committee on Energy and Commerce
Subcommittee on Environment and Climate Change

"Protecting Americans at Risk of PFAS Contamination & Exposure"

Testimony of Jamie C. DeWitt, PhD, DABT
Associate Professor
Department of Pharmacology and Toxicology
Brody School of Medicine
East Carolina University

May 15, 2019

Brief Summary of PFAS

Per- and polyfluoroalkyl substances (PFAS) are described as "forever chemicals" due to their persistence in the environment. They aren't readily broken down by sunlight, microbes, or other processes. We, as a scientific community, have not yet uncovered an easy way by which these chemicals can be degraded, so forever chemical is an appropriate description of PFAS. In addition, this class of chemicals is highly mobile once released to the environment. PFAS have been found everywhere scientists have looked, from the Arctic circle to the Marianas Trench.

When exposure occurs, PFAS move from the environment into bodies of plants and animals, including people. Because PFAS are so long-lasting in our environment, scientists do not yet know all of the ways we are exposed to these chemicals. What we do know is that exposure begins in the womb, even before we are born. Exposures then continue throughout the course of a person's lifetime. Many Americans are exposed daily from sources such as the water they drink, consumer products, and food packaging that contains PFAS. Given that they are forever chemicals, even if production is stopped today, human exposure will be ongoing into the distant future. PFAS also are slow to be excreted from human bodies and can take years to be eliminated. Therefore, concerns for human health are not going away.

Once in our bodies, PFAS interact with a wide range of molecules and biological systems to produce multiple types of adverse health effects. Studies of human populations exposed to PFAS have uncovered adverse health effects to include: kidney and testicular cancer, decreased antibody responses to vaccines, liver damage, changes in serum lipids and cholesterol, increased risk of thyroid disease, increased risk of asthma, increased risk of decreased fertility, decreases in birth weight, and increased risk of pregnancy-induced hypertension and preeclampsia. PFAS are truly "multi-system toxicants." These forever chemicals possess tremendous risks to Public Health – they are Persistent in the environment and in human bodies; they Bioaccumulate from the environment into the bodies of living organisms, including humans; and they are Toxic and able to produce adverse health effects in humans and wildlife.

Testimony

Chairman Tonko, Ranking Member Shimkus, and Distinguished Members of the Subcommittee on Environment and Climate Change, good morning and thank you for inviting me to speak with you about health effects of exposure to per- and polyfluoroalkyl substances, or PFAS, chemicals that are estimated to contaminate the drinking water of 19 million Americans[1]. My name is Dr. Jamie DeWitt and I am an Associate Professor of Pharmacology and Toxicology at the Brody School of Medicine of East Carolina University in Greenville, North Carolina. I have been conducting research on health effects of PFAS since 2005 with a focus on the immune system.

PFAS are a class of nearly 5,000 closely related chemicals that all contain a carbon-fluorine bond. This bond makes them highly stable, heat resistant, and versatile in manufacturing processes and consumer goods. This bond also makes PFAS extremely long-lived in our environment and our bodies because they do not readily degrade. The Centers for Disease Control and Prevention[2] assesses the US population's exposure to environmental chemicals in a cross-section of the US population. They have reported that 98% of Americans have one or more PFAS in their blood[3]. Currently, my state of North Carolina part of the PFAS crisis. To better understand PFAS contamination and health risks, I am part of the "PFAS Testing Network,[4]" which is a collaborative partnership of seven different North Carolina-based universities using both federal grants and a substantial state investment to manage and focus our PFAS research efforts. The North Carolina Policy Collaboratory,[5] which was created in 2016 by the North Carolina General Assembly to better utilize academic expertise across institutions of higher learning within our State and assist policymakers with complex issues that rely on scientific input and expertise, oversees the Network. We can be a model for other states.

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[1] EWG: PFAS Chemicals must be Regulated as a Class, Not One by One, https://www.ewg.org/release/mapping-pfas-contamination-crisis-new-data-show-610-sites-43-states.
[2] Centers for Disease Control and Prevention, National Report on Human Exposure to Environmental Chemicals, https://www.cdc.gov/exposurereport/index.html.
[3] Centers for Disease Control and Prevention, National Biomonitoring Program, Per- and Polyfluorinated Substances (PFAS) Factsheet. https://www.cdc.gov/biomonitoring/PFAS_FactSheet.html.
[4] NC PFAS Testing Network, https://ncpfastnetwork.com.
[5] The University of North Carolina at Chapel Hill NC Policy Collaboratory, https://collaboratory.unc.edu.

Regarding the health effects of PFAS, our scientific understanding is still somewhat limited. Of the 5,000 PFAS, only two have been well-studied and a handful of others have limited data. That said, in the last couple of years there has been a concerted effort among researchers to expand our understanding of PFAS. A comprehensive evaluation of the toxicological data for 14 different PFAS compiled by the Agency for Toxic Substances and Disease Registry[6] reported that people exposed to PFAS experience prevalence of a wide variety of health effects. These associations include decreased antibody responses to vaccines, liver damage, changes in serum lipids and cholesterol, increased risk of thyroid disease, increased risk of asthma, increased risk of decreased fertility, decreases in birth weight, and increased risk of pregnancy-induced hypertension and preeclampsia. Some populations have also seen increases in kidney and testicular cancer associated with PFAS exposure. These adverse health effects indicate that developing organisms, the immune system, the endocrine system, and lipid metabolism are all sensitive to PFAS exposure and that PFAS also have carcinogenic abilities. These adverse health effects also have been observed in experimental animals fed individual PFAS. Data from experimental animals is an important component of human health effects research as is research into the molecular mechanisms by which PFAS produce adverse health effects. It is this combination of data from studies of exposed human populations, experimental animals, and molecular mechanisms that has broadened our understanding of how PFAS exposure leads to adverse health effects in humans[7]. Finally, it's important to note that as these health effects are being seen at levels lower than the US EPA Health Advisory Level of 70 parts per trillion set in 2016[8], we now know that this level is not health protective for all Americans.

Prevention, including vaccines, is a first line of defense against diseases. We need vaccines to be as effective as possible. Exposure to PFOA and PFOS, two well-studied PFAS, reduces the

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[6] Agency for Toxic Substances and Disease Registry Toxicological Profile for Perfluoroalkyls, Draft for Public Comment, 2018, https://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=1117&tid=237.

[7] Testimony of Linda S. Birnbaum, Ph.D., D.A.B.T., A.T.S., Director, National Institute of Environmental Health Sciences and National Toxicology Program, National Institutes of Health, Hearing on "The Federal Role in the Toxic PFAS Chemical Crisis," Senate Committee on Homeland Security and Governmental Affairs Subcommittee on Federal Spending Oversight and Emergency Management, 09/26/2018.

[8] US EPA, 2016, FACT SHEET, PFOA & PFOS Drinking Water Health Advisories, EPA-800-F-16-003.

immune system's ability to produce antibodies, making our vaccines less effective. PFAS-associated immune system effects observed in epidemiological studies of children and adults - and in experimental animal studies of individual PFAS - have supported a causal relationship. In 2016, the National Toxicology Program evaluated studies on immune effects of PFOA and PFOS and concluded that they are presumed to be immune hazards in humans[9]. This conclusion was based on evidence that PFOA and PFOS can suppress the ability of the immune system to make antibodies in experimental animals and evidence that they can do the same in humans[8]. The Program also highlighted evidence that PFOA and PFOS can affect multiple immune outcomes, including allergic responses, resistance to infectious disease, and autoimmune disease[11].

The US EPA has not set a legally binding regulatory limit for any chemical in two decades; it is time for Congress to act. Of the 5,000 known PFAS, the vast majority have NO associated research data or standards for human biomonitoring. It is not feasible from a time or resource perspective to "TEST" our way out of this crisis. Employing a "CLASS" approach for ALL PFAS will be protective for vulnerable populations and the general public. It is not too late. Following the voluntary removal of PFOA and PFOS, levels of these PFAS have decreased in the environment and in our bodies. Since that time, replacement PFAS have increased in production. We need to learn more about these replacement compounds and ask ourselves, "Are these essential for the public good?"[10] Thank you all for understanding the need for legislation that will diminish the number and amounts of PFAS contaminating our environment and our bodies.

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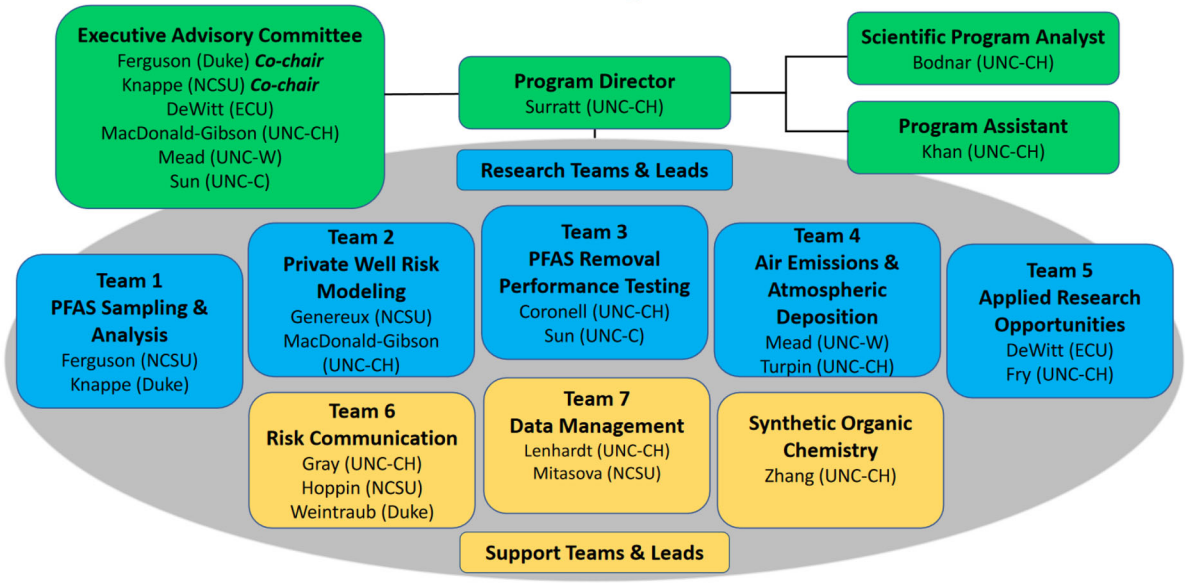
[9] National Toxicology Program, 2016, NTP Monograph, Immunotoxicity associated with exposure to perfluorooctanoic acid or perfluorooctane sulfonate, https://ntp.niehs.nih.gov/pubhealth/hat/noms/pfoa/index.html

[10] Cousins IT, Goldenman G, Herzke D, Lohmann R, Miller M, Ng, CA, Patton S, Scheringer M, Trier X, Vierke L, Wang Z, and DeWitt JC. 2019. The concept of essential use for determining when uses of PFASs can be phased out. *Under review at Environmental Science: Processes & Impacts.* Available online at: https://chemrxiv.org/articles/The_Concept_of_Essential_Use_for_Determining_When_Uses_of_PFASs_Can_Be_Phased_Out/7965128.

NORTH CAROLINA PFAS Testing Network

http://ncpfastnetwork.com

NC PFAS Testing Network



Mr. TONKO. Thank you, Dr. DeWitt. And we will now move to Mr. Brian Steglitz for five minutes, please.

STATEMENT OF BRIAN STEGLITZ

Mr. STEGLITZ. Good morning, Chairman Tonko and Ranking Member Shimkus and distinguished members of the subcommittee. Thank you for conducting this hearing and for inviting me to testify today. Thanks also to Congressman Upton, Congressman Walberg, and Congresswoman Dingell from Michigan for your bipartisan commitment and support to address critical public health and drinking water issues facing our State and the nation. My name is Brian Steglitz and I am the manager for water treatment services for the City of Ann Arbor, Michigan.

The city of Ann Arbor is in southeastern Michigan and our utility serves about 125,000 customers, except for about eight Saturdays in the fall when the city's pollution doubles. Yes, we are home to the University of Michigan Wolverines. In early 2017, the city began investigating a new type of carbon and its filters to remove PFOS from its source waters. In 2018 and 2019, the city invested approximately $850,000 in this new carbon, which is about 10 percent of our operating budget.

PFOS, however, cannot be addressed with a single capital investment. We will need to increase the annual expensive carbon replacement by over a factor of two to achieve effective PFOS removal at our plant. While we have come up with a solution to ensure the city's drinking water is safe and public health is protected, removing these chemicals at the end of the pipe is not the most cost-effective approach. The best way to address these contaminants is at their source.

Currently, utilities are in a situation where chemicals where chemicals of unknown risk are entering circulation, are not being monitored, are discharged from industrial sources and municipal wastewater treatment plants into watersheds and enter the source water for drinking water systems. It may not be until chemicals are already detected in drinking water that risk assessment and exposure evaluations are initiated. This is just too late. For those chemicals that are already in circulation and being actively used by industry, more effective controls are needed to ensure these chemicals are not allowed to enter our watersheds, as well as legislation that would require the polluter to cover the cost of abatement.

As utilities develop solutions to address PFAS contaminants, many of these solutions may require significant capital investment. How is a utility to be sure that near-term investments are able to address long-term public health risks when much of the science and public health impacts has yet to be developed? While financial resources for utilities to address PFAS contamination sites are critical, resources to address research are equally important. Until the water community can understand the public health risks, it will not be able to ensure that appropriate resources are dedicated to addressing PFOS.

There are many other significant needs that cannot be neglected as utilities stretch their resources to address PFAS, aging infrastructure, lead, algal toxins, to name a few, remain at the forefront of water quality issues facing drinking water systems. Federal Gov-

ernment leadership will be critical to putting the country on the right path to addressing PFAS contamination and exposure.

The most common question we receive from customers is, "Is our water safe to drink?" Ann Arbor is no different than utilities all over the country who are facing this similar question. Historically, utilities would commonly answer this question with an emphatic, "Yes, we comply with Safe Drinking Water Act requirements." Even though this is still true, because there are no regulatory limits for any PFAS, this response is no longer acceptable to our customers.

While EPA considers future regulation, many states including Michigan are not willing to wait. Over the next few years there will likely be many different regulatory approaches taken across the United States. Why is this problematic? It is difficult to communicate to your customers in New Jersey or Minnesota or Vermont that has evaluated the risks to their residents differently and that one State places a lower value on protection of public health than another. Ann Arbor customers as well as many other communities around the United States will accept nothing less than the most stringent requirements.

That is why we have taken the approach to select the most stringent PFAS limits that exist and use these as our own current water quality goals. One may think that we really didn't need to take such an aggressive approach, but customer confidence and trust is the foundation of a successful utility. We along with other utilities around the country will be asking much from our customers in the future as we seek rate support for much-needed investment. If we are unable to satisfy the water quality expectations of our customers, we will not be able to sustain the revenue support that we need to ensure that we can deliver safe water for the next generations in our communities. For these reasons, Federal leadership is critical.

To recap, we need stronger control of the chemicals that enter circulation in the United States, source water protection to ensure contaminants do not enter watersheds, to hold polluters accountable for cleaning up contaminated sites, financial support for research and to implement new treatment technologies, and regulatory oversight that has been vetted by the best science. With these tools, utilities will be best positioned to address PFAS contamination and succeed in their common missions to protect public health. Thank you for your attention to support an issue.

[The prepared statement of Mr. Steglitz follows:]

CITY OF ANN ARBOR
PUBLIC SERVICES ADMINISTRATION

Committee on Energy and Commerce

Subcommittee on Environment

Hearing on Protecting Americans at Risk of PFAS Contamination & Exposure

Wednesday, May 15, 2019

Testimony of Brian Steglitz

Manager, Water Treatment Services

City of Ann Arbor, MI

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recycled paper

Good Morning Chairman Pallone and Ranking Member Shimkus and distinguished members of the subcommittee. Thank you for conducting this hearing and for inviting me to testify today. Thanks also to Congressman Upton, Congressman Walberg, and Congresswoman Dingell from Michigan for your bipartisan commitment and support to address critical public health and drinking water issues facing our State and the Nation. My name is Brian Steglitz, and I am the Manager of Water Treatment Services for the City of Ann Arbor, MI.

The City of Ann Arbor is a medium-sized city outside of Detroit in southeastern Michigan. Our utility serves approximately 125,000 customers, except for about eight Saturdays in the fall when the city's population doubles.

The city first became aware of PFAS in its drinking water in 2014 associated with regulatory required sampling as part of the Unregulated Contaminant Monitoring Rule enforced by the EPA. But it was not until 2016 when a report issued by the Environmental Working Group drew significant attention to these emerging contaminants and their presence in municipal drinking water.

In early 2017, the city began investigating options to improve removal of PFAS from its source waters, and piloted a new type of granulated activated carbon filter media. By the middle of 2018, city staff determined that the new media was

effective and recommended replacement of the media in all of its filters at a cost of approximately $850,000, which is about 10% of our annual operating budget. PFAS, however, cannot be addressed with a single capital investment. We will need to increase the annual expense of granular activated carbon replacement by over a factor of two (from $160,000 per year to $350,000 per year) to continue to achieve effective PFAS removal at our plant.

While we have come up with a solution to ensure the city's drinking water is safe and public health is protected, removing these chemicals at the end of the pipe is not the most cost effective approach. The best way to address these contaminants is at their source. Under the authority of TSCA, EPA has the ability to require comprehensive risk assessment for new chemicals before they are introduced into circulation. For those chemicals that are already in circulation and being actively used by industry, more effective controls are needed to ensure these chemicals are not allowed to enter our watersheds, as well as legislation that would require the polluter to cover the costs of abatement. Currently utilities are in a situation where chemicals of unknown health risk are entering circulation, are not being monitored, are discharged from industrial sources and municipal water treatment plants into watersheds, and enter the source water for drinking water systems. It may not be until chemicals are already detected in

drinking water, that risk assessment and exposure evaluations are initiated. This is just too late.

As we look for solutions, it is critical that we do not just move the risk from one media or source to another. PFAS chemicals are so prevalent because they have such desirable properties, one of them being that they are very difficult to destroy. In the city's case, PFAS is becoming chemically attached to the granular activated carbon. After the carbon capacity is exhausted, the carbon is removed and can be thermally regenerated, destroying the PFAS. In some cases, carbon is landfilled, which could become a new source of environmental contamination. Solutions that destroy these chemicals so they cannot re-enter the environmental should be incentivized.

Water utilities have been dealing with emerging contaminants for decades, ever since passage of the Safe Drinking Water Act. While the financial resources to address emerging contaminants like PFAS are desperately needed, it is critical that resources are optimally allocated. The science behind understanding the health risks associated with PFAS chemicals is still developing. Coincident with this developing science is the demand for regulation and the development of new treatment technologies.

As utilities develop solutions to address PFAS contaminants, many of these solutions may require significant capital investment. How is a utility to be sure that near term investments are able to address the long-term public health risks, when much of the science on public health impacts has yet to be developed? Similarly, as states and EPA consider future regulation, how will they incorporate the rapidly developing science into their proposed drinking water criteria?

While financial resources for utilities to address known PFAS contamination sites are critical, resources dedicated to research is equally important. Until the water community can understand the public health risks, it will not be able to ensure that appropriate resources are dedicated to addressing PFAS.

PFAS represent one of many challenges to drinking water utilities. It is important that other significant needs are not neglected as utilities stretch their resources to address PFAS. Aging infrastructure, lead, algal toxins, and other emerging contaminants, to name a few, remain at the forefront of water quality issues facing drinking water systems.

Federal government leadership will be critical to putting the country on the right path to addressing PFAS contamination and exposure. The most common question that we receive from our customers is, "is our water safe to drink?" Ann

Arbor is no different from utilities all of the country who are facing this similar question, whether it is related to PFAS, lead, or another source of contamination. Historically, utilities would commonly answer this question with an emphatic "yes, we comply with (and if applicable, exceed) all Safe Drinking Water Act requirements". Once PFAS emerged as such a widespread contamination problem for water systems, this response is no longer valid. There are no national regulatory limits for any PFAS. While EPA considers future regulation, many states, including Michigan, are not willing to wait. As you would expect, they are each taking a little different approach. Over the next few years, there will likely be many different regulatory approaches taken across the United States. Why is this problematic? It is difficult to communicate to your customers that New Jersey or Minnesota or Vermont has evaluated the risk to their residents differently, and that one state places a lower value on protection of public health than another.

Ann Arbor customers, as well as many other communities around the United State, will accept nothing less than the most stringent requirements. That is why we have taken the approach to survey the current research and current proposed regulatory initiatives around the United States, and selected the most stringent PFAS limits that exist and use these as our current water quality goals. Now, this

could change as the science develops, but this approach has satisfied our customers.

One may think that we really didn't need to take such an aggressive approach, but customer confidence and trust is the foundation of a successful utility. We, along with other utilities around the country, will be asking much from our customers in the future as we seek rate support for much needed investment. If we are unable to satisfy the water quality expectations of our customers, and if they turn to bottled water as an alternative, we will not be able to sustain the revenue support that we need to ensure that we can deliver safe water to the next generations in our communities.

In some cases access to funding through State revolving funds can be dependent on whether a utility requires investment to meet regulatory requirements. Therefore, some utilities may not be able to access low interest loans through their state programs for PFAS treatment since there are no regulatory guidelines.

For all of these reasons Federal leadership is critical. To recap, we need stronger control of the chemicals that can enter circulation in the United States, source water protection to ensure contaminants do not enter our watersheds, financial support for research to understand the public health risk of exposure to PFAS and

for development of new treatment technologies, financial support for utilities needing to invest in those remedial technologies, and finally regulatory oversight and consistent messaging that have been vetted by the best science. With these tools, utilities will be best-positioned to address PFAS contamination and succeed in their common missions to protect public health.

Thank you for your attention to this important issue.

Attached to this testimony are the following:

Attachment A – May Quality Water Matters Issue – City of Ann Arbor

Attachment B – PFAS Action Plan for the City of Ann Arbor

Attachment C – Research and the State of the Science of PFAS from The Water Research Foundation

Attachment A

A²H₂O Quality Water Matters

Brought to you by the City of Ann Arbor

Volume 1, Issue 1 | May 2019

MAY IS WATER AWARENESS MONTH.

We figure it's also a perfect time to launch our first issue of A2H2O: Quality Water Matters. So here it is! Brought to you by the City of Ann Arbor, this monthly publication will provide information from our water quality team and local partners, such as the Huron River Watershed Council, the Washtenaw County Water Resources Commissioner and the Washtenaw County Health Department. While this publication is designed to keep everyone up to date on water-related topics, it is also part of our overall goal to reach out and meet more of our customers.

As you may know, we continue to face several water quality challenges with emerging contaminants. Dealing with water contaminants is not new to us. Throughout my tenure of almost 22 years, and in the decades preceding, the city has successfully addressed and overcome several water quality challenges. We've also won countless awards for water quality and efficiency in operations. Perhaps that's why utilities from all over the United States have sought input and direction from us on how to address and solve emerging contaminant issues.

To learn more about your drinking water and our efforts to protect its safety, contact us via email, telephone, social media, or visit: www.QualityWaterMatters.org.

Please know that however you choose to engage with us, your questions are always welcomed, concerns are taken seriously, and that the safety of your drinking water remains our number one priority.

Respectfully,

Brian Steglitz

Brian Steglitz, P.E., Drinking Water License F-1, Water Treatment Plant Manager, Ann Arbor resident

MAY EVENTS

Water Treatment Open House, 919 Sunset Road. Saturday, May 11, 10 a.m.-2 p.m.

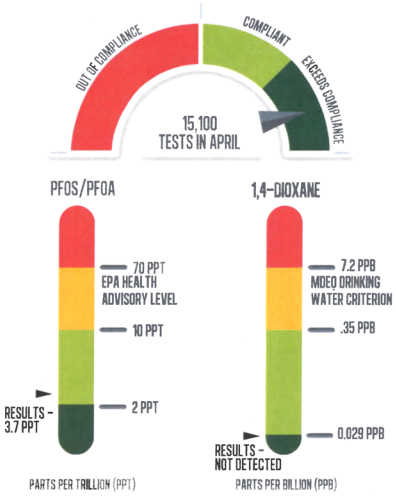
Huron River Day, Gallup Park, 3000 Fuller Road. Sunday, May 19, noon-4 p.m.

Pop-Up Water Events, coming this summer to a space near you!

ANNUAL FIRE HYDRANT FLUSHING BEGINS

Fire hydrant inspections and system maintenance began in April and a map of scheduled areas is available at www.a2gov.org/annarborhydflush. The water discoloration could be caused by iron sediment in the water main being disturbed by the hydrant flushing. If this occurs, please run your **COLD** water for several minutes and flush your toilet to clear your lines.

MONTHLY WATER QUALITY DASHBOARD



A CLOSER LOOK

Each day, the City of Ann Arbor's water treatment staff is focused on providing clean and safe drinking water to our more than 125,000 customers. We take this responsibility very seriously. In 2018, a team of 30 water treatment professionals collected more than 58,000 water samples and conducted more than 177,000 tests to deliver high quality water.

WHAT'S IN YOUR WATER?

The current **Water Quality Report** is available online at www.a2gov.org/WaterReport and to view all data and **monthly sampling results** visit: www.QualityWaterMatters.org.

HURON RIVER WATERSHED COUNCIL:

Clean water makes so many things possible. Healthy ecosystems. Plentiful wildlife. Safe drinking water. Inviting places to swim, fish, paddle or simply enjoy nature. Vibrant towns and cities. A legacy for future generations. The Huron River Watershed Council (HRWC) envisions a future of clean and plentiful water for people and nature where citizens and government are effective and courageous champions for the Huron River and its watershed. Supported through the membership of individuals, local businesses, and more than 40 communities across southeast Michigan, HRWC coordinates programs and volunteer efforts aimed at protecting and restoring the Huron River system. Learn how you can get involved at www.hrwc.org.

Look to the Huron River for kayaking, canoeing, camping, fishing on a fly, and other freshwater pursuits! The Huron is recognized as both a State and National Water Trail. Enjoy its 104-miles (167 km) and connect to the river's natural environment, its history and the communities it touches. There are a variety of paddling experiences and Milford, Dexter, Ann Arbor, Ypsilanti and Flat Rock are designated Trail Towns. Plan your summer adventure on the Huron River at www.huronriverwatertrail.org.

COUNTY NEWS:

Washtenaw County Health Department's mission is to assure, in partnership with the community, the conditions necessary for people to live healthy lives through prevention and protection programs. Water plays a central role in public health through consumption, hygiene and recreation. Our department works with many partners to assure drinking water is safe and available. Some of the services we provide include:

- Provide education for residents on the quality and safety of their drinking water, both from private wells and municipal supplies.
- Offer water testing services to residents through a contract with a certified laboratory.
- Sample all public swimming pools and beaches for water quality parameters and to ensure safe swimming conditions.
- Investigate contaminations that may impact drinking water and recreational water.
- Investigate illnesses that may be transmitted through water.
- Permit drinking water wells for private homes.
- Inspect and regulate well water supplies for schools, churches, day care centers, etc.
- Review water well suitability for homes involved in a property transfer.
- Permit non-potable wells for irrigation, contamination investigation, etc.

For additional information, www.washtenaw.org/envhealth or call 734.222.3800.

The Washtenaw County Water Resources Commissioner's (WRC) mission is to provide for the health, safety, and welfare of Washtenaw County citizens and the protection of surface water and the environment and to promote the long term environmental and economic sustainability of Washtenaw County by providing storm water management, flood control, development review and water quality programs. The WRC coordinates storm water management, develops strategies for flood and erosion control, and participates in the development of related storm water and land use policies, plans and programs. The office also conducts activities to protect the quality of storm drains and waterways. In performing these duties, the office is involved with the following activities:

- Determining special assessments.
- Maintaining court-set lake levels.
- Constructing and maintaining associated facilities including dams and pumps.
- Establishing standards, reviewing and approving plans and specifications for storm drainage projects.
- Managing and financing drain construction projects.

Learn more at http://www.washtenaw.org/drain.

WATER CHAMPION:

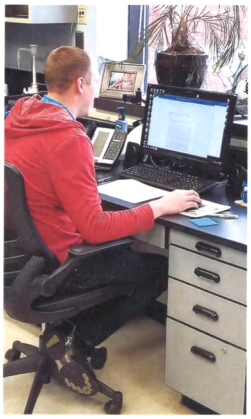
Sarah Page, Ph.D.

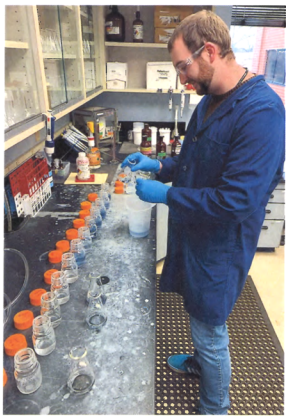
Each month, the city will feature a member of our community who is working to protect one of the city's most valued resources: water.

Meet our first water champion, the City of Ann Arbor's Drinking Water Quality Manager Sarah Page, Ph.D., Drinking Water License F-4, Ann Arbor resident. Sarah works to ensure the city delivers high quality and safe water to our customers each and every day. On a daily basis, Sarah is analyzing thousands of measurements to ensure our water quality is excellent and she continually seeks improvements.

Attachment B

QUALITY WATER MATTERS: KEEPING OUR CUSTOMERS INFORMED ABOUT PFAS





The number one focus of the city's drinking water quality team is to provide safe drinking water; and we take this responsibility very seriously. That is why we have produced this handout and continue to revise it as needed.

REMOVING PFAS ACTION PLAN: As you may have heard, we continue to face water quality challenges such as with per- and polyfluoroalkyl substances (commonly referred to as PFAS). So, we created an action plan to keep residents informed about what we are doing to eliminate PFAS contamination in our source and drinking waters. As part of our action plan, we recently installed a new type of granular activated carbon in our filters which improved the water quality by reducing PFAS even further below health advisory levels. For PFAS contaminants with a health advisory level, our goal is to keep levels below 10 ppt (parts per trillion). This means for every trillion gallons of water, which is the equivalent of 20 Olympic-sized swimming pools, there are only a few drops or less of PFAS.

MONITORING AND TESTING: Each month, our water quality team sends water samples from the intakes at Barton Pond and finished drinking water to an independent lab to test for PFAS. Testing and analysis for PFAS requires specialized protocols and equipment and the method is very complex. Water samples are sent to an independent lab where they can detect PFAS levels as low as 2 ppt.

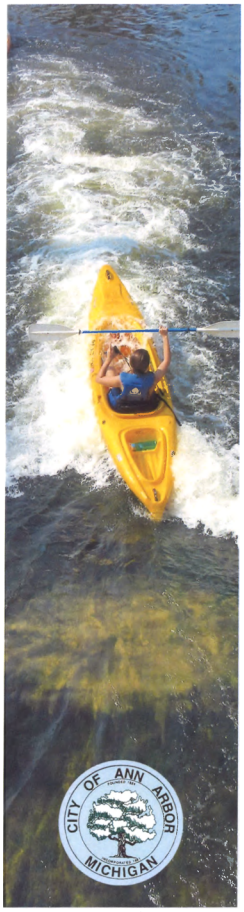
PROTECTING OUR WATERWAYS: The water quality team at the City of Ann Arbor continues to support on-going investigations to determine any possible sources of PFAS that could enter our source waters. We understand eliminating the sources of PFAS is the best way to keep it out of our drinking water. That's why the city has partnered with the Michigan Department of Environmental Quality (MDEQ) in its efforts to identify sources and prevent PFAS from entering our waterways.

LOOKING AHEAD: Even though the city's PFAS levels are well below the Environmental Protection Agency's (EPA) health advisory levels, that's not good enough for us, which is why we continue to improve our treatment processes and strive to learn more about other emerging contaminants. One way the city is dedicated to continuous improvement is by actively participating in research. In partnership with North Carolina State University, a leader in PFAS research in the U.S., the city is exploring new technologies for removing PFAS from drinking water. What's important for our more than 125,000 customers to know is we are dedicated to searching for solutions for any water quality challenge we may face. After all, we all drink Ann Arbor's water – and we take the responsibility to stay ahead of any potential threats to the safety of our drinking water very seriously.

STAY INFORMED: Our drinking water team will continue sharing PFAS water quality data on our website as soon as the data is validated. We also address water quality concerns and provide customer updates through a variety of city communication channels, such as Facebook, Twitter, NextDoor, a monthly online resident newsletter and regular email notifications. To review the PFAS levels and to learn more about your drinking water and the City of Ann Arbor's efforts to protect its safety, visit www.a2gov.org/PFAS.

APRIL 15, 2019 • www.QualityWaterMatters.org • 734.794.6426

QUALITY WATER MATTERS: Keeping Our Customers Informed



Frequently Asked Questions about PFAS

What is PFAS?
It is an abbreviation for per- and polyfluoroalkyl substances which are man-made chemicals used in metal plating and a wide variety of consumer products including fire-suppressing foam, carpets, paints, polishes and waxes. The most studied types of PFAS are perfluorooctanoic acid (PFOA) and perfluoroctanesulfonic acid (PFOS).

What are the advisory levels for PFAS?
The EPA has set a lifetime health advisory level for the combined amount of PFOS and PFOA in drinking water not to exceed 70 parts per trillion (ppt). That is the level, or amount, below which no harm is expected from these chemicals, based on daily consumption over a lifetime. The State of Michigan has indicated their intent to regulate PFAS and develop a maximum contaminant level by October 2019. City staff will be following the regulatory process.

What are the levels of PFAS in Ann Arbor's drinking water?
In 2019, PFOA and PFOS levels in Ann Arbor's drinking water have been less than 10 ppt. As part of our action plan, it is our goal to keep PFOS and PFOA below 10 ppt, significantly below the 70 ppt health advisory level. Levels for the 24 PFAS that we are testing for twice per month can be found on our website at www.QualityWaterMatters.org. Ultimately, our goal is to work with local and state partners to eliminate PFAS at the source and keep it from entering our waterways.

What is being done to protect our drinking water from PFAS?
In 2018 and 2019, the city installed a new type of granular activated carbon in our filters to increase removal of PFAS from our drinking water. The filters have been working as expected and the levels of PFAS have further dropped below the EPA's health advisory levels, some to undetectable amounts.

How does the Michigan Department of Health and Human Services (MDHHS) new health screening limits for five types of PFAS affect the city's water quality management plans?
On April 4, 2019, MDHHS published health screening levels for five PFAS: PFOS, PFOA, PFNA, PFHxS and PFBS. The city's current PFAS management strategy remains more restrictive than current regulations and is protective of public health, even with the announcement of these new screening levels. The city anticipates that new information on PFAS health impacts will continue to be released over the coming months and year. The city is committed to reviewing all new information and will adjust its management strategy as necessary to ensure public health is protected.

Why doesn't the city test for PFAS at my home?
PFAS concentrations do not change from the water treatment plant to your home, therefore, there is no need to test for PFAS within homes.

Can people bathe and swim in water containing PFAS?
Since PFAS does not easily absorb into the skin, people can bathe, swim and also do laundry and household cleaning with water containing PFAS as getting it on the skin is not harmful. However, in August 2018, the MDHHS issued a "Do Not Eat Fish" advisory for the Huron River and advised people and their pets to avoid swallowing foam from the river as it can have higher concentrations of PFAS.

What are you doing to protect our waterways?
We continue to leverage our partnerships with local organizations, such as the Huron River Watershed Council, to help ensure that our watershed is adequately protected from substances that might impact your drinking water. In addition, the city is lobbying to ensure that the state and its environmental regulatory agencies remain focused on protecting our waterways. While emerging contaminants may continue to be detected, our dedicated staff are prepared to not only face these challenges, but also remain an industry leader in pioneering solutions.

Where can I see test results of PFAS in our water?
Independent lab verified testing results of PFAS in the source water and finished drinking water are posted on the city's website at www.a2gov.org/PFAS.

Attachment C

The Water Research Foundation - Research and State of the Science on PFAS:

1. WRF has completed two projects addressing PFAS:
    a. Project WRF 4322: Treatment Mitigation Strategies of Poly & Perfluorinated Chemicals (http://www.waterrf.org/Pages/Projects.aspx?PID=4322) The first objective of this project was to conduct a literature review covering the global occurrence and treatability of perfluorinated compounds (PFCs). The second objective was to conduct a limited, strategically targeted assessment to determine the fate of these compounds in North American water treatment plants (from source to finished water) in order to validate the findings from the literature. Published in 2016
    b. Project WRF 4344: Removal of Perfluoralkyl Substances by PAC Adsorption and Ion Exchange (http://www.waterrf.org/Pages/Projects.aspx?PID=4344) This project assessed the effectiveness of innovative powdered activated carbon (PAC) adsorption and magnetic anion exchange processes for the removal of perfluorinated compounds (PFCs) from drinking water sources. Apart from the more commonly studied perfluorooctanic acid and perfluorooctane sulfonate, the removal of eight additional PFCs that are commonly detected in water were studied at environmentally relevant concentrations. Published in 2015.

2. WRF has a State of the Science paper on PFAS – link is: http://www.waterrf.org/resources/StateOfTheScienceReports/PFCs_StateOfTheScience.pdf#search=state%20of%20science%20pfas.

3. WRF held a webcast on "Per- and Polyfluoroalkyl Substances (PFAS) in Water: Background, Treatment and Utility Perspective." It provides a great overview of the issues. A link to the recording is here: http://www.waterrf.org/resources/webcasts/pages/PublicWebcasts-detail.aspx?ItemID=110.

4. WRF approved a new Focus Area in 2018 on PFAS Management, Analysis, Removal, Fate and Transport of Per- and Polyfluoroalkyl Substances (PFASs) in Water. A summary of the Focus Area objectives, and other projects we have on PFAS outside the Focus Area is summarized here: http://www.waterrf.org/the-foundation/research-programs/focus-area-program/Pages/PFASs-in-water.aspx

5. Ongoing PFAS Projects:

a. Concept Development of Chemical Treatment Strategy for PFOS-Contaminated Water – 4877. The primary goal of this research is to develop a practical high-efficiency chemical treatment strategy for perfluorooctane sulfonate (PFOS) in water. Research mainly investigates advanced oxidation integrated with chemical reduction to decompose PFOS.
b. Last year, WRF was awarded a DoD grant on PFAS (~$1M), and work is just initiating on it. It's titled "Evaluation and Life Cycle Comparison of Ex-Situ Treatment Technologies for Per-and Polyfluoroalkyl Substances (PFASs) in Groundwater". The project will develop a framework for assessing PFAS treatment techniques from a life cycle cost/assessment perspective, which will be structured based on input gathered during an expert workshop. The project team will also develop a treatment testing protocol and conduct laboratory-scale studies to evaluate the performance of various technologies for PFAS removal under different treatment scenarios. The results will be used to develop an Excel-based decision support tool to help DoD, utilities, and other practitioners select the most viable treatment technologies for different scenarios on a life cycle cost/assessment basis by identifying advantages, disadvantages, limitations, and costs of the various technologies.
c. Investigation of Treatment Alternatives for Short-Chain PFASs – 4913. This project will systematically investigate short-chain PFAS removal by readily implementable treatment processes - and to a limited extent, innovative techniques-in a wide range of water matrices (groundwater, surface water, treated wastewater) at multiple scales (bench, pilot, and full). Specific objectives are to advance the state-of-the-art of short chain PFAS removal by:
    - Evaluating conventional an innovative sorbents
    - Identifying essential membrane properties
    - Assessing the impact of background water matrix parameters
    - Comparing pre-treatment options to enhance downstream adsorption
    - Developing scale-up protocols to estimate full-scale sorbent use rates
    - Generating data for residuals management
    - Modeling quantitative structure-property relationships to predict removal by adsorption, anion exchange, and membrane processes
d. Determining the Role of Organic Matter Quality on PFAS Leaching from Sewage Sludge and Biosolids – 5002 ($25K Add-On to NSF proposal). The overarching project objective is to understand how solid characteristics and water quality affect PFASs desorption from sewage-derived solids, which the following main sub-objectives:
    - Evaluate the effect of wastewater treatment plant practices on sludge quality and associated PFAS leaching.
    - Determine how water quality impacts PFASs leaching from wastewater secondary and anaerobically digested sludges.
    - Quantify conversion of PFAS precursor compounds to perfluoroalkyl acids during anaerobic digestion.

- Evaluate the effects of biological weathering processes on PFASs leaching from biosolids
- Evaluate the effects of biological weathering processes on PFASs leaching from biosolids
- Develop recommendations for wastewater treatment plant operators and biosolids users to minimize contamination from PFASs.

e. Assessing Poly- and Perfluoroalkyl Substance Release from Finished Biosolids. The overall goal of this proposal is to assess poly- and perfluoroalkyl substance (PFAS) release from finished biosolids. Specifically, this release will be examined as a function of PFAS loading in the finished biosolids, the post-digestion processing of the biosolids, and the age of the biosolids (freshly produced vs. field-aged). Specific objectives will be to:

- Quantify PFAS levels, including potential perfluoroalkyl acid (PFAA) precursors, in finished biosolids from multiple water resource recovery facilities (WRRFs)
- Assess the impacts of anaerobic digestion on PFAS levels and potential for release from finished solids
- Determine the extent to which PFAS release from biosolids occurs (both dissolved and colloidal) and the fraction of PFASs which remain irreversibly sequestered to the biosolids
- Determine the impacts of field-aging (which likely will facilitate precursor transformation and sequestration) on the fraction of PFAS that is released
- Develop preliminary guidelines or rules of thumb for mitigating PFAS levels and release in biosolids

f. Project 5031 - Occurrence of PFAS Compounds in US Wastewater Treatment Plants (Currently an active RFP). Objectives of this study are to:

- Evaluate PFAS occurrence in US wastewater treatment plant
- Determine the fate of PFAS compounds during wastewater treatment

Mr. TONKO. Thank you, Mr. Steglitz. And now we recognize Mr. Tracy Mehan for five minutes, please.

STATEMENT OF TRACY MEHAN III

Mr. MEHAN. Thank you. Good morning, Mr. Chairman and Ranking Member and members of the subcommittee. My name is Tracy Mehan and I am executive director for Government Affairs for the American Water Works Association on whose behalf I am speaking today. I appreciate this opportunity as do our members to offer AWWA's perspectives on the many pressing issues surrounding PFAS.

Let me—since this is Infrastructure Week, I do want to thank the committee for your work on reauthorizing the Safe Drinking Water State Revolving Loan Fund and doubling the authorized amount as well as putting WIFIA on a more permanent footing. These two programs are key in dealing what is paramount threat to public health that is aging and deteriorating infrastructure, so my members are most grateful for your work on that.

AWWA's 50,000 members, including 4,000 utility members that are subsumed in that 50,000 figures, represent the full spectrum of utilities, small and large, rural and urban, municipal and investor-owned. So, in addition, I am speaking not just as AWWA person, but as a former State and Federal regulator and an adjunct professor of environmental law. Let me say first up that all our members are conscious, extremely conscious of the concerns and the fears and the aspirations of our members. We are customer-facing more now than ever. This is a post-Flint environment and it—believe me, public affairs risk communication are priorities for all of our members and good education as to what we know and what we don't know is first and foremost in all our members' minds.

Drinking water utilities and State environmental agencies need to know where to focus monitoring resources to understand what risks may be in source waters and implement source water protection practices and engagement with these sources. That is a fundamental principle of what we do, as Brian mentioned. There are existing tools that EPA could be using to a greater degree to help address such concerns regarding PFAS, in particular as was noted, the Toxic Substance Control Act, or TSCA. Deploying these TSCA authorities in the service of safe drinking water is source water protection at the strategic level. Call it prevention, if you will, as Brian indicated.

Utilizing its oversight authority over the work of Federal agencies, we urge Congress to ensure that EPA takes advantage of such existing authorities under TSCA to manage risk posed by PFAS compounds. Using such authority, we think the Agency needs to provide a report in one year and update it every two years, describing the location of current and past PFAS production, import processing, and use in the United States for individual PFAS compounds based on data collected through TSCA. It should also show appropriate actions taken or planned under TSCA to restrict production, use, and import of PFAS and support improved risk communications with the public.

Also, report on actions taken by other Federal agencies and in particular the Department of Defense and Health and Human

Services to address PFAS concerns. And, finally, report on statutory and non-statutory barriers encountered in gathering and distributing information on PFAS in order to inform risk management decisions by EPA, states, and local risk managers. EPA officials have promised to issue a proposed regulatory determination for PFAS and PFOA under the Safe Drinking Water processes this year. We urge Congress to support EPA's Office of Water, particularly on the appropriations side as it works through the rule determination process.

With regard to the Federal drinking water standard process, we understand that the process can be frustratingly slow. However, a scientific risk-based and data-driven process that discerns what substances are to be regulated and at what levels is indeed going to take a significant amount of time and effort. We caution against setting a precedent of bypassing these established processes via legislative action. The nation tested this approach with the 1986 amendments to the Safe Drinking Water Act with untoward results and I was on the receiving end of that as a State official at the Missouri DNR at the time.

That said, we are eager to follow the data on PFAS compounds wherever it may go in the investigative process so that we may know how best to protect public health. We will then prepare our members to comply with any new regulations and they will do so expeditiously.

In our 2012 study, buried no longer, AWWA determined that the United States needs to spend about a trillion dollars over 25 years to maintain, expand, and replace our current level of water, drinking water infrastructure, and that is just on the drinking water side of the house. Therefore, over time, regulatory actions need to be prudently implemented to avoid aggravating affordability issues for customers, particularly those with low incomes.

We just came out with our rate survey for 2016 to 2018 and it showed that it was up 7.2 to 7.5 percent, twice the level of the CPI. So this is a risk-risk situation and we need to target real risk and get true reduction and pay attention to the cost side. Thank you very much for your time.

[The prepared statement of Mr. Mehan follows:]

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Protecting Americans at Risk of PFAS Contamination & Exposure

Presented by
G. Tracy Mehan, III
Executive Director, Government Affairs
American Water Works Association

Before the House Subcommittee on the Environment and Climate Change
May 15, 2019

Good morning, Chairman Tonko, Ranking Member Shimkus, and members of the subcommittee. My name is Tracy Mehan, and I am Executive Director for Government Affairs for the American Water Works Association, or AWWA, on whose behalf I am speaking today. I appreciate this opportunity to offer AWWA's perspectives on the many issues surrounding per- and polyfluoroalkyl substances, or PFAS.

AWWA's 50,000 members represent the full spectrum of water utilities – small and large, rural and urban, municipal and investor-owned. We are an international, non-profit, scientific and educational society dedicated to protecting public health through the provision of safe drinking water. While AWWA is primarily a drinking water association, about 60 percent of our utility members are dual utilities, that is they have a division of drinking water and a division of wastewater and possibly stormwater as well. I speak not only from the perspective of AWWA, but as a former state and federal regulator and an adjunct professor of environmental law.

AWWA would like to bring to the subcommittee's attention several issues regarding PFAS. We understand the committee's concerns that PFAS compounds may pose both human health and ecological risks that warrant greater attention and management. The number of bills introduced regarding PFAS and the variety of issues they address illustrate the breadth of concern over these compounds.

PFAS compounds are a group of more than 3,000 man-made chemicals manufactured in the United States and other countries since the 1940s. The U.S. Environmental Protection Agency (EPA) reports that more than 1,200 PFAS compounds have been used in commerce, and that about 600 are still in use today. They may be found in food packaging, non-stick products, stain- and water-repellent products, fire-fighting foams, polishes, cleaning agents and other commercial products. The most well-known and common of these compounds are perfluorooctanoic acid (PFOA) and perflurorooctane sulfontate (PFOS). Related compounds are also causing concern: perfluorononanoic acid (PFNA), perfluorohexanoic acid (PFHxA), perfluorohexanesulfonic acid (PFHxS), perfluorodecanoic acid (PFDA), perfluorobutanesulfonic acid (PFBS) and fluoropolymers made through the process known as GenX. Much of our current data is focused on legacy PFAS compounds that are no longer manufactured, such as PFAS and PFOA.

Currently 11 states have policies in place regarding PFAS compounds and drinking water, with four more developing policies. Also, 10 states have source water protection policies for PFAS, and at least one more state is developing such policies. One state, New Jersey, has its own maximum contaminant level, and several have MCLs in development.

Use of Existing Authorities to Address PFAS

Drinking water utilities and state environmental agencies need to know where to focus monitoring resources to understand what risks may be in source waters. We need to know where PFAS compounds have been produced and in what volumes. There are existing tools that EPA could be using to a greater degree to help address such concerns regarding PFAS. In particular, there is the Toxic Substances Control Act (TSCA). TSCA has data-gathering authority that the agency could use to garner more information from the manufacturing sector about the number of PFAS compounds that have been developed, in what quantities they were produced and where they were produced. TSCA data indicates that manufacturers have already discontinued the use of a number of PFAS compounds, but state and local risk managers need more information than is currently available to manage legacy compounds and proactively manage PFAS that are currently in use. Deploying TSCA authorities in the service of safe drinking water is "source water protection" at the strategic level.

Utilizing its oversight authority over the work of federal agencies, we urge Congress to ensure that EPA takes advantage of existing authorities under TSCA and the Safe Drinking Water Act to manage risks posed by PFAS compounds. Using such authorities, the agency needs to

- provide a report in one year and update it every two years describing
    - the location of current and past PFAS production, import, processing and use in the United States for individual PFAS compounds based on data collected through TSCA;
    - appropriate actions taken or planned under TSCA to restrict production, use and import of PFAS and support improved risk communications with the public;
    - actions taken by other federal agencies, and in particular the departments of Defense and Health and Human Services, to address PFAS concerns; and

- summarizes statutory and non-statutory barriers encountered in gathering and distributing information on PFAS in order to inform risk management decisions by EPA, states and local risk managers.

We understand the sentiment for designating some PFAS compounds as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). However, we must flag some unintended consequences of such actions.

Wastewater utilities receive and treat water from a range of sources from homeowners to industries. That water may contain PFAS compounds. Even though they are not the source of these compounds, wastewater or stormwater utilities could end up liable for cleaning up these substances. If biosolids from wastewater treatment plants have been applied to land as fertilizer, such liability increases. Removing PFAS from wastewater requires advanced technologies, such as granular activated carbon, ion exchange or reverse osmosis. Then, as with advance drinking water treatment techniques, there is the issue of how to dispose of the concentrated PFAS mix.

The Clean Water Act (CWA) comes into play as well. Information gleaned via TSCA to target assessments of PFAS in the environment will assist development of industrial pre-treatment actions under that act. CWA authority will also come into play in the development of analytical methods for PFAS in industrial wastewaters and in development of appropriate and reliable treatment methods.

PFAS Action Plan

EPA released its PFAS Action Plan earlier this year. While we saw some positive steps promised in that plan, we believe authorities exist for federal entities to do even more. Agency officials have provided briefings on that plan, so I will not repeat it in detail. EPA officials promised progress under the Safe Drinking Water Act's (SDWA's) process for developing drinking water standards, beginning with making proposed regulatory determinations for PFOA and PFOS this year. We urge Congress to support EPA's Office of Water, particularly in appropriations, as it works through the rule determination process. It was monitoring under the SDWA's unregulated monitoring requirements that set the stage for the current PFAS policy debate. EPA will require a second round of monitoring for additional PFAS in the upcoming fifth round of the Unregulated Contaminant Monitoring Rule. In late April, EPA proposed interim clean-up guidelines for PFOA and PFOS under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA). EPA also has a process under way to determine if PFOA and PFOS can be listed as hazardous substances under CERCLA. Equally important, EPA committed itself to improving risk communication for PFAS compounds. Members of the public and policymakers such as yourselves are understandably concerned about the unknown risks associated with a group of contaminants that is both manmade and is seemingly an avoidable risk. Effective risk communication is significant to addressing these concerns.

With regard to the federal drinking water standard setting process, we understand that this process can be frustratingly slow. However, a scientific, risk-based and data-driven process that discerns what substances are to be regulated, and at what levels, is indeed going to take a significant amount of time. We caution against setting a precedent of by-passing these established processes via legislative action. The nation tested that approach with the 1986

Amendments to the SDWA with untoward results. That said, we are eager to follow the data on PFAS compounds wherever it may go in the investigative process so that we may know how to best protect public health. We will prepare our members to comply with any new regulations.

Removing PFAS compounds from water typically requires treatment techniques such as filtration through granular activated carbon or ion exchange. While these advanced technologies can be effective, they are also expensive, and generate waste streams that require specialized disposal methods that are not readily available across the country.

AWWA members are looking for a cohesive risk management strategy that addresses legacy compounds and ensures that current and future PFAS compounds are not a threat to the country's water supplies. We are concerned that states are considering MCLs for PFAS compounds over a range of values that will have markedly different treatment implications, sometimes without adequate benefit-cost analysis. This makes intelligible, accurate, defensible risk communication impossible. Drinking water standards are part of a holistic risk management strategy. In our 2012 study, Buried No Longer, AWWA determined that the United States needs to spend about $1 trillion over 25 years to maintain and expand our current level of water service. Therefore, over time, regulatory actions needs to be prudently implemented to avoid aggravating affordability issues for customers, particularly those with low incomes. Water systems across the United States are striving to provide the best water quality possible at a reasonable cost to their customers. Investing in a treatment requirement based on inadequate information can leave fewer resources to address other known risks, such as failing infrastructure.

Research

Research is key in addressing PFAS. The lack of health effects data on substances such as PFAS compounds has long held back regulatory determinations under the SDWA. Before a substance can be regulated, the SDWA requires that it "is known to occur or there is a substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern; and in the sole judgment of the Administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems." Research is expensive and has been inadequately funded at EPA.

Further research is needed in these areas:

- Health effects data to identify which PFAS compounds pose a human health risk;
- Analytical methods to quantify levels of PFAS compounds in environmental samples (natural waters, wastewaters, soil, finished water);
- Technologies to economically destroy PFAS compounds in wastes from drinking water and wastewater treatment so that these long-lived chemicals are not re-introduced into groundwater or surface waters; and
- Technologies to cost-effectively remove problematic PFAS compounds from drinking water and wastewaters to levels that do not pose public health concerns.

We urge Congress to ensure that EPA and other relevant agencies or research bodies have the tools and resources they need to answer the needs listed above.

AWWA and water systems across the United States are committed to providing high-quality drinking water and protecting consumers from demonstrable risks. To assure that PFAS risks are effectively and efficiently reduced, these compounds must be properly addressed within the scientific framework of the SDWA. Water systems also need Congress to ensure that EPA has the funding to properly execute its work under all of the available statutes to protect our nation's water resources.

Finally, I want to note that AWWA and the Centers for Disease Control and Prevention recognized last week as "Drinking Water Week." The theme this year was, "Protect the Source." I hope that the discussions at this hearing and the discussions this hearing generates will help us all do more to protect our sources of drinking water from substances posing a threat to human and environmental health.

G. Tracy Mehan, III

G. Tracy Mehan, III, became AWWA's Executive Director for Government Affairs in August 2015. Before that, he was a principal with The Cadmus Group, Inc., an environmental consulting firm. Mehan served as Assistant Administrator for Water at the U.S. Environmental Protection Agency from 2001 to 2003, directing both the Safe Drinking Water Act and Clean Water Act programs. He developed new policies and guidances on watershed-based permitting and water quality trading. He also promoted and expanded ambient water quality monitoring and innovative approaches to meeting the challenge of the infrastructure financing gap. Mehan served as director of the Michigan Office of the Great Lakes (1993-2001) and as Associate Deputy Administrator of EPA in 1992. He served as director of the Missouri Department of Natural Resources from 1989 to 1992, managing the state's environmental, parks, historic preservation, geology and other programs. He represented Missouri in all negotiations over the management of the Missouri River. Mehan is a graduate of Saint Louis University and its

School of Law. Mehan is an adjunct professor in environmental law at George Mason University School of Law.

What is the American Water Works Association?

The American Water Works Association (AWWA) is an international, nonprofit, scientific and educational society dedicated to providing total water solutions to protect public health and assure the effective management of water. Founded in 1881, the association is the largest organization of water professionals in the world.

Our membership includes more than 3,900 utilities that supply roughly 80 percent of the nation's drinking water and treat almost half of the nation's wastewater. Our 50,000 members represent the full spectrum of the water community: public water and wastewater systems, environmental advocates, scientists, academicians, and others who hold a genuine interest in water, our most important resource. AWWA unites the diverse water community to advance public health, safety, the economy, and the environment.

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Mr. TONKO. Thank you, Mr. Mehan. And now we recognize Ms. Jane Luxton for five minutes.

STATEMENT OF JANE C. LUXTON

Ms. LUXTON. Thank you, Chairman Tonko, Ranking Member Shimkus, and members of the subcommittee for inviting me to testify today on legislation that has been introduced to address PFAS contamination. My name is Jane Luxton. I am a partner in the Washington, DC office of the law firm Lewis Brisbois and co-chair of its Environmental and Administrative Law Practice. I was informed this morning by committee staff that a lawsuit was filed last night in which a firm client is named as the defendant. This is the first I have heard of this and I am not involved in that case. I am appearing today on my own behalf as an environmental and administrative law practitioner with decades of experience with environmental regulatory matters.

Today, I would like to speak to the broader issue of the challenges surrounding the regulation of PFAS chemicals and address a few of the specific bills the committee is considering. There is no question this is a serious issue. We have heard testimony about the research that has been conducted on PFAS chemicals, and the fact is, most of it has been concentrated on PFOA and PFOS, but much less is known about the other PFAS compounds. These compounds vary in terms of specific chemical structure, chain length and composition, and these differences matter in terms of fate and degradation in the environment as well as toxicity, uptake, and retention in humans, plants, and animals.

Dr. Linda Birnbaum, Director of the National Institute of Environmental Health Sciences and National Toxicology Program testified before a Senate subcommittee last fall that "We do not have strong data for which to base conclusions for the great majority of thousands of PFAS compounds and we have only limited findings that support particular adverse health effects."

A great deal of academic and governmental research is currently underway to determine the extent of causal links between exposure to PFOA, PFOS, and the many other PFAS compounds and specific health effects in humans. There is a solid consensus that more research is needed. There is also wide agreement that the Federal Government has an important role to play in regulating these chemicals and it is equally important that those regulations be based on up-to-date, credible scientific research, good data, and legally sound procedures.

Imposing blanket regulations on thousands of PFAS chemicals, as some of the proposed legislation proposes to do when scientists agree we have, at best, limited information on most, risks losing focus on the highest priority concern. As the Centers for Disease Control stated in its most recent report, "Finding a measurable amount of PFAS in blood does not imply the levels caused an adverse health effect," and "Small amounts of PFAS may be of no health consequence," an indiscriminate approach would impose extraordinary costs on Federal agencies, States, and local Governments requiring funds they simply do not have, while diluting resources that should be targeted on the highest risk chemicals.

Even chemicals of demonstrably significant concerns such as dioxin, PCBs, and PAHs have been found on examination to differ significantly in terms of potency among individuals' congeners or types of chemicals. The alternative of attempting to impose a one-size-fits-all approach to regulating PFAS chemicals poses a real risk of doing harm. Bills that direct agencies to issue specific Federal regulations can present other challenges.

For example, agencies must adhere to the rulemaking requirements of the Administrative Procedure Act which requires agencies to follow a series of steps providing for transparency and decision making, a defensible administrative record, analyses of the benefits and costs of the regulatory action, and the feasibility of alternatives and due process in the form of public notice and comment if a regulation is to withstand review by the courts. It does little good to issue a regulation if it is going to be struck down by the courts as inadequate under the law. It only leads to delay in the effectiveness of any regulatory initiative.

EPA's action plan includes action under both CERCLA and the Safe Drinking Water Act. EPA is taking steps to designate PFOA and PFOS as CERCLA-hazardous substances which would provide additional power to regulate responsible parties and require them to undertake and/or pay for the remediation. But expanding this approach to all PFAS compounds as H.R. 535 seeks to do, could lead to wholesale reopening of remediated sites potentially overwhelming the program and undermining progress on the highest risk targets.

With respect to other bills, H.R. 2577 would amend the Emergency Planning and Community Right-to-Know Act of 1986 to require reporting on releases of PFAS through the Toxic Release Inventory. The PFAS of greatest concern of course are no longer being manufactured, so releases of these compounds from manufacturing is extremely unlikely.

Requiring reporting on thousands of other compounds the toxicity of which is not established is of uncertain value. This proposed legislation would greatly expand reporting requirements at great cost.

[The prepared statement of Ms. Luxton follows:]

Testimony of Jane C. Luxton

Protecting Americans at Risk of PFAS Contamination & Exposure

Before the House Subcommittee on the Environment and Climate Change

May 15, 2019

I. Introduction

Chairman Tonko, Ranking Member Shimkus, Chairman Pallone, and Ranking Member Walden, thank you for inviting me to testify today on legislation that has been introduced to address PFAS contamination. My name is Jane Luxton. I am a partner in the Washington, DC, office of the law firm, Lewis Brisbois, and co-chair of the firm's Environmental and Administrative Law Practice.

I have practiced in the fields of environmental and administrative law for more than thirty years, in both the public and private sectors. My government service includes appointments as a trial attorney and senior trial attorney at the U.S. Department of Justice and as General Counsel of the National Oceanic and Atmospheric Administration, where I was responsible for implementing and enforcing numerous environmental and natural resource laws. My work as a private practitioner has covered a broad spectrum of federal environmental statutes. For my service at NOAA and the Department of Justice, I received the highest awards of the Commerce Department (Gold Medal Award, twice) and the Justice Department (Attorney General's Award). My curriculum vitae lists other professional recognition I have received during my career. I am a graduate of Harvard University, with honors, and Cornell Law School.

I am testifying today on my own behalf, as an environmental and administrative law practitioner who has a strong interest in science policy issues, which has led me to follow developments relating to PFAS compounds. My colleagues and I at Lewis Brisbois have written numerous articles on PFAS science regulatory issues, which are noted in my CV. I am not representing any client on PFAS issues or legislation before the Committee.

Today I would like to speak to the broader issue of the challenges surrounding the regulation of PFAS chemicals and then I will address a few of the specific bills the Committee is considering.

II. Introduction to PFAS

Per- and poly-fluorinated substances, commonly known as "PFAS," are a large family of chemicals consisting of 3,000 to 5,000 individual chemical compounds, of which perfluorooctanoic acid ("PFOA") and perfluorooctane sulfonate ("PFOS") are two of the most widely-known. PFAS have historically been used for a variety of purposes, including in the manufacture of goods such as textiles, paper, packaging materials, cleaning solutions, firefighting foam, and products using water or grease resistant coatings such as pots and pans.

III. While there has been a significant amount of initial research done on PFAS, much of this research remains incomplete and more needs to be done to adequately understand the potential health effects of PFAS chemicals

PFAS compounds have been manufactured since the 1940s and, because of their properties, have been widely used in product manufacturing and subsequently dispersed in the environment. These chemicals are persistent in the environment, as they do not readily degrade. Some research has raised concerns over health effects caused by PFAS exposure. Scientific studies of PFAS compounds have primarily concentrated on PFOA and PFOS, but much less is known about the thousands of other PFAS chemicals. PFAS compounds vary in terms of specific chemical structure, chain length, and composition, and these differences appear to matter significantly in terms of fate and degradation in the environment, as well as toxicity, uptake, and retention in humans, plants, and animals. Dr. Linda Birnbaum, Director of the National Institute of Environmental Health Sciences and the National Toxicology Program, testified before the Senate Committee on Homeland Security and Governmental Affairs, Subcommittee on Federal Spending Oversight and Emergency Management last fall that "we do not have strong data on which to base conclusions for the great majority of thousands of PFAS and we have only limited findings that support [particular] adverse health effects."[1] A great deal of academic and governmental research is currently underway to determine the extent of causal links between exposure to PFOA, PFOS, and the many other PFAS compounds and specific health effects in humans. There appears to be a consensus that more research is needed.

IV. State Responses to PFAS Contamination

Several states have implemented comprehensive sampling programs testing for PFAS contamination in drinking and groundwater. As sampling programs continue to yield positive results for PFOA- or PFOS-contaminated drinking or groundwater, states and communities have begun to take regulation of these chemicals into their own hands. Examples of state approaches include:

- Several states trigger remedial action based on the sum of the concentration of PFOA and PFOS exceeding a 70 part per trillion ("ppt") concentration limit (i.e., the current EPA drinking water advisory).
- Connecticut, Massachusetts, and Vermont are setting limits for the sum of five different PFAS, not just PFOA and PFOS.
- New Jersey and New York use a lower concentration ceiling than EPA and other states (a 10 ppt limit for PFOA and PFOS). New Jersey has issued a statewide Directive seeking

[1] Hearing on "The Federal Role in the Toxic PFAS Chemical Crisis," Testimony before the Senate Committee on Homeland Security and Governmental Affairs Subcommittee on Federal Spending Oversight and Emergency Management, Linda S. Birnbaum, Ph.D., D.A.B.T., A.T.S., Director, National Institute of Environmental Health Sciences and National Toxicology Program National Institutes of Health (September 26, 2018).

information, remediation, and reimbursement of past costs and payment of future costs from PFAS manufacturers.

- Vermont triggers action based on the sum of five PFAS exceeding 20 ppt.

V. Federal Response to PFAS Contamination

As states and communities continue to implement their own regulations, risks increase that the result will be a patchwork of differing requirements around the country.

One way to avoid this outcome is to adopt workable, scientifically-based federal regulations to manage these chemicals. The federal government has several statutory mechanisms it can use to regulate PFAS chemicals, but it must proceed carefully to ensure new regulations are effective in addressing the problem.

A. When the government regulates, it must rely on up-to-date, credible scientific research and legally sound procedures to avoid negative, unintended consequences

As stated above, as many as 5,000 individual chemical compounds make up the PFAS family. Of these, the three best known are PFOA, PFOS, and GenX. These are the compounds that are most commonly found in drinking water and on which most research has been done. However, even the research on these three chemicals remains largely incomplete.

Imposing blanket regulations on thousands of PFAS chemicals – as some of the proposed legislation seeks to do – when scientists agree we have at best limited information on most, risks losing focus on the highest priority concerns. As the Centers for Disease Control stated in its most recent report, "[f]inding a measurable amount of [PFAS] in blood does not imply that the levels . . . cause an adverse health effect," and "small amounts [of PFAS] may be of no health consequence."[2] An across-the-board approach would impose extraordinary burden and cost on federal agencies, states, and local governments, requiring funds that today's federal and state regulatory agencies simply do not have, while diluting resources that should be on targeted on the highest risk chemicals.

Even chemicals of demonstrably significant concern, such as dioxin, PCBS, and PAHs, have been found, on examination, to differ significantly in terms of potency among individual congeners. In a similar vein, one of the most promising approaches for addressing the large number of PFAS compounds appears to be grouping them into categories with similar properties, as a workable way to assess relative toxicity. The alternative of attempting to impose a one-size-fits-all approach to regulating PFAS chemicals poses a very real risk of doing more harm than good.

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[2] Centers for Disease Control, Biomonitoring Summary. Perfluorochemicals (2018), *available at* https://www.cdc.gov/biomonitoring/PFAS_BiomonitoringSummary.html.

In addition, bills that direct agencies to issue specific federal regulations can present other challenges. For example, in promulgating regulations, agencies must adhere to the requirements of the Administrative Procedure Act ("APA"). The APA requires agencies to follow a series of steps, providing for transparency in decisionmaking, a defensible administrative record, analyses of the benefits and costs of the regulatory action and the feasibility of alternatives, and due process in the form of a public notice and comment period, if a regulation is to withstand review by the courts. As recently as the 2016 amendments of the Toxic Substances Control Act, Congress reinforced the need to adhere to these kinds of requirements in order to ensure the adoption of scientifically and legally sound rules.

B. Existing statutes provide authority to regulate PFAS chemicals

EPA's February 2019 PFAS Action Plan[3] includes directed action under both the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA, and the Safe Drinking Water Act. CERCLA provides the authority for EPA's Superfund program and allows EPA to use federal funds to clean up contaminated sites. EPA has initiated the regulatory process to designate PFOA and PFOS as CERCLA hazardous substances, and formal listing would give EPA additional power to require responsible parties to undertake and/or pay for remediation. But expanding this approach to all PFAS compounds, as H.R. 535, the PFAS Action Act of 2019, seeks to do, could lead to wholesale reopening of remediated sites, potentially overwhelming the program and undermining progress on the highest-risk targets.

The Safe Drinking Water Act is another mechanism that EPA may use to regulate PFAS chemicals. EPA has authority under the Safe Drinking Water Act to set standards for drinking water quality and implement federal programs to ensure drinking water safety. Specifically, EPA may set a Maximum Contaminant Level ("MCL") that is the threshold limit on the amount of any one substance permitted to be found in public drinking water. The MCL process takes time and, understandably, many concerned communities are impatient to see action, but EPA's Action Plan anticipates releasing a proposed MCL for PFOA and PFOS this year. It makes sense to see EPA's recommendation and decide at that point if further legislation is needed.

VI. Additional Comments on Other Bills

H.R. 2577 would amend the Emergency Planning and Community Right-To-Know Act of 1986 to require reporting on releases of per- and polyfluoroalkyl substances through the Toxics Release Inventory. The PFAS of greatest concern are no longer being manufactured, and so releases of these compounds from manufacturing are extremely unlikely. Requiring reporting on thousands of other compounds, the toxicity of which is not established, is of uncertain value. This proposed legislation would greatly expand reporting requirements in a way that is

[3] EPA, EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan, EPA 823R18004 (Feb. 2019), *available at* https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf.

significantly more burdensome for U.S. businesses, including U.S. small businesses that often have limited resources to comply with complex and costly regulations.

VII. Conclusion

While the bills being debated are motivated by good intentions, the reality is that much more research needs to be done on PFAS chemicals in order to generate and act on accurate and reliable information. It is difficult to deregulate once regulations are put in place, even when those regulations may prove to be based on inadequate science. Perhaps the most effective focus for Congressional support at this point is providing additional funding for research and regulatory efforts that target priority concerns.

Mr. TONKO. Thank you, Ms. Luxton. And we now move to Mr. Erik Olson for five minutes, please.

STATEMENT OF ERIK D. OLSON

Mr. OLSON. Thank you, Mr. Chairman and Ranking Member Shimkus. I am Erik Olson. I oversee the health team at Natural Resources Defense Council and I want to talk about PFAS because these chemicals are in pretty much every person in this room is carrying PFAS in your body. Many of those compounds have been tested and many have not been tested and we are actually all walking around as guinea pigs being exposed to these chemicals, carrying them in our bodies and in many cases, there are adverse health effects that we are very concerned about.

I spent part of last night with about 30 individuals from across the country who have come to DC to talk about their experience with PFAS contamination. Much like Emily's story, we heard about people whose family members who had birth defects, people who are suffering from cancer of the testicles, cancer of the kidneys, other effects that really are of concern. These are real worries. And unfortunately, this class of chemicals shares three very consistent properties that are really worrisome.

One is, they are very toxic at low doses. When we test them and we look at them, the more we learn, the more toxic we know they are. Secondly, they are extremely persistent. These are forever chemicals. The carbon-fluorine bond makes them that way. And we now know at least 600 sites across the country are contaminated and we haven't looked in most places. I can guarantee you that every congressional district has a PFAS contamination problem, it just may not have been discovered yet. And, thirdly, they are all very mobile. And the reason that is a problem is they get into drinking water. They get into soils. They get into people.

The health effects we have heard about and they are in many cases heartbreaking, I want to talk about what we need to do about this problem. Unfortunately, we have got a class of chemicals as you have heard, 3 to 5 thousand of these, about 4,700 according to many reports. We need to deal with this class. Think about how we could possibly regulate these one by one. If you have 4,700 chemicals and it takes EPA years to regulate a single chemical, how many millennia is it going to take to regulate thousands of chemicals? We have got to deal with this as a class. We know that they share common properties and we know that they are causing adverse effects in too many cases.

So, first of all, we need to stop approving new uses of these chemicals and new PFAS chemicals. And there is a bill by Ms. Dean that would do that. We need to also phase out the existing products. Ms. Dean's bill would phase out existing products. Ms. Kuster's bill, actually, would address the new products and the new uses and we need to stop those.

Secondly, we need to document and disclose the extent of the problem, so it is important to be monitoring groundwater and drinking water, figure out how widespread the problem is. There is legislation that would do that, have USGS do that. We think there is a need for new legislation not yet introduced that would force comprehensive monitoring of drinking water. We have seen it

in Michigan, and when you test, when Michigan tested, they found sites all over the State with contamination. Most states have not done this. In fact, virtually no other State has done anything close to what Michigan has done.

We need to also make sure that the manufacturers and processors disclose the use and also the discharges, releases of those chemicals. And we certainly have a bill from Antonio Delgado that would address that through the Toxic Release Inventory. We also need consumers to be informed so they can make intelligent choices. If you go into the grocery store or you go into Target, it would be good to know whether the products you are buying have PFAS on them.

We would like a safer choice program that would deal with the full array of consumer products and disclose. We also think it is important to have cleanup authorities. One of the big issues here—and, Mrs. Dingell, thank you for introducing a bill with Mr. Upton that would address these issues under Superfund. It is very important to have class of PFAS controlled under CERCLA so that we can ensure cleanup. Polluters should be paying for the cleanup and we certainly support a user fee that would help ensure that some of those polluters are paying. We need regulation of the air emissions and the water emissions under the Clean Air Act and Clean Water Act.

Sewage sludge contamination is a big problem. We talked last night to a farmer in Maine who had applied sewage sludge to his dairy area where his cattle were grazing, severe contamination of all of his cows. He has to throw away all his milk. He is going to have to basically get rid of his dairy cows because they are so contaminated. So we need to deal with all these sources and ultimately clean up the contamination that has already been caused. Thank you.

[The prepared statement of Mr. Olson follows:]

BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENVIRONMENT & CLIMATE CHANGE

TESTIMONY OF ERIK D. OLSON
SENIOR DIRECTOR FOR HEALTH & FOOD
HEALTHY PEOPLE & THRIVING COMMUNITIES PROGRAM
NATURAL RESOURCES DEFENSE COUNCIL

Hearing Entitled:
"Protecting Americans at Risk of PFAS Contamination & Exposure"

May 15, 2019

BRIEF SUMMARY OF TESTIMONY OF ERIK D. OLSON

PFAS unfortunately tend to share three problematic properties:

1. **PFAS are highly persistent** "forever chemicals" that don't not break down easily and can accumulate in the bodies of people and food that we eat.
2. **PFAS are highly mobile and spread quickly** in the environment and are found in our drinking water, air, food, and homes.
3. **PFAS are highly toxic and can be harmful at low doses** (at low part per trillion levels).

Health Risks Posed by PFAS

As reviewed in a recent extensive NRDC scientific report, PFAS have been linked to a wide range of serious illnesses, some of which can occur at very low levels of exposure. For example, a massive study of 69,000 people exposed to PFAS in their drinking water near a factory in West Virginia found that there is a probable link between certain PFAS and **cancer of the kidneys and testicles, thyroid disease, pregnancy-related hypertension**, **high cholesterol** that can lead to **heart disease**, and the **autoimmune disease** ulcerative colitis. Other studies have confirmed many of these findings and shown that PFAS are also likely linked to **lower fertility** in women; **harm to developing fetuses, infants and children; liver disease; and weakened immune systems**. Unfortunately, evidence uncovered in litigation shows that the manufacturers of PFAS have known for decades that some of these chemicals pose serious health threats, but they hid the information from the public.

The Widening PFAS Crisis: A National Health Threat

PFAS, a class of about 4,700 chemicals, **are found in the bodies of more than 98% of Americans** — probably in every one of you, your families, and your constituents. A Harvard study found that just two members of this class of toxic chemicals, PFOA and PFOS, are **present in the tap water of at least 16.5 million people in 33 states, including 6 million Americans at levels above EPA's current weak and unenforceable "health advisories."** Evidence indicates that **tens of millions of Americans may have tap water containing PFAS at levels CDC and independent scientists consider unacceptable**.

Urgent Action is Needed to Address the PFAS Crisis

- **"If you find yourself in a hole, stop digging."** Will Rogers' adage applies here. We must:
  - Stop approving new PFAS and new uses of existing PFAS.
  - Phaseout manufacture of existing PFAS and products using them, such as firefighting foams, food contact substances, clothing, cookware, etc.
- **Document and Publicly Disclose the Extent of the Problem.**
  - Test drinking water, groundwater, and soil for PFAS and publicly disclose results.
  - Require PFAS manufacturers or processers to publicly disclose all uses and releases.
  - Require EPA to establish "Safer Choice" PFAS-free cookware and other products.
- **Regulate and Require Cleanup of PFAS.**
  - List all PFAS as hazardous substances under Superfund/CERCLA §102
  - Require PFAS polluters to pay for cleanup and water treatment

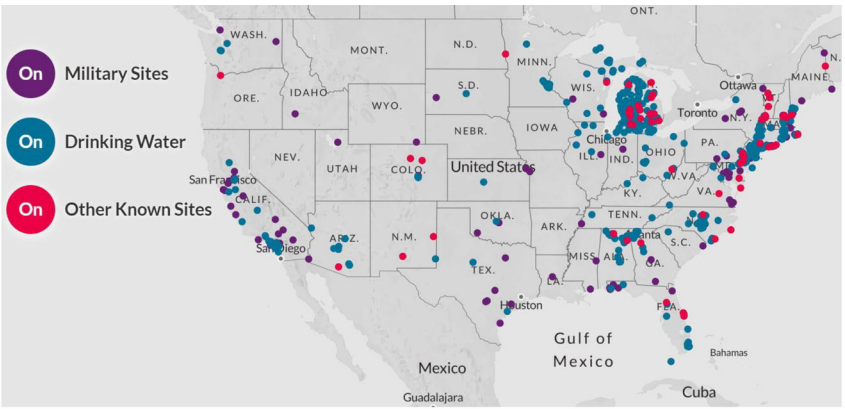
- List the PFAS class as hazardous air pollutants (Clean Air Act §112), as toxic pollutants/hazardous substances under the Clean Water Act (§§307 & 311), and strengthen sludge rules to protect against PFAS contamination.
- Strictly regulate PFAS disposal and suspend PFAS incineration.
- Fix the Safe Drinking Water Act standard setting provisions and set strict health-based National Primary Drinking Water Regulations for the PFAS class.
- Fund water utility PFAS treatment through a fee on polluters and federal funds.
- Cleanup federal facilities, in compliance with strict state and federal standards.

INTRODUCTION

Chairman Tonko, Ranking Member Shimkus, and distinguished members of the Subcommittee, thank you for the opportunity to testify today. I am Erik D. Olson, Senior Director for Health and Food at the Natural Resources Defense Council. My brief biography is attached. I have been working on drinking water and toxics issues for over 35 years first at EPA, and later at non-profit organizations and for the Senate Committee on Environment and Public Works. We appreciate the subcommittee's attention to the important public health and environmental issues posed by per- and polyfluoroalkyl substances (PFAS).

PFAS are "Forever Chemicals" Found Virtually Everywhere – Including in All of Us

You, your family, and probably every one of your constituents has PFAS in your body. PFAS contamination has become increasingly widespread across the United States. Centers for Disease Control and Prevention (CDC) data show that more than 98 percent of U.S. residents tested are carrying PFAS in their blood or tissue.[1] Millions of Americans who drink elevated amounts of PFAS in contaminated tap water or are otherwise more heavily exposed are at greater risk.



Over 600 known PFAS contamination sites likely represent the tip of the iceberg.

(Source: EWG & Northeastern University Social Science Environmental Health Research Institute, 2019)

These "forever chemicals" are extremely long-lived in the environment. They can concentrate and last a long time in our bodies and in those of animals. In the words of a 3M scientist working on the manufacture of these chemicals, PFOS ""is probably more damaging than PCB because it does not degrade, whereas PCB does; it is more toxic to wildlife," adding that its end point in the environment appeared to be plants and animals, not soil and sediment like PCBs.[2] Recall that Congress (in an effort led by this Committee and Mr. Dingell) banned PCBs in the original Toxic Substances Control Act in 1976, yet they still pollute our rivers and are still found in our bodies.

Scientists are finding that certain PFAS likely have adverse effects on our health at vanishingly low levels of exposure—*at parts per trillion* levels.[3] As a recent in-depth NRDC report has noted,[4] PFAS are a class of chemicals estimated to contain between 3,000[5] to 5,000[6] industrial chemicals. The figure is often quoted that there are about 4,700 PFAS that have been cleared for use,[7] and it is estimated that there are from about 600[8] to more than 1,200[9] PFAS are in active use in the U.S. Subclasses of PFASs are still being discovered in products and in the environment.[10]

According to a recent study by Harvard researchers, PFAS are in the drinking water in at least 33 states, and they have been detected at levels exceeding EPA's weak Health Advisories for PFOA and PFOS (two PFAS) in the drinking water of more than 6 million Americans.[11] Tens of millions more U.S. residents likely are drinking water with PFAS levels higher than those considered safe by CDC and independent scientists.

Indeed, there are hundreds, or more likely thousands, of PFAS contamination sites nationally, including over 400 military installations with known or suspected releases.[12] As is illustrated in the map reproduced earlier in this testimony, there are over 600 known PFAS contamination sites,[13] and where experts look closely, as in Michigan, we find much more PFAS contamination than previously identified.[14] These contamination sites blanket the landscape from potentially hundreds of sites in Michigan,[15] to the former Chanute Air Force Base in Champaign County, Illinois,[16] Hoosick Falls, NY,[17] Parkersburg, WV,[18] and the Cape Fear River in NC.[19] PFAS also are found in many consumer products ranging from carpets and clothing to cookware and cosmetics, as well as in food, often due to food packaging.[20] These uses result in multiple – and cumulative – routes of exposure in the home including household dust, indoor air, and food.

The Health Effects of PFAS are Deeply Concerning

Numerous studies, including a massive review of nearly 70,000 people exposed to PFAS in their drinking water in West Virginia,[21] and many other human (epidemiological) and animal studies,[22] suggest that the health impacts from these "hot spots" may be formidable.

Scientists have found certain PFAS may increase the risk of: thyroid and liver disease; asthma; lower fertility in women; high blood pressure or pre-eclampsia in pregnant women; increased cholesterol levels; decreased ability to respond to vaccines; and lower infant birth weights.[23] Studies of people exposed in West Virginia also found that PFOA exposure is probably linked to kidney cancer and testicular cancer.[24] Additional evidence has shown links between early life exposures to PFOA and altered mammary gland development.[25] Animal studies have found that PFOA and PFOS can cause damage to the liver and the immune system, birth defects, delayed development, and newborn deaths.[26] A series of in-

depth investigative articles by journalist Sharon Lerner[27] discuss extensive evidence that the risks of certain of these chemicals have long been known and hidden by the manufacturers, with reportedly devastating effects on communities.

The 2014 Helsingør[28] and 2015 Madrid[29] Statements, based upon extensive reviews of the scientific literature, provided consensus from more than 200 scientists on the potential for harm associated with the entire class of PFAS. To better protect Americans from this public health threat, EPA, the CDC/Agency for Toxic Substances and Disease Registry (ATSDR), other federal agencies, and states should use information on PFAS with greater amounts of data to generate health-protective thresholds for PFASs with data limitations.[30]

We Urgently Need Action to Prevent Further Harm from PFAS Now

There is an urgent need for EPA and states to act. Unfortunately, to date EPA has moved exceedingly slowly and has not used its statutory authorities to regulate the vast majority of use of PFAS, nor has the agency controlled PFAS in drinking water, restricted PFAS water discharges, regulated PFAS as air pollutants, protected against toxic PFAS in sewage sludge or waste disposal, or even required public right to know about toxic releases or uses of PFAS. Indeed, despite clear commitments made by EPA Administrator Scott Pruitt a year ago at the so-called "National Leadership Summit on PFAS,"[31] the agency has not even proposed a determination that a drinking water standard is necessary for any PFAS, nor has it proposed to list PFAS as hazardous substance under CERCLA.

While EPA's "Action Plan" for PFAS[32] says the agency will *propose* a regulatory determination for a drinking water standard for PFOA and PFOS by the end of 2019 and is considering whether to list these two chemicals under CERCLA, the process to set the drinking water standard will likely take 5 years or more based on the only other contaminant EPA has found it should regulate under the SDWA in the past 22 years (in that case, it has been a decade since EPA proposed its regulatory determination and the agency still hasn't proposed a standard, despite statutory deadlines and a consent decree). Listing these

chemicals under CERCLA also is likely to take years. Moreover, regulating only two chemicals out of about 4,700 PFAS (and the only two that already have been withdrawn from manufacture in the U.S.), without any suggestion of regulating the rest of the class under the Safe Drinking Water Act or CERCLA, makes it clear that Congress and states must step in to fill the void.

Some of the specific actions we urge Congress to consider include:

1. ***Stop New PFAS (and New Uses), and Phase Out Existing Uses.***

- **Stop approving new PFAS and new uses of existing PFAS.** EPA has approved hundreds of new PFAS and new uses of existing PFAS, over the past decade.[33] We must stop adding more of these toxic forever chemicals to the environment and our bodies. Recently-introduced legislation, **H.R. 2596 (Kuster),** would prohibit new PFAS and significant new uses of PFAS. We support this important first step.
- **Phaseout manufacture of PFAS and products using them.** Rather than playing "whack a mole" by trying to regulate 4,700 or more PFAS one at a time—an impossible task that would take millennia at the current EPA pace—EPA should be required to phase out this class of highly toxic, highly mobile, and highly persistent compounds. **H.R. 2600, Toxic PFAS Control Act (Dean),** would ban new PFAS or significant new uses of PFAS, and phase out all PFAS manufacturing, processing and distribution. It also would require EPA to establish disposal requirements for PFAS or PFAS-containing articles. Disposal would have to comply with state and local laws, and notification of state and local officials of disposal is required, as are clear and adequate warnings and instructions for processing, using, distributing or disposing PFAS. Manufacturers or processors would have to report how much they make or use. Manufacturers would also have to accept non-processed PFAS for disposal and replace or repurchase PFAS. We generally support this bill, though amendments are needed (to clarify that EPA rules shall ensure that any disposal method must fully protect public health and the environment, and that until such rules are issued, disposal shall be suspended.)

2. ***Document and Ensure Right-to-Know About the Extent of the Problem.***

- **Test drinking water, groundwater, and soil for PFAS and disclose results.** We need to know how widespread PFAS contamination is. For example, previous snapshot monitoring of primarily larger drinking water systems required by EPA several years ago found that about 16 million Americans' tap water contained just 6 PFAS required to be monitored, with very high "reporting

limits" that resulted in a clear underestimate of the extent of contamination. When Michigan recently completed more comprehensive monitoring down to lower levels, the state found about 10-fold more people in the state (1.4 million Michiganders) had contaminated tap water than found under EPA's rule. **We need legislation (not yet introduced) requiring an immediate, comprehensive unregulated contaminant monitoring program of drinking water for all PFAS detectable** by EPA's methods (about 25 PFAS under a method expected to be certified shortly) **plus for total PFAS** (using the TOP Assay or other method. We also need a USGS monitoring program to test soil, groundwater and surface water, as proposed in **H.R. 1976 (Kildee), The PFAS Detection Act** (referred to the Natural Resources Committee)**.** It should be required in both the drinking water testing bill we propose, and in the USGS bill (H.R. 1976) that test results should immediately be shared publicly in an understandable, online format.

- **Amend the Toxic Release Inventory Right-to-Know rules to require anyone who manufactures or processes PFAS to disclose all uses and releases of the PFAS class**. Any manufacturer, processor or producer of PFAS should be required to publicly report their releases of PFAS under the Toxic Release Inventory; the uses of these chemicals also should be reported. The reports should provide information on both total PFAS and on key individual PFAS of concern. **H.R. 2577, the "PFAS Right-to-Know Act,** would require public reporting of total PFAS releases. We support this bill if the reporting threshold of 1,000 pounds is lowered to 10 pounds, as has been done for PCBs and many other persistent toxins like chlordane, heptachlor, hexachlorobenzene, and others (see 40 C.F.R. 372.28). We also urge that key individual PFAS of concern should be separately reported as well, so that detections of those specific chemicals downstream or downwind can be potentially linked to the releases. Finally, we believe there is a need for reporting of *uses* of PFAS so that EPA, states, local governments, and the public are aware of where and what products PFAS are being used in.
- **Require EPA to establish "Safer Choice" PFAS-free cookware and other products so consumers know how to avoid PFAS**. Consumers regularly and often unknowingly purchase cookware and other products—sometimes labeled "PFOA Free"—even though the products contain other PFAS compounds. **H.R. 2566 (Soto) (Safer Choice Label for Cookware)** requires EPA to provide for a Safer Choice label for pots, pans, and cooking utensils that do not contain PFAS. We support this legislation but suggest an amendment to also require EPA to issue a Safer Choice PFAS-free label for carpet and rugs, dental floss, clothing, footwear, cosmetics, food packaging, and furniture, to empower consumers to make informed choices in the marketplace.
- **The Food and Drug Administration (FDA) should be charged with conducting ongoing, comprehensive testing of food for PFAS, and should publicly disclose the results including brand names of products tested.** To our knowledge, no such legislation has been proposed.

3. ***Regulate PFAS Pollution Under Major Environmental & Health Statutes.***

- **List the PFAS class as hazardous air pollutants.** Currently, there is no national requirement to regulate PFAS in air emissions, which in many cases, such as in Hoosick Falls, NY, has resulted in significant contamination of residential areas with high levels of PFAS. **H.R. 2605 (Stevens), the' 'Prevent Release of Toxics Emissions, Contamination, and Transfer Act of 2019" or the "PROTECT Act of 2019"** would require EPA, within 180 days, to issue a rule adding PFAS as a class all to the list of hazardous air pollutants under §112(b) of the Clean Air Act. The bill also would require EPA to list categories and subcategories of major sources and areas sources of PFAS within 1 year after that rule is issued. We support these important measures.
- **List PFAS as toxic pollutants/hazardous substances under the Clean Water Act.** Currently, PFAS are not listed as toxic water pollutants or as hazardous substances under the Clean Water Act. This means that discharges of these chemicals into waterways are not nationally regulated, leaving action up to states that are often ill-equipped (and sometimes prohibited under "no more stringent than federal law" state statutes) to control these wastewater discharges or to prevent and act on releases into waterways. Legislation is needed to require EPA to list the PFAS class as toxic pollutants under Clean Water Act §307(a) and as hazardous substances under §311 to ensure stronger protection against discharges and spills of PFAS into our waterways.
- **Strengthen EPA sludge rules to protect against PFAS contamination of sludge often used in agriculture.** There have been reports in Maine[34] of what is likely a widespread problem: the use of heavily PFAS-contaminated sewage sludge being used in agriculture (e.g. by dairies) and contaminating food. Legislation is needed to require strengthened sewage sludge rules to protect against this.
- **Strictly regulate PFAS disposal and suspend PFAS incineration.** Because PFAS-containing wastes generally are not listed or "criteria" hazardous wastes, their disposal including incineration is very poorly regulated. Strict regulation of PFAS-containing waste is therefore urgently needed. **H.R. 2591 (Khanna), The "PFAS Waste Incineration Ban Act of 2019"** would ban incineration of PFAS firefighting foams within 9 months, and of other PFAS wastes, as EPA determines is necessary to protect human health and the environment, within 18 months. We support this legislation, with amendments. At least an interim ban of incineration is urgently needed due to a current lack of meaningful regulatory controls, but a long-term destruction/disposal solution is necessary. The bill may inadvertently result in an increase in underground injection of PFAS waste. Safe destruction methods must be developed and required to be used. Currently PFAS incineration generally is *not* subject to strict science-based controls (such as extremely high, carefully-maintained and monitored temperature, e.g. >1000 degrees C, scrubbers and stack monitoring, or other

requirements). Some science-based form of destruction is needed and should be required.

- **Fix the Safe Drinking Water Act standard-setting provisions and set strict health-based National Primary Drinking Water Regulations for the PFAS class.** EPA has not set a single new drinking water standard for an unregulated contaminant (such as any PFAS) in 22 years since the enactment of the 1996 Safe Drinking Water Act Amendments. The standard-setting provisions in section 1412 of that Act are broken and must be strengthened to ensure full protection for vulnerable subpopulations to the extent technically feasible as soon as possible; the Office of Management and Budget, DOD, and other agencies should be prohibited from interfering. **H.R. 2377 (Boyle) "Protect Drinking Water from PFAS Act of 2019"** would require EPA to publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for total PFAS in 2 years. We agree that a drinking water regulation for total PFAS is needed. However, we need to be sure EPA sets a standard that does not undermine and is no weaker than the standards being set by the states. Because the standard-setting provisions of the Safe Drinking Water Act are so weak and convoluted, requiring EPA (especially under its current leadership) to set a standard for total PFAS without fixing the underlying statute runs the risk of resulting in a very weak PFAS standard. Many states could be prohibited from adopting more protective standards once a final EPA standard is issued due to state "no more stringent than federal standards" laws.[35] Moreover, many states may shy away from adopting their own health-protective measures as they await EPA action, which based on past experience will stretch out far past the statutory deadlines. We therefore would support this measure if crafted to ensure the EPA standard does not undermine and is no weaker than the standards being set by the states; to achieve this, the underlying standard-setting provisions of the Act need to be fixed to ensure a swift health-protective PFAS standard. **In the meantime, we urgently need states to step into the void now to set health-protective standards, as recommended in a recent NRDC report and request to Michigan.**[36]
- **PFAS should be banned from food packaging, food contact substances, cosmetics, and personal care products.** While FDA has banned certain long-chain PFAS from food packaging in response to a petition from NRDC and our allies, other PFAS are essentially unregulated in food packaging and food contact substances. Legislation is needed to ban PFAS from these uses and from cosmetics and personal care products like dental floss.
- **PFAS firefighting foam should be banned from use in drills and should be swiftly phased out.** DOD, airports, and others have used PFAS-containing Aqueous Film-Forming Foam for firefighting causing widespread pollution, but in Europe and elsewhere new highly effective firefighting foams made without PFAS are being used. The State of Washington is blocking PFAS foam use in drills, and phasing out their use at airports. DOD says it no longer uses these

foams in training exercise drills. However, we need legislation to ban PFAS foams from use in drills, and swiftly phase out its use by DOD and others.

4. *Require & Fund Cleanup of PFAS Contamination*

- **List PFAS as hazardous substances under Superfund/CERCLA §102.** It is difficult for EPA and states to ensure cleanup of PFAS contaminated-sites without a listing of these chemicals as "hazardous substances" under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, or "Superfund"). Although EPA has said it intends to potentially propose listing of just 2 PFAS (the already phased-out of manufacturing PFOA and PFOS), the agency has not mentioned any action on the approximately 4,700 other PFAS. **H.R. 535 (Dingell): "PFAS Action Act of 2019,"** would require EPA to designate total PFAS as hazardous substances under CERCLA §102 within 1 year, a crucial step to protecting public health and the environment that we support.
- **Fund water utility PFAS treatment through targeted grants.** While of course it is important to hold polluters accountable for paying to clean up the PFAS messes they have created, in many cases this may not be feasible, at least in a reasonable timeframe. Particularly in cases of disadvantaged communities that may have difficulty affording to pay the capital costs for advanced treatment, there is an urgent need for federal assistance. **H.R. 2533 (Pallone): "Providing Financial Assistance for Safe (PFAS) Drinking Water Act"** would assist community water systems affected by PFAS contamination. Grants would be provided for capital costs for using eligible treatment technologies for PFAS. EPA would certify technologies that remove all detectable PFAS. The bill prioritizes disadvantaged communities and authorizes $500M/yr. for 2021-2025. We support this bill but suggest an amendment to clarify that as detection technology improves later, it may not be possible to have treatment that removes all detectable PFAS. After initial certification, treatment technology approval should be based on the most effective technology for total PFAS removal that ensures PFAS are non-detectable, or as detection technology improves, as close to non-detectable as technology allows.[1]
- **Impose a user fee on PFAS polluters to pay for water treatment.** PFAS manufacturers have long known about the health risks and persistence of their products but continued to sell them to unsuspecting users and consumers. This

[1] In addition to the Pallone bill H.R. 2533 which has been referred to this Subcommittee, another measure, **HR 1417 (Lawrence), the "Water Affordability, Transparency, Equity, & Reliability Act of 2019"**, includes in §8 an amendment to the Drinking Water State Revolving Fund to provide assistance to a publicly owned, operated, and managed community water system to update a treatment plant or switch water sources due to contamination from PFAS. It would provide assistance in the form of a grant to an owner of a household water well that has been contaminated by PFAS for the purpose of purchasing and installing a household filtration system. We support this measure. It has been jointly referred to the Transportation and Infrastructure, Energy and Commerce, Ways and Means, and Agriculture Committees.

has resulted in widespread pollution of wastewater, sewage sludge, and drinking water. **H.R. 2570 (Rouda) "PFAS User Fee Act of 2019**," requires manufacturers of PFAS to pay a user fee of $2 billion/year (to be adjusted every 2 years) to create a Trust Fund to pay for ongoing community water system and wastewater treatment operating and maintenance (O&M) costs associated with contamination from PFAS. Disadvantaged communities are prioritized. We support this bill but suggest the addition of a savings clause providing that it does not affect any other remedy available under any other law.

- **Cleanup federal facilities, in compliance with strict state and federal standards**. DOD has testified before this Subcommittee that there are over 400 DOD facilities with known or suspected PFAS contamination.[37] These sites urgently need to be cleaned up; many are contaminating offsite drinking water, groundwater, and surface water, and unfortunately DOD is often not cooperating with state authorities to ensure full, health and environmentally-protective cleanups. **H.R. 2626 (Upton) "PFAS Federal Facility Accountability Act of 2018,"** is not yet available at this writing, but based upon last year's parallel bill (H.R. 6835, Upton) the bill would provide for Federal agencies to enter into or amend cooperative agreements with States for removal and remedial actions to address PFAS contamination in drinking water, surface water, ground water, sediment, and soil. It would also require federal agencies to comply with state and federal standards. We would support with amendments to address concerns (which we understand may have been addressed in the new version of the bill) including possible constitutional issues with mandating federal agencies to enter into an agreement, and concerns about the bill's wiggle room of only applying standards "if applicable and appropriate." We also believe EPA should be required to list PFAS as a class as hazardous substances under CERCLA.

5. *Ensure Those Threatened or Harmed by PFAS are Tracked & Compensated*

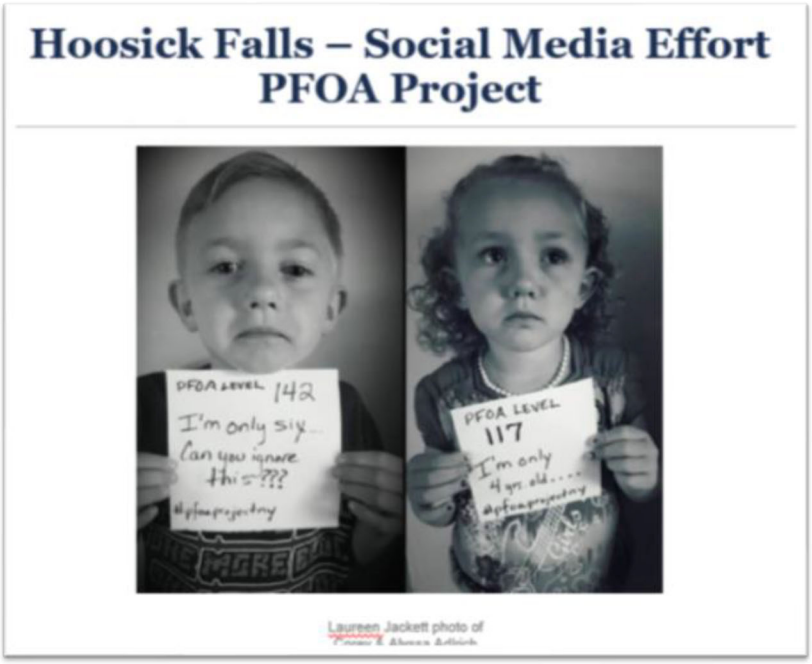
- **Citizens put at risk by PFAS contamination, as well as EPA and states, should be authorized to take immediate legal action** against PFAS polluters and manufacturers to force cleanup and medical monitoring. We need legislation to clarify and expand such authority.
- **Veterans, military personnel, and neighbors of DOD facilities threatened by or exposed to PFAS should be monitored and compensated.** Several bills referred to other committees would take on these important steps.[2]

[2] For example, **H.R.1567 (Lujan), The Prompt and Fast Action to Stop Damages Act of 2019** would authorize DOD to temporarily provide water uncontaminated with PFOA and PFOS for agricultural purposes to areas affected by contamination from military installations, and to authorize the Secretary of the Air Force to acquire real property to extend the contiguous geographic footprint of any Air Force base that has shown signs of contamination from PFOA and PFOS due to activities on the base, and for other purposes. We support these steps though the bill needs perfecting amendments (e.g. it uses weak EPA Health Advisories and should cover

The Human Toll of PFAS Contamination is Enormous

The human impacts of PFAS contamination on peoples' everyday lives are very real. For example, in Hoosick Falls, NY, the serious PFOA contamination of the town's drinking water didn't come to light until a local citizen, Michael Hickey, tested his tap water after becoming deeply concerned about his father's death from kidney cancer, a disease he learned had been linked to PFOA exposure in the West Virginia contamination case.[38] His and his citizen allies' efforts to inform local residents and hold government and local polluters accountable ultimately blew the whistle on the problem and forced action. Local citizens have far higher levels of PFOA in their bodies than average Americans, an issue highlighted by the social media campaign showing children with high levels in their bodies.

total PFAS). Additionally, **H.R. 1863 (Norcross): "Protecting Military Firefighters from PFAS Act"** would require DOD to provide blood testing for firefighters of DOD to determine potential exposure to perfluoroalkyl and polyfluoroalkyl substances, and for other purposes. Another bill, **HR 2102 (Kildee), the "Veterans Exposed to Toxic PFAS Act" or "VET PFAS Act,"** would wisely furnish hospital care and medical services to veterans, members of the reserves, and dependents who were stationed at military installations at which they were exposed to PFOA or other PFAS, and provide for a presumption of service connection for those veterans and members of the reserve components. Another measure, **HR 2195 (Pappas): "PFAS Registry Act of 2019,"** would require the Secretary of Veterans Affairs to establish and maintain a registry for certain individuals who may have been exposed to PFAS due to the environmental release of aqueous film-forming foam on military installations. We also support this proposal.



Courtesy of the Albany Times Union, https://www.timesunion.com/tuplus-local/article/Top-Stories-2016-PFOA-water-pollution-in-Hoosick-10825849.php#photo-12046319

Another example comes to us from West Virginia, as reported by the *News Journal:*[39]

> Earl Botkin lives in Evans, West Virginia, a small town about 45 miles downriver from [a PFOA manufacturing plant] …. He says he was a healthy man of 55 in 1997 when he began to experience thyroid problems, and soon contracted ulcerative colitis – a form of explosive diarrhea – and high cholesterol. Now he must adhere to a strict regimen of diet and medication to deal with ulcerative colitis which he says was caused by C8 [PFOA] exposure in his drinking water….
>
> [Scientists who] tested 69,000 residents in the area, linked all three illnesses to exposure to the chemical. Botkin believes his health problems stemmed from consuming tap water tainted with C8, which allegedly found its way into [his] municipal water system….

> DuPont has said it will not challenge the supposition that drinking water tainted with high levels of C8 can cause ulcerative colitis, thyroid problems and a host of other illnesses. But DuPont will challenge specific cases brought by plaintiffs like Botkin....
>
> Botkin says his life is hell. His days begin at 4 a.m. with coffee and a piece of toast. He needs to eat early so he can digest his food, go to the bathroom and be at work by 8:00 a.m. Botkin eats only a small snack during the day to limit his trips to the bathroom. His big daily meal is dinnertime, and he takes it at home where he has immediate access to a bathroom.
>
> He takes eight steroids a day to stop the bleeding, which makes his face and stomach puffy but does little to help him manage the disease.
>
> The Botkins rarely leave home for fear of having an embarrassing episode outside the home. If he does go out, he must take precautions and scout ahead for a clean bathroom.
>
> Botkin has kept his job as a home inspector because he needs the insurance to cover the cost of his medicine. He says the multiple diseases has made it impossible for him to visit his three children who have relocated to other parts of the country.
>
> "They really ruined us," Botkin said. "We had nice jobs and were about to retire. We had plans."...
>
> Shortly after receiving [a] letter about PFOA in their water, [another WV resident Joe] Kiger began hearing about neighbors contracting strange illnesses. A friend told him about her seven-year old granddaughter's teeth turning black. Three young boys came down with testicular cancer. Friends said their dogs developed tumors.
>
> Kiger... started questioning the West Virginia Department of Natural Resources. Officials there treated him as if he had the plague, he recalled. He received a similar reaction from DuPont... His wife, Darlene, asked how that went. "I told her, I was just fed the biggest line of BS in my life," he said. "He told me there was nothing to worry about, which immediately told me I better start worrying."

Similar stories are playing out in homes and communities across the country.

Conclusion

The evidence has become clear that PFAS are our new PCBs – but appear to be more widespread and dangerous. They can be toxic at extremely low levels, don't break down, and have become ubiquitous in the environment. They are present in millions of Americans' tap water at unsafe levels and are now found in nearly all of our bodies. They have been linked to a wide array of adverse health effects ranging from kidney and testicular cancer to impacts on the immune system, thyroid, fetal development, and many other harms. Unfortunately, EPA and federal authorities have failed us. They have failed to meaningfully regulate or control PFAS manufacture and use, failed to issue standards to protect our drinking water, ground and surface water, our food, air, and soil. They have failed to protect our health and the environment from spreading contamination by these hazardous compounds. EPA has failed to ensure that PFAS-contaminated sites are cleaned up. The agency must step up to fix the problem, and cannot be subjected to political interference from OMB, DOD, or others. States must immediately step into the breach and issue strong, health-protective drinking water standards and cleanup requirements, and address use of PFAS in firefighting foam and consumer goods like carpeting and food packaging, because regrettably we cannot trust this EPA and federal government to do their job.

Congress must step in to address the many problems that PFAS are causing, to force clean up the contamination and require polluters to pay for the crisis they have created. It was Congress, in an effort starting with the House led by Rep. John Dingell, that mandated the ban on PCBs and required EPA to address that widespread contamination – one of the only significant regulatory actions taken under TSCA from 1976 to 2016. Now we have the "new PCBs." Congress must again force action to protect public health and the environment.

Erik D. Olson: Biography

Erik D. Olson is Senior Director for Health and Food at the Natural Resources Defense Council (NRDC), in the Healthy People and Thriving Communities program. He has more than 35 years of experience in consumer, public health, and environmental policy. He oversees NRDC's work on an array of issues including drinking water, toxic chemicals in food and consumer products, pesticides, and other food, agriculture and environmental health concerns. He has worked on drinking water and toxics issues since he began his legal career at EPA in 1984, when he focused on the Safe Drinking Water Act (SDWA), clean water, and hazardous waste issues. He has served on the National Drinking Water Advisory Council and was actively involved in the 1986 and 1996 amendments to the SDWA. His food work at NRDC concentrates on antibiotics overuse in animal production, food waste, agricultural contributions to pollution and climate change, and better and less meat.

Prior to assuming his current position, Olson was Senior Director of Food Programs, and Deputy Director of the Pew Health Group at The Pew Charitable Trusts, where he oversaw work on toxic chemical policy reform, reduction of antibiotics use in animal agriculture, food safety, school nutrition, and the Food and Drug Administration's (FDA) food additives programs. At Pew he helped lead the successful legislative effort to enact in 2011 the first overhaul of the FDA's food safety program in over 70 years.

Previously, he was Deputy Staff Director and General Counsel of the U.S. Senate Committee on Environment and Public Works. During his Senate tenure, he played a key role in major legislation and hearings on global warming, children's environmental health, toxic chemicals, clean air, drinking water, clean water, green buildings, and environmental justice, among other issues.

In his prior 15-year stint at NRDC, he helped enact the Food Quality Protection Act and the 1996 Safe Drinking Water Act Amendments. Previously, he was an attorney at the National Wildlife Federation where he was a litigator and advocate on pesticides, toxics, drinking water, waste and oil spills. Prior to his NWF position, he served as a staff lawyer at the U.S. Environmental Protection Agency's Office of General Counsel, where he litigated and counseled agency clients on water and waste issues.

He has litigated major federal environmental cases ranging from the Exxon Valdez case to drinking water, Superfund, and other groundbreaking federal litigation.

Olson has served on the National Academy of Medicine's Food Forum, is a member of the James Beard Foundation's impact programs advisory committee, and is on the Boards for Food Policy Action and the Supporters of Agriculture Research (SoAR) Foundation. He received his J.D. from the University of Virginia School of Law, where he was a member of the Order of the Coif legal honor society and served as an editor of the environmental law journal. He earned his A.B. from Columbia University in environmental biology and policy.

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Mrs. DINGELL [presiding]. Thank you for your testimony. We have concluded the witnesses' opening statements. We now will move to member questions. Each Member will have five minutes to ask questions of our witnesses, and I get to start by recognizing myself for five minutes.

So, when I quickly acknowledged one of our witnesses earlier, I talked—and several of the witnesses mentioned how Michigan has been hard hit by PFAS. It is in our drinking water, groundwater, rivers, lakes, and ponds. It has contaminated fish and other wildlife. PFAS foam is still washing up and collecting across the State in places like the Huron River Watershed which goes throughout my district and your former military bases. We have even had to tell people, "Don't eat the foam." I know you would think you wouldn't have to tell people that but you do.

This chemical is impacting both Democratic and Republican districts, and Fred Upton, Tim Walberg, and I are all very concerned in working together. So, as you say, Michigan is ground zero for PFAS sites, but it is because we are looking at it and addressing it which many other states are not. It is a growing threat nationwide. Comprehensive and bipartisan solutions exist today to deal with these toxic, manmade, forever chemicals. We are serious in a very bipartisan way about ridding these hazardous chemicals wherever they exist from our drinking water, firefighting foams, consumer products, food containers—that bill is coming—and the air we breathe. Each of these bills we are considering today, most with bipartisan support, are meaningful solutions. Congress must move forward and now.

So, because we have got so many of you and I am going to personal privilege, Brian, these questions are going to be for you. I am going to begin with you. Can you explain the technologies you are employing as well as the costs you have experienced to remove PFAS from Ann Arbor's drinking water?

Mr. STEGLITZ. We currently use carbon, granular activated carbon and concrete filters to remove the PFAS. As the water flows through the filter media the PFAS attaches to the carbon particles. When the filters are washed the PFAS stays attached, so the PFAS can only be removed through high temperature thermal treatment. And this is the way that PFAS can be destroyed, which is really important when we are looking for solutions to address PFAS contamination so we are not moving the PFAS from one source or media to another. It is important for these chemicals to be destroyed because if they are not, they can make it back into the environment.

On the cost impact for our customers had been a three to four percent rate increase to deal with the one-time replacement of the carbon and approximately one percent per year after due to the increased frequency that we need to.

Mrs. DINGELL. Are there any innovative solutions to address PFAS contamination from a watershed approach that you are considering?

Mr. STEGLITZ. It is more effective to remove these contaminants and chemicals at the source. The City has begun conversations with the State of Michigan and upstream sources to evaluate implementing more robust treatment for these chemicals and dealing

with that in watershed as opposed to the end of the pipe. The reason why this is innovative is because right now industrial dischargers, municipal wastewater treatment plants, and drinking water treatment plants are all regulated in silos.

So by looking at the PFAS contamination from the watershed approach, we can come up with more effective solutions to address the pollution at the place where it is most cost effectively removed.

Mrs. DINGELL. I am going to ask you two questions quickly because we are running out of time. I know that Ann Arbor residents, because I hear from them regularly like you do, are worried about the safety of their chemicals. And how are you communicating the risks and how does the Federal Government help you, and in the absence of Federal leadership what actions are the City of Ann Arbor and Michigan taking, and from a water utilities perspective how important is Federal leadership to effectively protect human health and the environment from PFAS?

Mr. STEGLITZ. Well, we found that transparent and frequent communication was critical to maintaining support from our customers. By statute we are obligated to report on our water quality annually, but beginning this month in May, we decided to do monthly water quality reports that have a dashboard for our customers to illustrate current water quality, and a copy of our report is included with my written testimony. We have had a lot of good feedback from our customers on this approach and we have been posting all of our analytical results to our website which is qualitywatermatters.org.

There is a lot of good information that ATSDR and EPA have on their websites about PFAS, but the real challenge that we are facing is how do you communicate about contaminants where the risk is unknown and the science is developing? And this is a place where more Federal leadership would be helpful to provide us the tools that we need to communicate around these difficult issues.

Mrs. DINGELL. Thank you. I am going to quickly move to Mr. Olson because we are running out of time. But, Mr. Olson, if PFAS chemicals were listed as a hazardous substance under the Superfund program, what would this mean for the 610 PFAS contamination sites identified across 43 states and our ability to clean up these harmful chemicals in the environment?

Mr. OLSON. Well, it would help to designate them under the Superfund law because it would give the muscular authority to the Federal Government and to states to try to force cleanup at a lot of these sites. They would have to prioritize the sites. They would have to evaluate how severe the contamination was and then construct some kind of program to make sure that they clean them up, which is really important.

Mrs. DINGELL. Thank you. I am out of time, so I will now yield to Mr. Shimkus for five minutes.

Mr. SHIMKUS. Thank you, Madam Chairman. So many questions, so little time.

So, I want to go to Mr. Mehan. Some of my colleagues have made the argument that we need to force EPA to regulate all PFAS, and we have already been talking about that. I mean we are talking 4 to 6 thousand chemicals—because EPA has an issue to regulation under the Safe Drinking Water Act since 1996. Do you agree that

EPA has been sitting on its regulatory hands for the past 22-plus years through multiple administrations when it comes to drinking water?

Mr. MEHAN. Thank you.

Mr. SHIMKUS. And be quick, I have got a whole——

Mr. MEHAN. Yes. No, it is an urban legend. When I was at the Agency in 2001, we got out the Arsenic Rule. That was a long effort. It wasn't fast, but we got it out. There has been a Radionuclides Rule. There is a Filter Backwash Recycle Rule. There are two Disinfection Byproducts rules. There is an Enhanced Surface Water Treatment Rule, Long Term 1 and Long Term 2 Enhanced Surface Water Treatment Rule, Groundwater Rule, Lead and Copper Rule has been revised, Revised Total Coliform Rule, we have 15 health advisories that while they are not MCLs, they have impacts. We are here today because of a health advisory on this issue.

There have also been five information request rules that have put literally hundreds of millions of dollars of burden on utilities. I mean Brian could probably speak to this. And, in addition, we have to look at the overall regulatory effort that goes on with the Candidate Contaminant List and the Unregulated Contaminate Monitoring Rule by which the Agency under the law winnows and sifts what risks need to be regulated, and in that process they have identified 24 or so contaminants that should not be regulated, which is as important as identifying those that should.

So we certainly don't feel like they have taken a vacation.

Mr. SHIMKUS. Yes, thank you. Let me cut you off there. And you mentioned lead and copper, which we think is coming relatively soon; perchlorate, probably another one that is going to be coming relatively soon.

Mr. MEHAN. I think that is more than probable, right, under a court order.

Mr. SHIMKUS. Right. And so, I mean so here is the issue. We have a process. We have a system. So, if someone would litigate those rules, if they go through the process they would probably lose in court. If we supersede the system by doing a law without going through the regulatory process of testing, do we risk nothing happening on this?

Mr. MEHAN. Well, I take the Agency at their word. They are certainly looking at——

Mr. SHIMKUS. No, I am just talking about if we go the whole class of chemicals without—we know that the most studied of these are PFOS and PFOA, right?

Mr. MEHAN. At this moment, yes.

Mr. SHIMKUS. Right. And we have got 4 to 6 thousand chemicals. If we, by legislative fiat, ban 4 to 5 thousand chemicals without the due diligence of a scientific analysis, do we risk infinitum litigation and no action on this?

Mr. MEHAN. I don't want to pre-judge litigation, but you would probably see a lot of people concerned about precipitous action without a good risk assessment and benefit-cost analysis.

Mr. SHIMKUS. Let me go to Ms. Luxton. I know there are concerns with GenX and about two dozen other PFAS chemicals. You have already heard the 4 thousand, 6 thousand other derivations of this. Are you aware of any class of chemicals that has been regu-

lated so thoroughly without regard to actual supporting evidence of toxicity?

Ms. LUXTON. No, that has not been done. And as I mentioned in my testimony, dioxins, PCBs, PAHs, many other highly toxic substances have been on study discovered to have significant differences in toxicity and uptake and impacts on human health with respect to the specific compound. And it does matter which type of PFAS we are talking about.

Mr. SHIMKUS. So, if we go down this course would this precedent bother you?

Ms. LUXTON. Yes, I think there would be litigation. There is no question. And to just sort of impose blanket bans is highly risky. It risks overcorrecting, if you want to put it that way, and changing, diluting the priorities that need to be focused on the highest risks.

Mr. SHIMKUS. Yes, and let me go to Mr. Steglitz, because I do believe that our water providers do the best they can to meet the standards. There is a lot of capital cost. If you were asked to regulate a chemical that was safe, would you want to do that? If you had to clean out a chemical from the water system that was safe and it cost a huge capital expense, would you say, "I am going to do that?"

Mr. STEGLITZ. We obviously have limited resources, so we would want to be focusing on the contaminants that have public health risk.

Mr. SHIMKUS. Great. Thank you very much.

Mrs. DINGELL. Thank you, Mr. Shimkus. The chairman now yields five minutes to Chairman Pallone.

Mr. PALLONE. Thank you, Madam Chair. I just want to say it just seems like everywhere we look for these toxic chemicals in water we find them. There is so much that needs to be done. But one of the things I always believed is that polluters are responsible for this contamination and they should be responsible primarily for the cleanup. And so I was pleased to see a strong action in my home State of New Jersey with this lawsuit filed just yesterday against the makers of PFAS firefighting foam.

But I wanted to ask, you know, I mentioned 13 different bills. Let me just ask some questions about some of them. First, H.R. 2377, introduced by Representative Boyle, sets a deadline for EPA to set a national drinking water standard for total PFAS. Again, New Jersey has set a maximum contaminant level for some PFAS. That is the first in the country.

But let me ask Mr. Olson, first. How would a national drinking water standard protect communities in states without standards and how could it drive up Superfund cleanups?

Mr. OLSON. Well, basically there is an urgent need for standards, enforceable standards for drinking water. We believe that the states are moving forward. You mentioned New Jersey. Several other states are moving forward, Michigan and others, with drinking water standards. The problem is that some states are not doing that.

So, ideally, you would like strong, health protective national standards and Mr. Boyle's bill would require standards to be set for the class. Our main concern is that the underlying statute under

the Safe Drinking Water Act when it was amended in 1996 makes it virtually impossible to set strong, good standards, or it makes it very challenging for EPA to move forward with new standards of unregulated contaminants.

Mr. PALLONE. And that is why we would need a legislation.

Mr. OLSON. That is right.

Mr. PALLONE. What about driving Superfund cleanups? How would that impact it?

Mr. OLSON. Well, Superfund cleanups, Superfund lists chemicals that have a maximum contaminant level. Those are considered what are called "applicable, relevant, and appropriate regulations," or ARARs that would drive the cleanup.

Mr. PALLONE. OK.

Mr. Steglitz, how could a national drinking water standard help affected water systems access State Revolving Loan funds to address PFAS contamination?

Mr. STEGLITZ. Well, some states have requirements for regulatory compliance as a driver for receiving points as potential products are evaluated for competing resources, so it would help facilitate access to revolving loan funds in some states.

Mr. PALLONE. Well, there is a standard of course and only part of the solution, and whether or not a standard is in place drinking water utilities are moving forward with PFAS treatment. So again, Mr. Steglitz, what capital costs has your water system faced in addressing PFAS contamination?

Mr. STEGLITZ. We spent just under a million dollars to replace some of our filter media, but we will also have an ongoing cost of approximately $350,000 a year to replace because it has a limited life expectancy when you are using the filter carbon for PFAS removal.

Mr. PALLONE. And what is the effect of this on your operations and maintenance costs?

Mr. STEGLITZ. The capital investment was about a three to four percent increase in revenue that we required that we had to pass on to our customers and then the continuing operation and maintenance costs will be about one percent.

Mr. PALLONE. So, Mr. Mehan, can water utilities across the country absorb those kinds of costs without additional assistance? Are they going to be able to do that without additional assistance?

Mr. MEHAN. Well, one of our members, and Dr. DeWitt may be up on this, Cape Fear, North Carolina, which had the issue with Chemours and GenX, is actually spending $40 million, I think, for granular activated carbon. They are sucking it up. Their ratepayers are going to pick that up. And that was a pretty up-to-speed system, if I can use that term.

So, yes. Right now they will do what they have to do if there is public demand and political leadership demanding that it be treated. But again, there is no question that if you do 5,000 chemicals under an MCL or a treatment standard, that is going to have unforeseen costs that are going to affect other investments whether it is lead service line replacement or dealing with microbial disinfection byproducts. We haven't talked about that. That is a big priority.

Mr. PALLONE. All right, let me just get in one more question to Mr. Olson about adoption of more effective drinking water treatment techniques and how it benefits public health. I'm sorry to cut you off, but just wanted to get one question——

Mr. OLSON. Well, I think it is important. And one issue with these technologies like granular activated carbon or reverse osmosis are two of the technologies, they are going to remove much of the class. Especially reverse osmosis, it is going to—if you regulate it as a class, it is going to take care of that entire class. So I think it is a little bit of a false argument to say that we can't regulate that whole class because the treatment technologies actually are going to remove a full array. So the GAC may or may not remove certain of them; in some cases you may need to go to a reverse osmosis.

Mr. PALLONE. And that obviously benefits public health.

Mr. OLSON. It has enormous public health benefits because people won't be exposed.

Mr. PALLONE. All right, thank you.

Mr. TONKO. The gentleman concludes, so we will now recognize Representative Rodgers for five minutes, please.

Mrs. MCMORRIS RODGERS. Thank you very much, Mr. Chairman. I represent Fairchild Air Force Base, which is the largest tanker base in America and the largest employer in Spokane County, which in recent years has been leading some discovery efforts in our community around the base to test for PFAS contamination in the water supply for the base as well as in the neighborhoods and community around the base.And this contamination has largely been pointed to the uses of firefighting foam through the years. We all agree that we need to better understand the issue and the impact PFAS is having on many of us.

I would like just to—Mr. Mehan, I would like to ask about your current research efforts into PFAS and the family of chemicals. Your testimony notes that additional research is needed to develop analytical methods to quantify levels of PFAS compounds in environmental samples like water supplies. If science is currently unable to even detect the presence of some PFAS compounds in water supplies, how would a water system be able to determine whether the filters or any effort to treat for the compound has been effective?

Mr. MEHAN. Well, there are a few methods for some of the PFAS and more are being developed by EPA, but we don't really have it for wastewater and soil. So there is, you know, a vast frontier of research that is needed out there. I was happy to see EPA just let out 3.9 million on research projects.

But when I think of the—I spent eight years in Michigan working on Great Lakes issues. When I think of the whole issue with chlorinated compounds and chlorine and organic chlorines, that was a 20-, 30-year effort, you know, and there are many, many chlorinated compounds. We got down to a list of 25 and we worked that hard and got maximum risk reduction for a reasonable investment.

So I don't see—I, quite frankly, take issue with Erik on that we know what the benefits and the costs are, what technologies are available, what methods will tell us. Again, I will defer to Dr.

DeWitt on the science. I am a recovering lawyer, not a scientist. But we are in unknown territory here.

Mrs. MCMORRIS RODGERS. Well, do you believe it would be wise for EPA to promulgate a drinking water regulation for this family of chemicals for human biomonitoring?

Mr. MEHAN. When you say a family, you mean the whole family of PFAS?

Mrs. MCMORRIS RODGERS. Or this——

Mr. MEHAN. I don't know how they can do 5,000. Now there is some precedent, the disinfection byproducts I mentioned where they have a suite of MCLs and treatment standards dealing with a bundle of them, and that was done through a very collaborative Federal FACA, Federal advisory committee process. This one, I confess, I don't know how you, you know, unless you just acted without information, without a risk assessment, without benefit-costs, without knowing technology, how you do that whole family. It just defies my understanding anyway.

Mrs. MCMORRIS RODGERS. OK, thank you.

Mr. Steglitz, I wanted to ask you some about the Michigan example and just the work that was done at the State level and how that has supplemented or supplanted maybe what is going on at the Federal level either at EPA or DoD, and do you—how do you believe these State initiatives can work best with the Federal level?

Mr. STEGLITZ. If I understand your question correctly, are you speaking about the testing that this State has done to identify sources?

Mrs. MCMORRIS RODGERS. Has the State laid out some standards?

Mr. STEGLITZ. So Michigan is in the process of establishing recommended MCLs for PFAS compounds. It is unclear how many. Dr. DeWitt is participating in that process, so by October of 2019 Michigan is supposed to have recommendations to the Governor on MCLs and how these chemicals will be regulated.

Mrs. MCMORRIS RODGERS. OK, so there is nothing currently at the State level. It is——

Mr. STEGLITZ. Not currently.

Mrs. MCMORRIS RODGERS. OK. How do you see that working with efforts at the Federal level? Are you working closely with EPA as you are working, moving forward?

Mr. STEGLITZ. My understanding is that EPA Region 5 is engaged with the process. But Michigan is really taking this, the leadership, they are moving forward with this because they—of all of the testing and the analytical work that has been done in Michigan to identify sources of PFAS contamination, so really not waiting for EPA, moving forward on their own because of, really, the demand from the residents of Michigan.

Mrs. MCMORRIS RODGERS. OK, OK. Thank you.

I will yield the rest of my time, yield back.

Mr. TONKO. The gentle lady yields back. I will now recognize myself for five minutes.

Identifying the different chemicals in this class and understanding the differences between them is challenging for us as lawmakers, but it is especially challenging for the affected communities, so I appreciate that the legislation before us today addresses

these chemicals as a class. That approach ensures that we address all of the chemicals of concern and avoid dangerous substitutions. I believe the question of whether we treat PFAS as a class will be a central question as we move forward with legislation, so I would like to hear from the panel about this approach.

Mr. Olson, do you think it is important to treat PFAS as a class for regulatory purposes?

Mr. OLSON. It is crucial to treat them as a class for several reasons. One is this carbon-fluorine bond that makes them all share a lot of similar properties. Secondly, the more we study any of these individual compounds, the more we find they are toxic at low doses. We have a big whack-a-mole problem where if we regulate PFOA and PFOS, there are a couple others, they just move to GenX and then we study GenX and they move to another, and we have 4,700 of these things and we will never finish regulating. And, finally, two major scientific statements by the Helsingor Statement and the Madrid Statement from 200 scientists say that we should regulate these as a class because of their similarities.

Mr. TONKO. And so the challenges that you see with trying to regulate individual PFAS one by one pretty much gets addressed by the fact that you said they can be just transferred over?

Mr. OLSON. That is right. You can—that is the problem is that if you don't regulate them as a class, we simply have this whack-a-mole treadmill where never get around to really regulating things.

Mr. TONKO. Well, we have bills before us that touch on multiple statutes, so I would like to make sure that I understand as we go forward. Do you think PFAS should be treated as a class when we are adopting treatment techniques to remove them from drinking water?

Mr. OLSON. Yes. And I think EPA could issue a treatment technique rule that would say use this technology, it will remove the full class. That would—rather than setting MCLs for 4,000 or 600 or however many individual chemicals.

Mr. TONKO. Well, what about when we are cleaning up Superfund sites?

Mr. OLSON. Again, I think EPA could move forward with some treatment requirements. They could have certain chemicals that are sentinel chemicals. If they are detected then start requiring treatment.

Mr. TONKO. And what about when we are reporting releases under the Toxic Release Inventory, would identifying each individual PFAS release be challenging?

Mr. OLSON. Well, I think there will be some challenges. We would like to see perhaps identifying some chemicals that would have to explicitly be disclosed and then the full class, so that we have an idea of downstream sources if they know where it is coming from but you also have captured the full class.

Mr. TONKO. Thank you. And given what we know about the speed at which EPA is addressing chemicals since the Lautenberg Act, what about under TSCA whether we are requiring testing, banning new PFAS or comprehensively regulating all PFAS?

Mr. OLSON. We are very concerned about how slow that will be if Congress doesn't intervene. And it was this committee, actually,

on PCBs, Mr. Dingell, who led the charge to ban PCBs as a class. I think, really, we need to go forward with a class-oriented approach under TSCA.

Mr. TONKO. OK, any other examples of EPA doing that as a——

Mr. OLSON. There are many examples. Dioxins is another example and there are others where EPA has regulated classes.

Mr. TONKO. Turning to Dr. DeWitt, I understand that PFAS share important chemical characteristics so I want to understand whether they share toxicological profiles. Do you agree that these chemicals should be treated as a class?

Dr. DEWITT. I do agree. And I think that Mr. Olson has made some very important points about the carbon-fluorine bond which is what these compounds all have in common. This bond makes them impossible to degrade. This bond is very strong. So as far as we know, all PFAS are persistent. They are going to be in the environment. They can move into our bodies. Once they get into our bodies they can interact with various receptors. And as I mentioned, they can affect the immune system. They can induce cancer. They can affect the endocrine system. And they can affect lipid metabolism. These are common toxicities we observe.

Mr. TONKO. Thank you. When this subcommittee held a hearing on PFAS in September, we heard testimony from a resident of North Carolina whose drinking water showed 26 different PFAS were present, many she could not even identify. So, Ms. Marpe, given how hard it can be for affected communities to identify the specific PFAS in their air and water, is it important to you that we take action to address all PFAS rather than just a select few?

Ms. MARPE. It is extremely important. I mean when I was telling you my story, we were tested in our blood for six PFAS chemicals and we had five out of the six. So even though I told you about our PFOA blood levels, we have other chemicals. We have PHXpA, PhFPS. Like, they are there. PFNA. As a mom, like filter it, filter the water. I mean human health should come first. Nobody should have to experience what we have gone through.

I mean the solutions are there, everybody just needs to come together and meet in the middle and find the common ground. It shouldn't be cost over human health. No family should go through what we went through. Nobody. My grandchildren are going to have these chemicals, okay. My grandchildren. My daughter is going to pass these chemicals to her children, okay, if she decides to have a child in the next five, six years. That is and through no fault of her own.

From bathing. From having a glass of water. You know, I was strict. Believe it or not, I was really strict. No soda. Milk or water.

Mr. TONKO. Thank you. Thank you very much.

Now the chair recognizes Representative McKinley for five minutes.

Mr. MCKINLEY. Thank you, Mr. Chairman. And, thank you, Ms. Marpe, for your reference back to Parkersburg and Vienna, West Virginia. That is my district and it was three years ago we spent a great deal of time trying to address this issue and figure out how we might be able to resolve it. And one of the resolutions there was the activated carbon filters, and that worked. But it opened up this

whole education process and we learned three years ago, opened up more questions.

And so I may be at odds with my party, but I am also, I am at odds with this whole issue trying to understand it as an engineer. I am one of just two licensed professional engineers in Congress. So because what I look on this, one thing we learned was 80 percent of our exposure to PFAS is 80 percent of is not water, it is from the food we eat. CDC came out with, their report said drinking water, ingesting food, from fish and shellfish, packaged food, packaged products, hand to mouth, primarily with carpeting. So you can get that from carpeting, the dust and the filter with that and just working in a plant. So we have got other than just water we should be addressing.

OK, now with that, the Geneva—they just had a conference in Geneva two weeks ago. Because what I am concerned about is imports. We can take an action in America and deal with it, but until there is a global consciousness of this—and we are importing—we are still going to have this exposure to it. And what they did just two weeks ago in Geneva, they exempted all the products we are worried about. They exempted firefighting foam. They exempted implantable medical devices, fluorinated polymers—that is our Teflon. They exempted plastic accessories for car interior parts and they exempted manufacturing electric wires.

I am just saying, folks, we can chase this rabbit about water, but there are a lot more problems associated. We are not going to be addressing that especially because we are part of a global community and we are going to be importing things that come in that are going to be contaminated and continue to do this. So I am concerned about how we are going to protect ourselves from being exposed in the future in other than water.

So, Mr. Mehan, can you explain or give me a little bit of guidance here on how we might address this if, globally, there is not a ban on Teflon?

Mr. MEHAN. Well, I think you raise a very good point. And I must say, I think the general view that the committee has taken and I think Erik's written comments, this is a multimedia problem. It is a multidimensional problem. A global comprehensive approach makes sense. I mean looking at Superfund, TSCA, as I mentioned in my remarks, and, you know, we will look at MCLs and things like that through the process under the Safe Drinking Water Act. So yes, we certainly view ourselves as at the receiving end of this problem as utilities and certainly our customers feel the same way. So yes, I think everything should be on the table and looked at in terms of what makes sense and is reasonable in terms of reducing risk across the whole spectrum.

Mr. MCKINLEY. They even went to China and the European Union have asked for exemptions to the whole ban. So I am just curious, as long as we are going to be importing products coming in, especially food products from the European Union, and carpeting, because that is where our toddlers, that is where they are going to get exposed to it, I think we have—let's—we need to slow this train down just a little bit, do a better analysis of how we might approach this globally and push back.

But apparently, we lost the fight at Stockholm and Geneva and we are allowing these products to be manufactured and shipped to us. Yes, maybe we can't make it, but other people can and they come in, and our children, your children, your grandchildren are going to be exposed to something not because of an American manufacturer, but because of a European Union manufacturer or a Chinese manufacturer.

I think we better—you explain. Is there a way we can approach this from a global perspective?

Mr. MEHAN. Well, you are getting into issues of international environmental law and trade policy and I certainly am not an expert in that. I know you hear a lot of talk from Europeans about the cautionary principle and reverse burden and then they make exceptions. They don't have a tort law regime like we do.

So I think we need to keep our wits about us and do what it takes to protect our environment, our public health, and our people. And I think you are on to something there, looking at the international dimension of the problem.

Mr. MCKINLEY. Thank you. I yield back my time.

Mr. TONKO. The gentleman yields back. The Chair now recognizes the gentleman from California, Mr. McNerney, for five minutes.

Mr. MCNERNEY. I thank the chair and the ranking member and I thank the witnesses this morning. I am sure this can be a difficult hearing for you. But there is common ground to move forward on the legislation, so I want to move to the issue of air emissions of PFAS. We know PFAS are being released into the air during manufacturing processes and during, and some of those products during their disposal. We also know that PFAS dust is an issue when contaminated sites are cleaned up.

Last September we heard from a resident of North Carolina who testified that her community was finding PFAS in rainwater 80 miles away from the factory that was producing the chemicals. Last month, I questioned the EPA Administrator Wheeler about funding that research and ensuing we address PFAS air emissions. Administrator Wheeler did not want to commit on those emissions.

Dr. DeWitt, what are the risks presented by air emissions of PFAS?

Dr. DEWITT. I think you have hit upon a point where we really do need some additional information. But I think if we look at how these compounds move around in the environment and if we look at people's exposure levels to compounds that shouldn't be in the environment, then we can start to make some guesses about how these compounds impact us when we take them up either through the skin or through inhalation. For example, in Parkersburg, West Virginia, the boundary of PFOA has not been discovered from this point source into water, so we know that these compounds can move very far away from points of origin. They can even move in from other countries.

We do have some very proactive organizations within our country and within the European Union working to reduce these compounds at the source. There are manufacturers within the U.S. and IKEA in Europe are working very hard to do source reduction

which will help to reduce all sources of PFAS exposure through their own incentives to help consumers make appropriate choices.

Mr. MCNERNEY. And, Ms. Marpe, for a community like yours, you are doing everything you can to get PFAS out of the drinking water. How does PFAS in air pollution complicate that?

Ms. MARPE. Air pollution is one of the reasons I moved and I sold my house to get away from the smokestacks. I mean it is so ambiguous and it is everywhere. So I find it very hard to believe that I will be able to protect my children unless they are on filtered water and that is why we chose to move to Hoosick Falls.

A lot of people asked me, "Why did you pick there? Why would you go somewhere where the problem was worse?" Well, first of all, my house in Petersburgh was worse than the whole village's supply, but I went there because I didn't have to have the polluter coming into my space and violating my home. I mean that is the main reason I moved. Our safety and security, I was literally tied to the polluter. Every three months they had to come into my home, sample my water, you know, to protect my kids from the water is essential.

Mr. MCNERNEY. So, I mean you have tools for protecting you from the water, but the air, you basically had to sell your house.

Ms. MARPE. It is everywhere. What are we going to do? We can't filter our entire earth. I mean you have it in polar bears.

Mr. MCNERNEY. Yes.

Ms. MARPE. It is in their blood. The national average is two. You probably have two parts per billion in your blood.

Mr. MCNERNEY. Thank you.

Ms. MARPE. You are welcome.

Mr. MCNERNEY. Well, there are strong arguments in favor of H.R. 2605 introduced by Representative Stevens to list PFAS as a hazardous air pollution under the Clean Air Act.

Mr. Olson, how would adding PFAS to the hazardous air pollution list help communities, public health, and the environment?

Mr. OLSON. Well, it is crucial to address all the media that we are exposed to. You just heard a personal story from Emily about being exposed. There are a lot of people that are downwind of facilities that are releasing PFAS that have no idea they are being exposed. We really do need to list PFAS as hazardous air pollutants so that we can ensure that there will be controls.

Mr. MCNERNEY. Well, the Clean Air Act has 187 hazardous air pollutants on its list, 17 in the list are in the group of chemicals like mercury compounds and polycyclic organic matter. Why should PFAS be included as a group on the HAP list?

Mr. OLSON. Well, I think for exactly the reason we have just heard, that they are very toxic at very low doses. They are extremely persistent. They are forever chemicals and they are quite mobile. They move well beyond where that stack is emitting it. They are going to move downwind for many miles, so we really need from a public health standpoint to ensure that people are protected from those emissions.

And think about the incinerators as well that are not really regulated. If they are incinerating this waste at low temperatures that stuff is just going up in the air and we are moving it from one

media to another one, so we need hazardous air pollutant rules for them.

Mr. MCNERNEY. Very good. Thank you, Mr. Chairman, yield back.

Mr. TONKO. The gentleman yields back. We now move to those who have waived on to the subcommittee. We appreciate your interest. The Chair now recognizes the gentleman from Michigan, Mr. Upton, for five minutes.

Mr. UPTON. Well, thank you again, Mr. Chairman. I really appreciate being allowed to sit on this subcommittee that I am not normally a member of, and I appreciate your leadership and Mr. Shimkus's and the hardworking staff as well.

So, 10 months ago, the city of Parchment in my district awoke to a startling new reality. They found extremely high levels of PFOA and PFOS not only at a capped landfill, but the chemicals were also discovered in their drinking water at levels many times above EPA's lifetime health advisory. And while Parchment was the first community to have its water test results come in that high, it was not the only place where PFOS chemicals were found in the drinking water in Michigan, as we have learned. And literally every community regardless of size in terms of their municipal water supply was tested across the State at the governor's orders and to try and assure that the water quality was safe in their proper areas.

But some of the smartest minds working on PFAS contamination are in Michigan not because of what is in the water, but because of our water. And I am fortunate that one of the premier scientists on PFAS, Dr. Matt Reeves, is based in my district at Western Michigan University in Kalamazoo and we have the easy access to his work. He recently published a white paper outlining a national road map for addressing PFAS and I want to submit not his report, but rather his findings as part of the record. The white paper itself calls for the development of a research consortium with the express purpose of addressing many of the critical research areas using best science practices, state-of-the-art technology, and high-impact dissemination of research findings and challenges.

Now I also know that our committee, full committee, is going to be one of those that it is going to be relied upon for developing infrastructure legislation likely to move, I think, in the next couple of months. And I would like to think that perhaps one of those provisions, part of that package would include some of these bills that we are working on that were addressed, and I intend to co-sponsor a number of them as we work on this issue to try and get an answer for our citizens that really do understand where we are and want some action taken.

Ms. Luxton, I introduced a bill this last week, H.R. 2626, bipartisan legislation that will give EPA a year to decide whether to list well-characterized PFAS as a hazardous substance under CERCLA Section 102(a). What are your thoughts about qualifying PFAS substances within the term "well-characterized" for EPA to prioritize which contaminants should be reviewed for their potential to present a substantial danger?

Ms. LUXTON. Thank you. That, I think, is a constructive suggestion. The one area of risk I would suggest is that it is a new term

not defined, so as someone who has seen a fair amount of administrative law litigation, I would recommend providing a definition or some criteria so that it is clear what that term means and avoids delays that could be caused by ambiguities in wording and subsequent litigation.

But the idea of trying to focus on those that are well-characterized or about which enough is known to make a judgment on toxicity and other factors is really a very constructive idea and allows for prioritization of resources which, I think, is a very important outcome in which legislation is adopted.

Mr. UPTON. Thank you. And as you know as we have struggled with PFAS contamination cleanups including State standards that a number of States may pursue, including Michigan, do you think cooperative agreements between the Federal and State Governments provide a reasonable path forward to achieve protective cleanups that meet the guidelines of both governmental entities?

Ms. LUXTON. Yes. I absolutely think that is another constructive approach as are these consortia that we have been hearing about today among academics and to share the resources. There is so much ground to cover that any ways we can support to cooperate on Federal and State capabilities and share resources as well as the academic knowledge we are learning in this frontier, as one of the witnesses said, is very important.

Mr. UPTON. Just in closing, because my time has expired and I just, I know a number of us have met with EPA over the last number of weeks and months. They need to be, part of this process as well. They need to be, and I believe that they are brought in. We need to continue to make sure that it is bipartisan and work with our committee to get some legislative action. With that, Mr. Chairman, I yield back and thank you again.

Mr. TONKO. The gentleman yields back. And we will visit your request to enter the information into the record.

Mr. UPTON. Yes, I am going to introduce the findings, not the white paper.

Mr. TONKO. And we will do that at the end of the hearing, so.

Mr. UPTON. Thank you.

Mr. TONKO. So we thank you again. The Chair now recognizes the gentle lady from Illinois, Ms. Schakowsky, for five minutes, please.

Ms. SCHAKOWSKY. Thank you, Mr. Chairman.

So we have heard calls from industry to wait to act on PFASs, to let TSCA, the TSCA process take its course and let EPA set reference doses for each PFAS chemical one by one. But even when we first passed TSCA back in 1976, Congress recognized that the statute might not work for some classes of chemicals and that is why PCBs were dealt with comprehensively, quickly, and as a class through a separate TSCA subsection. It was John Dingell's wisdom that led to the adoption of the PCB subsection and it stands now as one of the only actions EPA was able to take under the original TSCA. So, I welcome H.R. 2600 introduced by Representative Dean which takes the same approach for PFAS chemicals.

I wanted to ask Dr. DeWitt, do PFASs present some of the same concerns as PCBs in terms of how long they remain in the environment and some of the risks that they pose? And let me just go on

and say, do you think additional PFASs as well can be handled in that same way as that PCBs were?

Dr. DEWITT. Yes, I do think that PFAS can be handled similarly to PCBs. I would also like to point out that PFAS are in a sense very different from PCBs. PCBs like to be in fat. They like to be in sediment. They don't move around and eventually they do break down. PFAS are happy being in water. They are happy being in soil. They are happy being in fat. And they are very mobile and they don't break down.

It is estimated that DDT, an organochlorine pesticide, takes about 30 years to break down into more toxic compounds. We don't know yet if PFAS will take longer than that, but we suspect that they will. So they are different from PCBs in that they are——

Ms. SCHAKOWSKY. And worse.

Dr. DEWITT. And worse. And the suite of effects that they produce seems to be broader than the suite of effects produced by PCBs.

Ms. SCHAKOWSKY. So what do you think of then of the assertion drawing from our experience addressing PCBs? You think we should handle it the same way, I take it?

Dr. DEWITT. I think it would be a very wise move to deal with a class of compounds that is persistent, bioaccumulative, and toxic and mobile.

Ms. SCHAKOWSKY. Mr. Olson, you noted in your testimony that we can still detect PCBs in the environment despite the strong statutory language adopted in 1976. Why is that?

Mr. OLSON. Well, they are extremely persistent like PFAS, so they last in the environment a long time as Dr. DeWitt just mentioned. And we are very concerned that they are much more mobile than PCBs, it appears, and these are these forever chemicals and they are toxic at extremely low doses, just a terrible combination.

Ms. SCHAKOWSKY. Thank you.

Mr. Steglitz, are PCBs still a challenge for water systems like yours?

Mr. STEGLITZ. That hasn't been something that we have had to deal with in our watershed.

Ms. SCHAKOWSKY. Thank you.

It has been more than 40 years since Congress added PCBs, but we are still cleaning them up. It seems likely that if we take action today to regulate PFAS we will be cleaning them up for generations. So again, Mr. Olson, given that it seems to me like we should get started right away, do you agree?

Mr. OLSON. I would agree. I think we need to get started right away. We are now, everyone in this room, guinea pigs. We are carrying these chemicals around in our bodies and we didn't agree to carry them around in our bodies, yet we are being exposed to them every day. Our kids are being exposed to them. Our grandchildren will be exposed to them. We need to get started now on doing something.

Ms. SCHAKOWSKY. Regardless, will they be there hanging around for a while?

Mr. OLSON. They will be around for decades.

Ms. SCHAKOWSKY. Thank you. I yield back.

Mr. TONKO. The gentle lady yields back. The Chair now recognizes the gentleman from Ohio, Mr. Johnson, for five minutes.

Mr. JOHNSON. Thank you, Mr. Chairman. And I want to echo some of the concerns that my colleagues have already expressed today. These are really important issues, very important issues, and we need to continue to work hard to make sure we are doing everything we can do to address PFAS concerns correctly and appropriately. Many states are dealing with contamination issues. I know my home State of Ohio is. And we need to ensure our States and regulating community are receiving the scientific support and signals from the Federal Government. That is why I am concerned that the EPA is not in the room today to provide the necessary technical and scientific insight on the bills that we are discussing, especially as some of these bills were just recently introduced.

So let me focus on some of the bills dealing with TSCA, and Ms. Luxton, I would appreciate your thoughts on these. H.R. 2608 requires EPA to compel by order comprehensive new lines of testing on all PFAS substances. It also waives requirements on the EPA to create a statement of need for the tests or to rely on lesser test methods to rule out the need to show toxicity.

With so many chemicals under the PFAS umbrella, about 5,000 or so, is there concern that the EPA could unintentionally focus its time and effort on low-risk chemicals instead of prioritizing high-risk chemicals?

Ms. LUXTON. Yes, I think that is a very good question and a very real risk. EPA has identified in its priority list of top concerns that it wants to spend its greatest attention, three of the five include addressing existing Superfund sites and trying to accelerate the cleanups of those Superfund sites. We are talking now about expanding that set of sites and then fulfilling its requirements under TSCA, under the most recent amendments, to go through those chemicals that have already been identified as of high toxicity.

So again, the third is reducing nonattainment areas for air pollution, existing air pollution. These are other priorities that already exist for EPA to fulfill. Adding to those indiscriminately, that is to say without looking at this in a priority risk way, it risks overwhelming the system and suppressing or reducing the ability to deal with a collection of risks that affect the American population in many ways.

Mr. JOHNSON. OK. All right, another bill on new chemicals, H.R. 2596, would prevent any new chemicals that are PFAS from being commercially manufactured, imported, or processed. Do you think it would be a bit more reasonable for the EPA to use a tiered approach that would limit the amount of data that is required to collect if there isn't a toxicity problem evident with one of the PFAS chemicals?

Ms. LUXTON. Yes, I think tiering is a very good approach. Looking at the types of PFAS chemicals, trying to group them in terms of toxicity, the short chain/long chain issue, there are differences among these compounds that really can make a difference in terms of toxicity, uptake, and health effects.

Mr. JOHNSON. OK. Ms. Luxton, you mentioned that legislation that mandates action by a Federal department or agency like the bills we have before us today can have blind spots to the require-

ments of the Administrative Procedure Act. In looking at these bills as it relates to administrative procedure, the Administrative Procedure Act, do you think items like notice and comment are in danger of being minimized or ignored?

Ms. LUXTON. Yes. Whenever there are bills that try to expedite rulemaking and cut corners, those procedures that were adopted and are well embedded in the law create litigation opportunities which can have the effect of delaying the effectiveness of new legislation all by itself because it is tied up in the courts for years.

Mr. JOHNSON. You may have just answered this but let me clarify. Would you be concerned that short-circuiting these requirements make the objectives of these bills subject to successful judicial challenge?

Ms. LUXTON. Yes, we have seen that happen.

Mr. JOHNSON. And what happens when regulations are litigated over process considerations?

Ms. LUXTON. Delay. And if the rule is invalidated the Agency has to start all over from scratch and put together a new rule that can stand up in court.

Mr. JOHNSON. Wasted time, right?

Ms. LUXTON. Wasted time.

Mr. JOHNSON. OK. Mr. Chairman, I yield back.

Mr. TONKO. The gentleman yields back. The Chair now recognizes the gentleman from Florida, Mr. Soto, for five minutes, please.

Mr. SOTO. Thank you, Chairman. When I had first heard of the chemicals related to PFAS and PFOS, much like many in the public it was through tragedy because these are chemicals that many of us in the public were unaware of. And in this case, it was our firefighter training school in Ocala, Florida where we had a cancer cluster happen and it is to such an extent that the VP of the National Firefighters Union, his brother was one of those victims.

So I think as we are talking about all the technicalities today, we need to really consider how this is affecting the American public on a broader scale than things like rulemaking and whether Congress should act. You know, a congressional law is absolutely, under separation of powers, takes precedence over any rulemaking of an agency. It is clear from everything we are hearing today that we need to attack the PFAS contamination from every angle and we should be working to stop the flow of chemicals into our environment and into our bodies.

But government action can be slow. Hearing from my constituents, they want us to act. Mr. Olson, what are some of the everyday products people might use that would contain PFAS?

Mr. OLSON. Thank you for the question, Mr. Soto, and thank you for your bill that would address at least the cookware issue. There are innumerable products that contain PFAS. They range from the carpeting that our children may be crawling on or walking on. They include a wide array of clothing. They include textiles. They are sprayed on some of the furniture that we use. They are used in just a wide array of consumer products. And we would like to actually see your terrific bill that would include an EPA program to make sure that consumers can make an intelligent choice even expanded to other consumer products.

Mr. SOTO. How would they be able to make informed choices right now with regard to PFAS exposure?

Mr. OLSON. Basically they can't. If you go into a local store you will see cookware, for example, often labeled PFOA-free. Well, that doesn't tell you anything of value because they may have just switched over to a different PFAS. So it is very misleading to consumers in some cases if they are continuing to use toxic PFAS and just labeling it PFOA-free.

Mr. SOTO. So, let's say we implement the Safer Choice program through the legislation that we introduced. How would that influence companies as far as new products they put out on the market?

Mr. OLSON. Well, I think what we have seen in other cases is when consumers know they can make a choice, if I go in and I have my choice between a PFAS-free cookware or carpet or couch and I can buy one that doesn't have that versus one that does, I am going to make the choice. And right now, consumers don't have that information.

Mr. SOTO. We heard a lot of testimony today about addressing all PFAS and not just focusing on PFOA and PFOS. Would the label requirement under our bill have the same value if it only covered PFOA or PFOS?

Mr. OLSON. No, for exactly the reasons we were just talking about because we know that even some folks are now labeling them as PFOA-free or PFOS-free; we need to deal with the whole class.

Mr. SOTO. Ms. Marpe, I was really obviously taken aback by your personal story and what you and your family went through. On behalf of moms across America, what would be the cost of inaction if we do nothing here?

Ms. MARPE. The cost of inaction has already been extraordinary. I mean I talked to Tobyn McNaughton from Michigan about her son Jack, you know, he tested over 400 parts per billion in his blood, the highest child I know of. That is such a tough question because it is everywhere. Like as much as I wanted to protect my family, I still know. I know where it is, like I have educated myself. I have killed myself to educate myself. You know, New York State did not educate me.

Mr. SOTO. And do you think there is a lot of families still living unaware of this danger?

Ms. MARPE. Absolutely. You have to remember, Petersburgh—well, you wouldn't have to remember because you don't know. But Petersburgh——

Mr. SOTO. Our chairman would know.

Ms. MARPE. Yes. The town of Petersburgh only has 76 wells on the municipal supply, 76 wells. So, like before, you had to have a population above 10,000, okay, now it is 3,500. OK, that still doesn't save the little towns of Petersburgh. And these companies set up shop in rural communities where they fly under the radar. I mean you can't see it. You can't smell it. You can't taste it. You have no idea it is there until somebody tells you.

If Michael Hickey never tested the water, we still wouldn't know. He took his own money, his own personal money to test the water because his father died of kidney cancer. He was smart enough to think, hey, can Teflon cause cancer? His father worked for the plant in Hoosick Falls for 32 years. He came home, his home was

literally 800 feet from the plant, 800 feet. The man showered in it, cooked in it, drank it, I mean and he is gone. He died shortly after retirement.

You can't make this up. I mean it has already taken decades. You are like 50, 60 years too late. This should have been stopped in the '50s when it was created. It is a manmade chemical. It doesn't belong in me. It doesn't belong in my children. It doesn't belong in you. It is there. Go test yourself, feel free. It is like 500 bucks.

Mr. TONKO. The gentleman yields back. We now recognize the gentleman from the State of New Mexico, Mr. Luján, for five minutes.

Mr. LUJÁN. Thank you, Mr. Chairman. And thank you to Ranking Member Shimkus as well for allowing me to join this hearing. And, Ms. Marpe, thank you for your testimony and your responses as well. Thank you to each of the witnesses for sharing your expertise as well with the urgency of having to respond to this environmental and health crisis that we are facing across the country. We are just now beginning to see all of the dimensions of this crisis.

And, Mr. Olson, in your testimony you made clear that these are forever chemicals that don't break down. They can enter our food and water and systems in many different ways. Ms. Marpe, you just reminded us of that.

In my district, the Department of Defense's use of the PFAS-laden firefighting foams has polluted the groundwater needed by adjacent dairy farmers to grow their crops and water their cows. The Department of Defense refuses to clean up the groundwater. Think about what I just said. The Department of Defense refuses to clean up this groundwater, even though they fully acknowledge that their actions created this pollution. It is why many pieces of this legislation are required. Along with Senator Udall, I recently introduced the Prompt and Fast Action to Stop Damages Act of 2019 to force the Department of Defense to do what is right, to do what they should have been doing all along in cleaning up the mess they created, make the impacted dairy farmers whole.

Mr. Olson, I appreciate your discussion and support of my legislation in your written testimony. Can you elaborate on why it is critical for the Department of Defense to clean up all sources of PFAS contamination?

Mr. OLSON. Well, I think a lot of us learned in kindergarten that if you make a mess you clean it up.

Mr. LUJÁN. Robert Fulghum is one of my favorite authors.

Mr. OLSON. Exactly. And unfortunately, it seems maybe Department of Defense didn't learn that in kindergarten and a lot of polluters did not. It is very important for those that have created a mess and created risks and poisoned their community to be responsible for cleaning up, and that is why it is important to hold those polluters accountable whether they are Federal agencies or they are private companies.

Mr. LUJÁN. So I want to ask you another question that points to several pieces of legislation that have been authored. Should the Department of Defense be required to clean up water sources used to produce our food and milk just like they are required to clean up our drinking water?

Mr. OLSON. They absolutely should. In fact, last night I met one of your constituents, a farmer whose milk is contaminated. He is having to destroy his milk every day. He is probably going to have to destroy his dairy cows and they aren't going to be able to be sold as food because they are so contaminated. So we definitely need to make sure we are protecting agricultural uses of that water as well.

Mr. LUJÁN. And rather than acquiring that farm, purchasing those dairy cattle, and cleaning up their mess, the Department of Defense is paying to buy the milk. Millions of dollars, I mean like it doesn't make any sense when it is less expensive to fix the problem to clean up their own mess. But again, that is why if the Department of Defense is saying that they don't have the authority, which I disagree with, this legislation that is before this subcommittee, four other committees of jurisdiction, will require them to do this. And I appreciate your testimony, Mr. Olson.

Just in closing, I want to emphasize that the emotional and financial hardships, much of which that has been shared today, other testimony that has been shared through conversations from constituents that have traveled from across America to be here in Washington, DC this week, I want to encourage our members to make sure that they are having town halls in these communities. That they are making themselves available; that they are listening to the constituents so that way we can share those stories and show the urgency of needing to act across America. That includes the farming community in Curry County, a community that I am honored to represent.

Since the Department of Defense is neglecting its responsibility to clean up the groundwater, the burden has fallen entirely on the dairy farmers. They are having to put in their own filters, put in their own work, plan for their own futures. The Department of Defense needs to do the right thing here. Farms have either stopped producing milk because they don't have access to clean water or at their own expense installed filtration systems costing hundreds of thousands of dollars.

Mr. Chairman, they should be reimbursed for that by the Department of Defense. They are doing their work for them. While the farming community's very way of life is being threatened, the Department of Defense is just standing there doing nothing. These farmers are running out of time and it is up to Congress to act, and for the sake of the farmers in my district and the families across the country we need to act now and act quickly.

And I thank the chairman and the ranking member for their indulgence and thank them for letting me sit in at this important committee hearing today.

Mr. TONKO. The gentleman yields back and the Chair now recognizes the gentle lady from the State of California, Ms. Matsui, for five minutes.

Ms. MATSUI. Thank you, Mr. Chairman. And I want to thank the witnesses for being here today. We have seen that many private companies are moving away from PFOA and PFOS for shorter chain substitutes. While I think we can all agree that this is a good step and of acknowledging that the known risks that PFOA and

PFOS pose, I am concerned that the amount of research and information on some of these substitutes.

For example, over the past couple of years we have been hearing numerous reports of high levels of the chemical GenX being used by companies like Chemours. However, EPA issued a draft toxicity review last fall of two chemicals, GenX and a related compound PFBS that demonstrated even very low doses could still present serious health risks such as issues of prenatal development and immune system, liver, kidney, or thyroid complications.

Dr. DeWitt, I think you are acutely aware of the issue which has been a particular problem in your State of North Carolina. At this point, what do we know about the health risks of some of these short and intermediate chain substitutes?

Dr. DEWITT. They are just as persistent as the long chain compounds. They are able to move from the environment into bodies just like the long chain compounds and once in their bodies they are able to interact with molecules in our bodies to produce toxicity. You mentioned immunotoxicity which we see with GenX. We still see increases in liver weight and increases in liver enzymes which are a sign of toxicity, so we see many of the same types of effects as the long chains.

Ms. MATSUI. OK. Mr. Olson, in your view do we have enough information about the risks posed by PFOS, PFAS as a class to begin taking action now?

Mr. OLSON. Absolutely we do, and if we don't regulate them as a class, we are going to be on this treadmill of trying to regulate one at a time and we will never get off of it.

Ms. MATSUI. OK. All of us are aware here that PFAS is known as forever chemicals because they don't readily or easily decompose or degrade. Forever in our environment and forever in our bodies and that is really a troubling thought.

Dr. DeWitt, I would like to ask you for more information about the health risks for vulnerable populations like pregnant women and children. What do we know about how PFAS impacts, how it impacts a developing infant or child?

Dr. DEWITT. Infants, developing organisms, and children consume a higher amount of water per body weight than adults, so their relative exposure is greater. They also have relatively poorly developed systems for metabolizing, even though these aren't metabolized, and excreting compounds, so their body burden remains a little bit higher so these compounds stay in their bodies a little bit longer. And because many of their other systems aren't fully developed, they are more sensitive to the effects of these compounds.

We also know that these compounds can be excreted in breast milk, so they are getting exposures through breast milk. And if they are from families that live in contaminated communities who choose not to breast feed, they will get exposed through their contaminated drinking water and other items in the home that may contain PFAS.

Ms. MATSUI. OK, so based upon what you know about the health effects of these chemicals, do you think it is appropriate to treat them as a class?

Dr. DEWITT. I agree that is appropriate. I think it is a wise decision.

Ms. MATSUI. OK. These chemicals are dangerous and extraordinarily persistent and what we are dealing with is for generations and we have to make a difference. Do you perceive an additional risk due to the fact that DOD is only looking at these two specific chemicals rather than the entire class of PFAS chemicals?

Dr. DEWITT. I think that looking at the chemicals as a class is an important consideration because they have all been designed to have similar functionality so their physical chemical properties are very similar. The carbon-fluorine bond does not break down, and as you mentioned they are forever in our environments and forever in our bodies.

Ms. MATSUI. Well, I do hope we take some action right now and I yield back. Thank you.

Mr. TONKO. The gentle lady yields back. The Chair now recognizes the very patient gentle lady from New Hampshire, Representative Kuster. You are recognized for five minutes, please.

Ms. KUSTER. Thank you very much, Chairman Tonko. And I want to thank you and Ranking Member Shimkus for allowing me to sit in on this hearing. This is not my normal subcommittee, but it is an important issue not only in my district but across the country.

I want to first take a moment to thank Emily for being with us as a mother and a she-bear. I know how this feels and but I can't even begin to imagine the fear that you felt and I am glad you were able to take the steps to sell your home, because there are from families all across this country that can't move. They don't have that opportunity. They can't find someone to buy the home that they have invested in.

And in my district, we are going through this in a small town called Litchfield, New Hampshire. Contamination from the Saint-Gobain's plastic company was found in water testing coming through the air, getting into the soil. Fortunately, we were able to, because of advocates like yourself, the people living in this community brought it to our attention, brought it to their board of selectmen. We were able to bring the company in and we were able to get the attention of the EPA. And the State of New Hampshire and Saint-Gobain reached a monumental agreement that required the manufacturer to run clean water to all of the affected homes. Some of these homes have been hooked up to a neighboring city of Manchester to get water to the door.

But I am concerned as the parents are about children playing in the yard, about what is coming through the air, about what is affecting them. In a neighboring town also in my district, Amherst, New Hampshire, 2016, New Hampshire Department of Environmental Services tested 11 wells within a one-mile radius of the former location of Textiles Coated International and again found very high levels.

So this is something that we are dealing with in New Hampshire and I just want to really acknowledge your courage because we need to put a face on this. I have studied way back to the first Earth Day. I can remember picking up trash and studying environmental studies in college and just putting a face on this and being able to tell the story is important.

I am just going to turn briefly to my bill, H.R. 2596, Protecting Communities from New PFAS Act, which would halt new PFAS chemicals including, as my colleague mentioned, the short chain PFAS from being approved through the EPA's pre-manufacture notice system. And I want to ask Mr. Steglitz, from your testimony you talked about "The best way to address these contaminants is at the source," do we need to halt the approval of new PFAS chemicals from entering the commercial supply chain?

Mr. STEGLITZ. And absolutely, if we can figure out what the health impacts are before they enter circulation then that will be the best practice, because addressing it at the end of the pipe is clearly not the most, not in the most effective way to address this.

Ms. KUSTER. Right. You have talked about the expense to the taxpayers and I think we need to go upstream, if you will, in the chain from that.

Mr. Olson, your testimony also highlighted the importance of "turning off the tap," for the approval of new PFAS and new uses for existing PFAS. While we know that tackling this problem will take a multifaceted, comprehensive approach, we have heard so many good ideas in this hearing, how important is it to stop new PFAS chemicals from entering the supply chain?

Mr. OLSON. It is absolutely critical. We have already got 4,700 of these things or more and adding new ones as I say in my testimony it is sort of like Will Rogers said, "If you find yourself in a hole, stop digging," and we are still digging. We are still approving new uses. We are still approving new PFAS chemicals and we need to stop and take a step back and we are pleased that your bill would do that.

Ms. KUSTER. And what steps do you think that Congress can take to put an end to new PFAS chemicals from being introduced?

Mr. OLSON. Well, I think this requirement of having EPA halt the new approvals, and there is a companion bill also that would phase out the existing uses, we think that is important. And Mr. McKinley was asking about imports. So, it is also important that if you act under TSCA, you can also ban the imports of these products which is very important as well, because right now PFOA and PFOS even are allowed to be manufactured overseas and we can get products coming into the U.S. with them.

Ms. KUSTER. Well, I hope that we will continue to work in a bipartisan way.

And, Attorney Luxton, you used the phrase, "our highest priority concern." I can say for myself as a legislator and a mother that my highest priority concern is the health and well-being of my constituents.

And again, thank you, Emily, for bringing your story forward. With that I yield back.

Mr. TONKO. The gentle lady yields back, and again, thank you for your patience, Representative Kuster.

And I do thank each and every witness that appeared today. It is so important that we review these issues with every bit of information.

I remind members that pursuant to committee rules they have 10 business days by which to submit additional questions for the record to be answered by our witnesses. I ask each witness to re-

spond, please, promptly to any such questions that you may receive.

We have had requests, several requests for documents to be entered into the record. They include a letter from the Association of Metropolitan Water Agencies; a letter from Westfield Residents Advocating for Themselves, round to the acronym of REST; a letter from the Informed-Public Project; a letter from the United States Chamber of Commerce; a letter from the American Chemistry Council;a fact sheet issued by the PFAS Community Campaign; research findings from Dr. Matt Reeves of Western Michigan University; and then written testimony from both Representatives Brian Fitzpatrick and Dan Kildee. So I would request unanimous consent to enter the following into the record.

Mr. SHIMKUS. Mr. Chairman, reserving the right to object, I will not object. I want to—hopefully we are going to be careful on receiving testimony from people we didn't ask to testify. Both Fitzpatrick and Kildee are great friends of ours, they do have relevant legislation. I am not objecting to the submission, but I want us to be careful about a precedent we may set and we will get all these testimonies on people who may not be as actively involved in bills in the future. So with that I will not object, Mr. Chairman.

Mr. TONKO. OK, so the following will be introduced into the record.

Mr. TONKO. And then at this time I indicate that the subcommittee is adjourned.

[Whereupon, at 12:46 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

I

116TH CONGRESS
1ST SESSION

H. R. 535

To require the Administrator of the Environmental Protection Agency to designate per- and polyfluoroalkyl substances as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 14, 2019

Mrs. DINGELL (for herself, Mr. UPTON, and Mr. KILDEE) introduced the following bill; which was referred to the Committee on Energy and Commerce, and in addition to the Committee on Transportation and Infrastructure, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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A BILL

To require the Administrator of the Environmental Protection Agency to designate per- and polyfluoroalkyl substances as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "PFAS Action Act of 2019".

SEC. 2. DESIGNATION AS HAZARDOUS SUBSTANCES.

Not later than 1 year after the date of enactment of this Act, the Administrator of the Environmental Protection Agency shall designate all per- and polyfluoroalkyl substances as hazardous substances under section 102(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9602(a)).

○

I

116TH CONGRESS
1ST SESSION

H. R. 2377

To amend the Safe Drinking Water Act to require the Administrator of the Environmental Protection Agency to publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for total per- and polyfluoroalkyl substances, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 29, 2019

Mr. BRENDAN F. BOYLE of Pennsylvania (for himself, Mr. PALLONE, Mr. TONKO, Mr. KILDEE, and Mr. FITZPATRICK) introduced the following bill; which was referred to the Committee on Energy and Commerce

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A BILL

To amend the Safe Drinking Water Act to require the Administrator of the Environmental Protection Agency to publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for total per- and polyfluoroalkyl substances, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Protect Drinking Water from PFAS Act of 2019".

SEC. 2. DEADLINE FOR REGULATIONS ON PFAS.

Section 1412(b)(12) of the Safe Drinking Water Act (42 U.S.C. 300g–1(b)(12)) is amended by adding at the end the following:

"(C) PER- AND POLYFLUOROALKYL SUBSTANCES.—Notwithstanding any other deadline established in this subsection, not later than 2 years after the date of enactment of this subparagraph, the Administrator shall publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for total per- and polyfluoroalkyl substances.".

○

.....

(Original Signature of Member)

116TH CONGRESS
1ST SESSION

H. R. 2533

To assist community water systems affected by PFAS contamination, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 7, 2019

Mr. PALLONE introduced the following bill; which was referred to the Committee on _____

A BILL

To assist community water systems affected by PFAS contamination, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Providing Financial Assistance for Safe Drinking Water Act" or the "PFAS Drinking Water Act".

SEC. 2. ESTABLISHMENT OF PFAS INFRASTRUCTURE GRANT PROGRAM.

Part E of the Safe Drinking Water Act (42 U.S.C. 300j et seq.) is amended by adding at the end the following new section:

"SEC. 1459E. ASSISTANCE FOR COMMUNITY WATER SYSTEMS AFFECTED BY PFAS.

"(a) ESTABLISHMENT.—Not later than 180 days after the date of enactment of this section, the Administrator shall establish a program to award grants to affected community water systems to pay for capital costs associated with the implementation of eligible treatment technologies.

"(b) APPLICATIONS.—

"(1) GUIDANCE.—Not later than 12 months after the date of enactment of this section, the Administrator shall publish guidance describing the form and timing for community water systems to apply for grants under this section.

"(2) REQUIRED INFORMATION.—The Administrator shall require a community water system applying for a grant under this section to submit—

"(A) information showing the presence of PFAS in water of the community water system; and

"(B) a certification that the treatment technology in use by the community water system at the time of application is not sufficient to remove all detectable amounts of PFAS.

"(c) LIST OF ELIGIBLE TREATMENT TECHNOLOGIES.—Not later than 150 days after the date of enactment of this section, and every two years thereafter, the Administrator shall publish a list of treatment technologies that the Administrator determines are effective at removing all detectable amounts of PFAS from drinking water.

"(d) PRIORITY FOR FUNDING.—In awarding grants under this section, the Administrator shall prioritize affected community water systems that—

"(1) serve a disadvantaged community;

"(2) will provide at least a 10 percent cost share for the cost of implementing an eligible treatment technology; or

"(3) demonstrate the capacity to maintain the eligible treatment technology to be implemented using the grant.

"(e) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section not more than $500,000,000 for each of the fiscal years 2021 through 2025.

"(f) DEFINITIONS.—In this section:

"(1) AFFECTED COMMUNITY WATER SYSTEM.—The term 'affected community water system' means a community water system that is affected by the presence of PFAS in the water in the community water system.

"(2) DISADVANTAGED COMMUNITY.—The term 'disadvantaged community' has the meaning given that term in section 1452.

"(3) ELIGIBLE TREATMENT TECHNOLOGY.—The term 'eligible treatment technology' means a treatment technology included on the list published under subsection (c).".

SEC. 3. DEFINITION.

Section 1401 of the Safe Drinking Water Act (42 U.S.C. 300f) is amended by adding at the end the following:

"(17) PFAS.—The term 'PFAS' means a perfluoroalkyl or polyfluoroalkyl substance with at least one fully fluorinated carbon atom.".

.....

(Original Signature of Member)

116TH CONGRESS
1ST SESSION

H. R. 2566

To require the Administrator of the Environmental Protection Agency to revise the Safer Choice Standard to provide for a Safer Choice label for pots, pans, and cooking utensils that do not contain PFAS, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 7, 2019

Mr. SOTO introduced the following bill; which was referred to the Committee on _____

A BILL

To require the Administrator of the Environmental Protection Agency to revise the Safer Choice Standard to provide for a Safer Choice label for pots, pans, and cooking utensils that do not contain PFAS, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SAFER CHOICE LABEL FOR POTS, PANS, AND COOKING UTENSILS.

(a) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, the Administrator of the

1 Environmental Protection Agency shall revise the Safer
2 Choice Standard of the Safer Choice Program to identify
3 the requirements for a pot, pan, or cooking utensil to meet
4 in order to be labeled with a Safer Choice label, including
5 a requirement that any such pot, pan, or cooking utensil
6 does not contain any PFAS.

7 (b) DEFINITION.—In this Act, the term "PFAS"
8 means a perfluoroalkyl or polyfluoroalkyl substance with
9 at least one fully fluorinated carbon atom.

.....

(Original Signature of Member)

116TH CONGRESS
1ST SESSION

H. R. 2570

To ensure that polluters pay ongoing water treatment costs associated with contamination from perfluoroalkyl and polyfluoroalkyl substances, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 8, 2019

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To ensure that polluters pay ongoing water treatment costs associated with contamination from perfluoroalkyl and polyfluoroalkyl substances, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "PFAS User Fee Act of 2019".

SEC. 2. FINDINGS.

Congress finds the following:

(1) Perfluoroalkyl and polyfluoroalkyl substances have emerged as pervasive contaminants in sources of drinking water and water to be treated by treatment works.

(2) Such substances are not naturally occurring, but are present in water because of manufacturing and distribution of PFAS in commerce.

(3) Such substances pose serious risks to health, including risks of cancer, reproductive and developmental effects, and effects on the immune system, liver, and kidneys.

(4) Because of these risks, regulatory limits continue to be established for PFAS in drinking water and effluent from treatment works.

(5) Removing PFAS from water results in significant ongoing operation and maintenance costs.

(6) Those costs are currently borne by community water systems and treatment works, and in turn by ratepayers.

(7) Those costs should rightly be borne by the manufacturers of PFAS, who are using community water systems and treatment works to remove their pollution from the environment.

SEC. 3. DEFINITIONS.

In this Act:

(1) ADMINISTRATOR.—The term "Administrator" means the Administrator of the Environmental Protection Agency.

(2) AFFECTED FACILITY.—The term "affected facility" means—

(A) a community water system that has operation and maintenance costs associated with the removal of PFAS from water of the community water system; or

(B) a treatment works that has operation and maintenance costs associated with the removal of PFAS from effluent prior to discharge from the treatment works.

(3) COMMUNITY WATER SYSTEM.—The term "community water system" has the meaning given that term in section 1401 of the Safe Drinking Water Act (42 U.S.C. 300f).

(4) DISADVANTAGED COMMUNITY.—The term "disadvantaged community" has the meaning given that term in section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j–12).

(5) MANUFACTURE.—The term "manufacture" has the meaning given that term in section 3 of the Toxic Substances Control Act (15 U.S.C. 2602).

(6) PFAS.—The term "PFAS" means a perfluoroalkyl or polyfluoroalkyl substance with at least one fully fluorinated carbon atom.

(7) TREATMENT WORKS.—The term "treatment works" has the meaning given that term in section 212 of the Federal Water Pollution Control Act (33 U.S.C. 1292).

SEC. 4. PFAS MANUFACTURER USER FEE.

(a) IN GENERAL.—The Administrator shall, by rule, establish fees for the manufacture of PFAS, which shall be assessed to each person manufacturing PFAS based on the amount of PFAS manufactured by the person.

(b) INITIAL FEE.—Not later than 12 months after the date of enactment of this Act, the Administrator shall establish fees under subsection (a) that are sufficient to ensure the collection of not less than $2,000,000,000 dollars per year.

(c) REVIEW AND UPDATE.—Not less frequently than every 2 years, the Administrator shall review the fees established under subsection (a) and update such fees as necessary to ensure that the fee collections are sufficient to cover at least 25 percent of the operation and maintenance costs associated with the removal of PFAS by affected facilities.

SEC. 5. PFAS TREATMENT TRUST FUND.

(a) ESTABLISHMENT.—There is established in the Treasury of the United States a trust fund to be known as the "PFAS Treatment Trust Fund", consisting of such amounts as may be appropriated to such Trust Fund.

(b) TRANSFER TO TRUST FUND OF AMOUNTS EQUIVALENT TO USER FEES.—There are hereby appropriated to the PFAS Treatment Trust Fund amounts equivalent to the fees collected under section 4.

(c) EXPENDITURES FROM TRUST FUND.—Amounts in the PFAS Treatment Trust Fund shall be available, without further appropriation, only for purposes of making expenditures to carry out section 6.

SEC. 6. SUPPORT FOR OPERATION AND MAINTENANCE OF COMMUNITY WATER SYSTEMS AND TREATMENT WORKS.

(a) GRANTS.—The Administrator shall make grants to affected facilities to pay for operation and maintenance costs associated with the removal of PFAS.

(b) APPLICATIONS.—

(1) GUIDANCE.—Not later than 12 months after the date of enactment of this Act, the Administrator shall publish guidance describing the form and timing for affected facilities to apply for grants under this section.

1 (2) REQUIRED INFORMATION.—The Adminis-
2 trator shall require an affected facility applying for
3 a grant under this section to submit information
4 showing the presence of PFAS in water at the facil-
5 ity.
6 (c) PRIORITY.—The Administrator shall prioritize for
7 funding grants to affected facilities serving disadvantaged
8 communities.

116TH CONGRESS
1ST SESSION

H. R. 2577

To amend the Emergency Planning and Community Right-To-Know Act of 1986 to include per- and polyfluoroalkyl substances on the Toxics Release Inventory, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 8, 2019

Mr. DELGADO introduced the following bill; which was referred to the Committee on _____

A BILL

To amend the Emergency Planning and Community Right-To-Know Act of 1986 to include per- and polyfluoroalkyl substances on the Toxics Release Inventory, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

SECTION 1. INCLUSION OF PER- AND POLYFLUOROALKYL SUBSTANCES ON THE TOXICS RELEASE INVENTORY.

Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (42 U.S.C. 11023) is amended—

(1) in subsection (b)(1)—

(A) by redesignating subparagraph (C) as subparagraph (D); and

(B) by inserting after subparagraph (B) the following:

"(C) Notwithstanding subparagraph (A), the requirements of this section shall apply to all owners and operators of facilities that—

"(i) are in—

"(I) Standard Industrial Classification Codes (as in effect on the date of enactment of this subparagraph) 20 through 39, 45, 99, or 4213; or

"(II) North American Industry Classification System Codes (as in effect on the date of enactment of this subparagraph) 484230 or 484121; and

"(ii) manufactured, processed, or otherwise used per- and polyfluoroalkyl substances listed under subsection (c) in excess of the quantity

established under subsection (f)(1)(C) during the calendar year for which a release form is required under this section.";

(2) in subsection (d), by adding at the end the following new paragraph:

"(5) PER- AND POLYFLUOROALKYL SUBSTANCES.—

"(A) ADDITION OF SUBSTANCES.—Not later than 30 days after the date of enactment of this paragraph, the Administrator shall add to the list described in subsection (c) all per- and polyfluoroalkyl substances on the list published under section 8(b) of the Toxic Substances Control Act.

"(B) INAPPLICABILITY OF CERTAIN PROVISIONS.—The requirements of paragraph (1) and (2) shall not apply with respect to an addition to the list described in subsection (c) that is carried out under subparagraph (A) of this paragraph.

"(C) NO DELETIONS.—Notwithstanding paragraph (1) or paragraph (3) of this subsection or subsection (e), the Administrator may not delete a substance described subpara-

graph (A) of this paragraph from the list described in subsection (c).''; and

(3) in subsection (f)(1)—

(A) in subparagraph (A), by inserting ''(other than a toxic chemical described in subparagraph (C))'' after ''to a toxic chemical'';

(B) in subparagraph (B), in the matter preceding clause (i), by inserting ''(other than a toxic chemical described in subparagraph (C))'' after ''to a toxic chemical''; and

(C) by adding at the end the following:

''(C) With respect to per- or polyfluoroalkyl substances manufactured, processed, or used at a facility, a total of 1,000 pounds of per- or polyfluoroalkyl substances per year.''.

116TH CONGRESS
1ST SESSION

H. R. 2591

To prohibit the waste incineration of per- and polyfluoroalkyl substances, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 8, 2019

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To prohibit the waste incineration of per- and polyfluoroalkyl substances, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "PFAS Waste Incineration Ban Act of 2019".

SEC. 2. PROHIBITION ON WASTE INCINERATION OF PFAS.

Section 3004 of the Solid Waste Disposal Act (42 U.S.C. 6924) is amended by adding at the end the following new subsection:

"(z) PFAS WASTES.—

"(1) FIREFIGHTING FOAM.—Not later than 6 months after the date of enactment of this subsection, the Administrator shall promulgate regulations prohibiting the disposal by incineration of firefighting foam containing PFAS, which prohibition shall take effect not later than 9 months after the date of enactment of this subsection.

"(2) OTHER PFAS WASTES.—

"(A) IDENTIFICATION AND PROHIBITION.—Not later than 12 months after the date of enactment of this subsection, the Administrator shall promulgate regulations—

"(i) identifying additional wastes containing PFAS for which a prohibition on incineration may be necessary to protect human health and the environment; and

"(ii) prohibiting the disposal by incineration of such identified wastes beginning not later than 18 months after the date of enactment of this subsection.

"(B) REVIEW AND REVISION.—The Administrator shall review and revise the list of wastes identified under this paragraph as needed, but not less frequently than every 4 years.

"(3) PENALTIES.—For purposes of section 3008(d), a waste subject to a prohibition under this subsection shall be considered a hazardous waste identified or listed under this subtitle.

"(4) DEFINITION.—In this subsection, the term 'PFAS' means a perfuoroalkyl or polyfluoroalkyl substance with at least 1 fully fluorinated carbon atom.".

.....

(Original Signature of Member)

116TH CONGRESS
1ST SESSION

H. R. 2596

To amend the Toxic Substances Control Act with respect to manufacturing and processing notices for per- and polyfluoroalkyl substances, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 8, 2019

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend the Toxic Substances Control Act with respect to manufacturing and processing notices for per- and polyfluoroalkyl substances, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. MANUFACTURING AND PROCESSING NOTICES FOR PER- AND POLYFLUOROALKYL SUBSTANCES.

Section 5 of the Toxic Substances Control Act (15 U.S.C. 2604) is amended—

(1) in subsection (h), by adding at the end the following:

"(7) This subsection does not apply to any chemical substance that is a perfluoroalkyl or polyfluoroalkyl substance.".

(2) by adding at the end the following:

"(j) PER- AND POLYFLUOROALKYL SUBSTANCES.—

"(1) DETERMINATION.—Any chemical substance that is a perfluoroalkyl or polyfluoroalkyl substance for which a notice is submitted under subsection (a) shall be deemed to have been determined by the Administrator to present an unreasonable risk of injury to health or the environment under paragraph (3)(A) of such subsection.

"(2) ORDER.—Notwithstanding subsection (a)(3)(A), for a chemical substance described in paragraph (1) of this subsection, the Administrator shall issue an order under subsection (f)(3) to prohibit the manufacture, processing, and distribution in commerce of such chemical substance.".

.....

(Original Signature of Member)

116TH CONGRESS
1ST SESSION

H. R. 2600

To regulate per- and polyfluoroalkyl substances under the Toxic Substances Control Act, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 8, 2019

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To regulate per- and polyfluoroalkyl substances under the Toxic Substances Control Act, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Toxic PFAS Control Act".

SEC. 2. REGULATION OF PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES.

(a) IN GENERAL.—Section 6 of the Toxic Substances Control Act (15 U.S.C. 2605) is amended by adding at the end the following:

"(k) PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES.—

"(1) PROHIBITIONS.—Except as provided in subsection (g)—

"(A) beginning on the date that is 6 months after the date of enactment of this subsection—

"(i) no person may manufacture any new chemical substance that is a perfluoroalkyl or polyfluoroalkyl substance; and

"(ii) no person may manufacture or process any chemical substance that is a perfluoroalkyl or polyfluoroalkyl substance for a use that is a significant new use with respect to which the Administrator has issued a final or proposed determination in accordance with section 5(a)(2);

"(B) beginning on the date that is 2 years after the date of enactment of this subsection, no person may manufacture any chemical sub-

stance that is a perfluoroalkyl or polyfluoroalkyl substance; and

"(C) beginning on the date that is 3 years after the date of enactment of this subsection, no person may process or distribute in commerce any chemical substance that is a perfluoroalkyl or polyfluoroalkyl substance.

"(2) REGULATION.—Notwithstanding subsections (a) through (d), not later than 6 months after the date of enactment of this subsection, the Administrator shall promulgate a rule that—

"(A) prescribes the manner or method of disposal of any chemical substance that is a perfluoroalkyl or polyfluoroalkyl substance, or of any article containing such a chemical substance, by a manufacturer or processor or by any other person who uses or disposes of such a chemical substance, and that—

"(i) does not require any person to take any action which would be in violation of any law or requirement of, or in effect for, a State or political subdivision; and

"(ii) requires each person subject to it to notify each State and political subdivi-

sion in which a required disposal may occur of such disposal;

"(B) requires that any such chemical substance, or article containing such a chemical substance, be marked with clear and adequate minimum warnings, and instructions with respect to its processing, use, distribution in commerce, or disposal or with respect to any combination of such activities, including requirements for the form and content of such warnings and instructions;

"(C) requires any person manufacturing or processing any amount of such a chemical substance to report such manufacture or processing pursuant to section 8, notwithstanding subsection (a)(1) of such section; and

"(D) requires any person manufacturing any such chemical substance—

"(i) to accept for disposal in accordance with subparagraph (A) any such chemical substance that has not been processed;

"(ii) to replace or repurchase such chemical substance as elected by the per-

son to whom the requirement is directed; and

"(iii) to give notice of the requirements of this subparagraph to the public, processors and distributors in commerce of such chemical substance and, to the extent reasonably ascertainable, to other persons in possession of such chemical substance or exposed to such chemical substance.".

(b) EXEMPTIONS.—Section 6(g) of the Toxic Substances Control Act (15 U.S.C. 2605(g)) is amended—

(1) in paragraph (1), in the matter preceding subparagraph (A), by inserting ", or a requirement of subsection (k)," after "subsection (a) rule"; and

(2) in paragraph (3), by adding at the end the following: "An exemption under this subsection from a requirement of subsection (k) may be for a period that is not longer than 1 year.".

.....

(Original Signature of Member)

116TH CONGRESS
1ST SESSION

H. R. 2605

To direct the Administrator of the Environmental Protection Agency to issue a final rule adding as a class all perfluoroalkyl and polyfluoroalkyl substances with at least one fully fluorinated carbon atom to the list of hazardous air pollutants under section 112(b) of the Clean Air Act (42 U.S.C. 7412(b)), and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 8, 2019

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To direct the Administrator of the Environmental Protection Agency to issue a final rule adding as a class all perfluoroalkyl and polyfluoroalkyl substances with at least one fully fluorinated carbon atom to the list of hazardous air pollutants under section 112(b) of the Clean Air Act (42 U.S.C. 7412(b)), and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE.

This Act may be cited as the "Prevent Release of Toxics Emissions, Contamination, and Transfer Act of 2019" or the "PROTECT Act of 2019".

SEC. 2. LISTING OF PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES AS HAZARDOUS AIR POLLUTANTS.

(a) LISTING.—Not later than 180 days after the date of enactment of this Act, the Administrator of the Environmental Protection Agency shall issue a final rule adding as a class all perfluoroalkyl and polyfluoroalkyl substances with at least one fully fluorinated carbon atom to the list of hazardous air pollutants under section 112(b) of the Clean Air Act (42 U.S.C. 7412(b)).

(b) SOURCES CATEGORIES.—Not later than 365 days after the final rule is issued pursuant to subsection (a), the Administrator of the Environmental Protection Agency shall revise the list under section 112(c)(1) of the Clean Air Act (42 U.S.C. 7412(c)(1)) to include categories and subcategories of major sources and area sources of perfluoroalkyl and polyfluoroalkyl substances listed pursuant to such final rule.

.....

(Original Signature of Member)

116TH CONGRESS
1ST SESSION

H. R. 2608

To require the testing of perfluoroalkyl and polyfluoroalkyl substances under the Toxic Substances Control Act, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 9, 2019

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To require the testing of perfluoroalkyl and polyfluoroalkyl substances under the Toxic Substances Control Act, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "PFAS Testing Act of 2019".

SEC. 2. TESTING OF PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES.

(a) TESTING REQUIREMENTS.—Section 4(a) of the Toxic Substances Control Act (15 U.S.C. 2603(a)) is amended by adding at the end the following:

"(5) PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES ORDER.—Notwithstanding paragraphs (1) through (4), not later than 60 days after the date of enactment of this paragraph, the Administrator shall, by order, require that comprehensive toxicity testing be conducted on all chemical substances that are perfluoroalkyl and polyfluoroalkyl substances.".

(b) PERSONS SUBJECT TO ORDER.—Section 4(b)(3) of the Toxic Substances Control Act (15 U.S.C. 2603(b)(3)) is amended—

(1) in subparagraph (A), by striking "subparagraph (B) or (C)" and inserting "subparagraph (B), (C), or (D)"; and

(2) by adding at the end the following:

"(D) An order under subsection (a)(5) shall require the development of information by any person who manufactures or processes, or intends to manufacture or process, a chemical substance that is a perfluoroalkyl or polyfluoroalkyl substance.".

(c) PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES.—Section 4 of the Toxic Substances Control Act (15 U.S.C. 2603) is amended by adding at the end the following:

"(i) PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES.—

"(1) TESTING REQUIREMENT ORDER.—

"(A) PROTOCOLS AND METHODOLOGIES.—In determining the protocols and methodologies to be included pursuant to subsection (b)(1) in an order under subsection (a)(5), the Administrator shall allow for protocols and methodologies that test chemical substances that are perfluoroalkyl and polyfluoroalkyl substances as a class.

"(B) PERIOD.—In determining the period to be included pursuant to subsection (b)(1) in an order under subsection (a)(5), the Administrator shall ensure that the period is as short as possible while allowing for completion of the required testing.

"(2) EXEMPTIONS.—Notwithstanding subsection (c)(2)(A), the Administrator may only make a determination under subsection (c)(2)(B) that submission of information on a chemical substance that

is a perfluoroalkyl or polyfluoroalkyl substance required by an order under subsection (a)(5) would be duplicative of information that has been submitted to the Administrator in accordance with such order, or which is being developed pursuant to such order, if the information concerns the chemical substance with the same specific chemical identity as the chemical substance for which the application for an exemption is submitted.''.

SEC. 3. REPORTING AND RETENTION OF INFORMATION.

Section 8(a) of the Toxic Substances Control Act (15 U.S.C. 2607(a)) is amended by adding at the end the following:

''(7) PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES.—

''(A) SUBMISSION OF INFORMATION.—Notwithstanding any other requirement of law, not later than 60 days after the date of enactment of this paragraph, each person who manufactures or processes a chemical substance that is a perfluoroalkyl or polyfluoroalkyl substance shall submit to the Administrator—

''(i) all records of significant adverse reactions to health or the environment al-

leged to have been caused by such chemical substances; and

"(ii) all health and safety studies related to such chemical substances of which the person is aware.

"(B) AVAILABILITY.—Not later than 4 months after the date of enactment of this paragraph, the Administrator shall make studies submitted under subparagraph (A)(ii) available to the public.".

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(Original Signature of Member)

116TH CONGRESS
1ST SESSION

H. R. 2626

To encourage Federal agencies to expeditiously enter into or amend cooperative agreements with States for removal and remedial actions to address PFAS contamination in drinking, surface, and ground water and land surface and subsurface strata, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 9, 2019

Mr. UPTON introduced the following bill; which was referred to the Committee on _____

A BILL

To encourage Federal agencies to expeditiously enter into or amend cooperative agreements with States for removal and remedial actions to address PFAS contamination in drinking, surface, and ground water and land surface and subsurface strata, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "PFAS Accountability Act of 2019".

SEC. 2. COOPERATIVE AGREEMENTS WITH STATES FOR REMOVAL AND REMEDIAL ACTIONS TO ADDRESS DRINKING, SURFACE, AND GROUND WATER AND SOIL CONTAMINATION FROM PFAS.

(a) DEFINITIONS.—In this section:

(1) FEDERAL FACILITY.—

(A) IN GENERAL.—The term "Federal facility" means a facility (as defined in section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601)) that is owned or operated by the Federal Government.

(B) INCLUSION.—The term "Federal facility" includes—

(i) a facility or site—

(I) owned by, leased to, or otherwise possessed by the United States; or

(II) under the jurisdiction of the Secretary of Defense;

(ii) a facility or site that, at the time of the actions leading to contamination or suspected contamination of drinking water, surface water, or groundwater or land sur-

face or subsurface strata from a perfluorinated compound, was—

(I) owned by, leased to, or otherwise possessed by the United States; or

(II) under the jurisdiction of the Secretary of Defense; and

(iii) land owned and operated by a State when the land is used for training the National Guard pursuant to chapter 5 of title 32, United States Code, with funds provided by the Secretary of Defense or the Secretary of a military department, even though that land is not under the jurisdiction of the Secretary of Defense.

(2) FULLY FLUORINATED CARBON ATOM.—The term "fully fluorinated carbon atom" means a carbon atom on which all the hydrogen substituents have been replaced by fluorine.

(3) PERFLUORINATED COMPOUND.—The term "perfluorinated compound" or means a perfluoroalkyl substance or a polyfluoroalkyl substance (or "PFAS") that is manmade with at least 1 fully fluorinated carbon atom.

(4) STATE.—The term "State" has the meaning given the term in section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601).

(b) COOPERATIVE AGREEMENT.—

(1) IN GENERAL.—On request by the Governor or chief executive of a State, a Federal department or agency shall work expeditiously to finalize a cooperative agreement for, or to amend an existing cooperative agreement to address, testing, monitoring, removal, and remedial actions to address contamination or suspected contamination of drinking water, surface water, or groundwater or land surface or subsurface strata from a perfluorinated compound originating from a Federal facility.

(2) MINIMUM STANDARDS.—A cooperative agreement finalized or amended under paragraph (1) shall require the area subject to the cooperative agreement to meet or exceed the most stringent of the following standards for perfluorinated compounds in any environmental media:

(A) An enforceable State standard, in effect in that State, for drinking water, surface water, or groundwater or land surface or subsurface strata, as required under section 121(d)

of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9621(d)).

(B) A health advisory under section 1412(b)(1)(F) of the Safe Drinking Water Act (42 U.S.C. 300g–1(b)(1)(F)).

(C) Any Federal standard, requirement, criterion, or limit, including a standard, requirement, criterion, or limit issued under—

(i) the Toxic Substances Control Act (15 U.S.C. 2601 et seq.);

(ii) the Safe Drinking Water Act (42 U.S.C. 300f et seq.);

(iii) the Clean Air Act (42 U.S.C. 7401 et seq.);

(iv) the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.);

(v) the Marine Protection, Research, and Sanctuaries Act of 1972 (commonly known as the "Ocean Dumping Act") (33 U.S.C. 1401 et seq.); or

(vi) the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.).

(3) OTHER AUTHORITY.—In addition to the requirements for a cooperative agreement under para-

graph (1), when otherwise authorized to expend funds for the purpose of addressing ground or surface water contaminated by a perfluorinated compound, the head of a Federal department or agency may, to expend those funds, enter into a grant agreement, cooperative agreement, or contract with—

(A) the local water authority with jurisdiction over the contamination site, including—

(i) a public water system (as defined in section 1401 of the Safe Drinking Water Act (42 U.S.C. 300f)); and

(ii) a publicly owned treatment works (as defined in section 212 of the Federal Water Pollution Control Act (33 U.S.C. 1292)); or

(B) a State, local, or Tribal government.

(c) NOTIFICATION REQUIREMENT.—

(1) DEFINITION OF APPROPRIATE CONGRESSIONAL COMMITTEES.—In this subsection, the term "appropriate congressional committees" means—

(A) the Committee on Environment and Public Works of the Senate;

(B) the Committee on Homeland Security and Governmental Affairs of the Senate;

(C) the Committee on Energy and Commerce of the House of Representatives; and

(D) the Committee on Oversight and Reform of the House of Representatives.

(2) REPORT.—

(A) IN GENERAL.—If a cooperative agreement is not finalized or amended under subsection (b) by the date that is 1 year after the date on which a request by the Governor or chief executive of a State was made, the President shall submit a report described in subparagraph (B) to—

(i) the appropriate congressional committees;

(ii) each Senator from the State affected by the perfluorinated compound contamination; and

(iii) each member of Congress that represents a district affected by the perfluorinated compound contamination.

(B) REPORT DESCRIBED.—The report referred to in subparagraph (A) shall include—

(i) a detailed explanation of why a cooperative agreement has not been finalized or amended, as applicable; and

(ii) a projected timeline for finalizing or amending a cooperative agreement, as applicable.

116TH CONGRESS
1ST SESSION

H. R. 2638

To direct the Administrator of the Environmental Protection Agency to issue guidance on minimizing the use of firefighting foam containing PFAS, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

May 9, 2019

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To direct the Administrator of the Environmental Protection Agency to issue guidance on minimizing the use of firefighting foam containing PFAS, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. GUIDANCE.

(a) IN GENERAL.—Not later than one year after the date of enactment of this Act, the Administrator of the Environmental Protection Agency shall issue guidance on minimizing the use of firefighting foam and other equipment containing any PFAS by firefighters, police officers,

1 paramedics, emergency medical technicians, and other
2 first responders, in order to minimize the risk to such fire-
3 fighters, police officers, paramedics, emergency medical
4 technicians, and other first responders, and the environ-
5 ment, without jeopardizing firefighting efforts.

6 (b) DEFINITION.—In this Act, the term "PFAS"
7 means a perfluoroalkyl or polyfluoroalkyl substance with
8 at least one fully fluorinated carbon atom.

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May 15, 2019

The Honorable Paul Tonko
Chairman
Environment and Climate Change Subcommittee
U.S. House of Representatives
Washington, D.C. 20515

The Honorable John Shimkus
Ranking Member
Environment and Climate Change Subcommittee
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Tonko and Ranking Member Shimkus:

The Association of Metropolitan Water Agencies (AMWA) appreciates the opportunity to submit comments for the record of today's hearing on "Legislative Proposals to Protect Americans at Risk of PFAS Contamination & Exposure." As an organization representing the nation's largest publicly owned drinking water systems, we commend the subcommittee for organizing this hearing to explore policies that could address per- and polyfluoroalkyl substances, or PFAS, that have been increasingly detected in our environment and our water supplies in recent years.

AMWA believes that federal policies targeting PFAS should mirror the approach that is followed for other emerging contaminants. Namely, polluters should be held responsible, quality research should be conducted, and any new regulations should be transparent and science-based.

As you know, PFAS are a class of man-made chemicals that were developed over the second half of the 20th century for use in a variety of industrial applications, from nonstick cookware to firefighting foam. While the chemicals' nonstick properties carried useful commercial value, the substances accumulate over time, do not degrade easily, and are highly soluble in water – allowing their presence to spread throughout the environment. Human exposure to PFAS may occur through a variety of ways, from the use of products containing PFAS to the consumption of food or water that has absorbed the substances. While the human health effects of PFAS exposure are still being studied, EPA's Science Advisory Board has classified PFOA as likely to be carcinogenic, and numerous animal studies have shown associated impacts to the liver, immune system, thyroid, and reproductive systems after exposure to various PFAS. However, we have little to no information on toxicity, particularly in relation to human toxicity, for the vast majority of the thousands of PFAS, and significant research is needed to fill in these gaps.

AMWA watched with interest in February when the Environmental Protection Agency released its PFAS Action Plan, which seeks to outline EPA's strategy for addressing these contaminants through existing statutory authorities. We were pleased to see components of the plan that committed to additional research, cleanup assistance, and a continuation of the regulatory process under the Safe Drinking Water Act (SDWA). While much work remains to be done, we view the Action Plan as a positive first step.

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As EPA works to implement its PFAS Action Plan, Congress must carry out oversight to ensure implementation of effective measures to reduce PFAS exposure and resulting human health implications. For example, EPA's PFAS Action Plan notes that the agency has initiated the regulatory development process for listing PFOA and PFOS – two of the most prominent PFAS – as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). AMWA strongly believes the entities that are responsible for releasing contaminants into the environment – and thus, into sources of drinking water – must also be held legally liable for costs incurred by communities and water systems in removing these contaminants to the point that any imminent and substantial human health threat is abated, and any applicable Maximum Contaminant Level Goal under SDWA is achieved. This is especially true for man-made contaminants like PFAS, which would not be present in the country's water supplies had a company not manufactured them and allowed them to enter the environment. CERCLA is a proven and effective mechanism for holding responsible those who have polluted drinking water supplies, so we favor action under that statute to ensure that the entities that introduced PFOA and PFOS into source waters ultimately pay the cost of cleanup – not the utility ratepayers of those affected communities.

Equally important to holding polluters accountable is the need to develop sound, reliable research that informs policymakers and the public about the precise human health risks associated with exposure to chemicals in the PFAS family, as well as what community water systems can do to remove them from water supplies. According to data presented at EPA's National Leadership Summit on PFAS in 2018, the PFAS family may encompass more than 3,000 man-made compounds, and the human health implications of exposure to many of them remain unknown. Moreover, most lab facilities lack the capability to even detect more than several dozen of these compounds, and conventional drinking water treatments like ozonation, biofiltration, and UV disinfection are ineffective at removing many PFAS from water supplies. Other treatments, like granular activated carbon or osmosis, may have greater success, but their cost is a significant obstacle for many communities. In sum, it is hard to formulate an appropriate public policy response without understanding the point at which a particular PFAS may pose a measurable human health risk, or whether a local community has the resources and ability to effectively respond.

EPA's PFAS Action Plan outlines a number of near-term and long-term actions the agency intends to take to address the gaps in our current understanding of PFAS' toxicity profile and treatment options. These include identifying the human health and ecological effects of exposure to various PFAS, the significant sources of human PFAS exposure, the costs and effectiveness of different methods for removing PFAS from drinking water and other parts of the environment, and steps EPA can take in support of stakeholders who need to independently use current research to protect the public from harmful exposure. AMWA supports each of these objectives, and because quality science requires a financial investment, the association urges Congress to provide EPA with the resources it needs to carry out the studies necessary to answer these questions. AMWA also supports legislation proposed in the Senate (S. 1251) that would broadly expand research into emerging drinking water contaminants by instituting an interagency working group and facilitating technical assistance to help states respond when a new unregulated contaminant is detected in their water supplies. Clearly, robust research must be a central component of any effective nationwide response to PFAS.

Finally, AMWA continues to support the detailed, science-based regulatory process that EPA is required to follow when developing a national primary drinking water regulation for any contaminant under SDWA, including for members of the PFAS family. The law requires EPA to regularly identify contaminants not currently subject to federal drinking water regulation and make a determination of whether they should be subject to new drinking water limits. PFOA and PFOS have been on EPA's Contaminant Candidate List for several years and were subject to monitoring by drinking water systems through the third Unregulated Contaminant Monitoring Rule. Important information about the prevalence of PFOA and PFOS in the nation's drinking water supplies was gathered during this time, and under SDWA the next step in the regulatory process is for EPA to make a "yes or no" determination of whether to propose a Maximum Contaminant Level (MCL) for PFOA and PFOS in drinking water. EPA's PFAS Action Plan committed the agency to taking this step before the end of the year.

To make a positive determination and move forward to develop an MCL, the EPA Administrator must conclude that the contaminant in question is prevalent in drinking water across the country at levels that may carry an adverse human health risk, and that an MCL would present a meaningful opportunity for the reduction of this risk. Moreover, an initial MCL proposed by EPA must be followed by a period of public review and comment, where stakeholders and other interested parties are afforded a chance to engage with the agency, review the underlying science, and make their own suggestions about the appropriateness of an MCL at a given level. Only after collecting and considering this feedback may the EPA promulgate a final MCL – one that the public can be confident is transparent and science-based.

AMWA recognizes that at times SDWA's regulatory process can appear to move slowly, and that it can be tempting to depart from the statute and simply direct EPA to issue a regulation for a particular contaminant. But it is also critically important to make sure, before a regulation is enacted, that the resulting investment that would be made by thousands of individual communities to comply with a new standard, would result in a measurable reduction of risk. In the case of the broad family of PFAS, it is not clear how a drinking water standard could presently meet this test, given the thousands of different compounds, limited information on effective detection and treatment strategies, and unknown human health impacts for many individual chemicals. A hasty formation of a PFAS MCL would run contrary to the consideration of sound and transparent science that is at the heart of the law's regulatory process.

AMWA believes that Congress should hold EPA accountable for meeting its self-imposed goal of issuing a regulatory determination for PFOA and PFOS by the end of the year, before embarking on a quest to legislate that decision for the agency. Departing from SDWA's defined regulatory process could ultimately lead to a regulation that is rushed, lacks transparency, and may not fulfill the objective of measurably improving human health outcomes. Such a regulation would be of questionable value, as it would likely lead to increased compliance costs for water systems across the country that are already struggling with water affordability challenges faced by many of their customers. Again, AMWA supports SDWA's transparent and science-based regulatory process, and believes that following that process will lead to the most trusted outcome for communities and the public.

AMWA appreciates the opportunity to provide these comments for the record of today's hearing. The emergence of PFAS in our environment has posed a vexing challenge for water utility managers, but we

strongly believe that holding polluters accountable, developing robust research and data, and considering science-based regulations represents the best way forward.

We thank you for holding this hearing today, and we look forward to continuing to work with you as this issue unfolds in the months ahead.

Sincerely,

Diane VanDe Hei
Chief Executive Officer

WESTFIELD
RESIDENTS
ADVOCATING
FOR
THEMSELVES

May 14, 2019

The Honorable Paul Tonko
Chairman, Subcommittee of Environment and Climate Change
2369 Rayburn House Office Building
Washington, DC 20515

The Honorable John Shimkus
Ranking Member, Subcommittee of Environment and Climate Change
2217 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Tonko, Ranking Member Shimkus, and Honorable Committee Members,

Thank you for holding this very important legislative hearing entitled, "Protecting Americans at Risk of PFAS Contamination & Exposure." Thank you also for this opportunity to provide comment on behalf of myself, my family, and Westfield Residents Advocating For Themselves.

Westfield, Massachusetts is a community positioned in the western portion of the state, at the southeastern foothills of the Berkshires. Our city is bisected roughly in half, North/South, by the Westfield River. Barnes Air National Guard Base is located in the North side of our City, atop the Barnes Aquifer, into which all four of our North side municipal wells tap. Presumably because of fire training exercises spanning decades, per- and polyfluoroalkyl substances (PFAS) have been detected in all four of these wells, and several private wells in the contamination plume area that spans roughly three miles from the air base to the river. In a 2018 letter to the Westfield City Council, researchers from Silent Spring Institute noted that, "PFOS levels in Well 7 were in the top 0.5% of all samples in public water supplies tested across the U.S." Those tests were performed *before* the EPA modified method 537 to account for branched chain isomers, so those PFOS levels, while in the top 0.5%, were dramatically less than they would have been if the same water sample were analyzed today.

As you can well imagine, legislation aimed at "Protecting Americans at Risk of PFAS Contamination & Exposure" is extremely important to us, as it is to every other person whose lives have been affected by these toxic, persistent, and pervasive chemicals. Essentially, we all need to: stop our exposure - from air, water, soils, biosolid use, and foods; clean up the contamination; stop PFAS use and discharges; create the legal framework required to hold accountable those responsible for PFAS contamination; and create the laboratory capacity and public health supports to assess the extent of PFAS contamination in our environment and bodies.

Affected Americans, at this point, still do not have access to accurate information about sources of PFAS in their communities, as it is not required to be reported. Without designating PFAS as hazardous substances or hazardous waste, we are left without a means to stop PFAS discharges to our environment and our bodies, and we are left with the victims of PFAS contamination and exposure bearing the cost for clean up as well as medical care, loss in property values, and lost time at work.

Eliminating PFAS exposure in air, from industrial emissions, product degradation, and inadequate PFAS incineration must be addressed. Due to the toxicity, mobility, and fate of these "forever chemicals", and the intimate and dynamic relationship between surface water, groundwater, and soil, along with eliminating discharges, we need PFAS contamination characterization in the surface waters, groundwaters, and soils of affected communities. Protection from PFAS exposure and contamination also requires informed consent and carefully managed use of PFAS containing products for consumers and particularly for fire fighters whose personal protective gear and equipment are loaded with PFAS.

It also bears mentioning that since many of the PFAS contamination sites are surrounding military bases, affected communities here and abroad need the help of the U.S. government to require the Department of Defense provide clean drinking water immediately and make every timely effort to restore the natural resources they have polluted.

While elimination and clean up are necessary at this very moment, neither can be completely and safely accomplished. Therefore, we all need research into safe, complete PFAS destruction, and into the toxicity and health effects that have resulted from decades of mismanagement and coverup.

Thank you for holding this legislative hearing and for accepting these comments into the record. Americans across the globe, contaminated without consent, are depending on our government to step up and do the right things to address our toxic PFAS problems.

Very sincerely,

Kristen L. Mello

Co-founder, WRAFT
Westfield Residents Advocating For Themselves
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May 12, 2019

The Honorable Paul Tonko
Chairman, Subcommittee of Environment and Climate Change
2369 Rayburn HOB
Washington, DC 20515

The Honorable John Shimkus
Ranking Member, Subcommittee of Environment and Climate Change
2217 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Tonko, Ranking Member Shimkus, and Honorable Committee Members,

As the Director of the Informed-Public Project (IPP) in Okinawa, Japan, which has been working on issues of environmental contamination related to the U.S. military bases in Okinawa, I write to inform you of the alarming situation regarding PFAS contamination in Okinawa, and I respectfully request immediate and proper action be taken to address this problem.

PFAS Contamination in Okinawa

Comprised of only 0.6% of Japan's total land area, Okinawa struggles with 70% of all US military bases in Japan concentrated on its small islands. US bases occupy 15% of the entire area of Okinawa's main island. This disproportionate concentration of US bases and their close proximity to local communities continue to adversely affect the people in various ways. The issue of PFAS contamination is one of the most serious and urgent matters that call for the full attention of the US Government.

In Okinawa, PFOS/PFOA have been detected around two major U.S. bases, Kadena Air Base (KAB) and Marine Corps Air Station Futenma (MCAS Futenma). According to the results of survey conducted by Okinawa Prefecture, it is highly likely that the both of these US bases have caused PFAS contamination. A local expert's analysis of the survey data has also indicated that PFAS contamination should have occurred within the bases and PFOS/PFOA then would have seeped into water sources outside the bases.

A series of investigations by Jon Mitchell (correspondent reporter for The Okinawa Times) using FOIA has discovered that KAB had conducted on-site surveys on PFOS contamination in 2014, 2016 and 2017 (at 2 "hold ponds" and 16 "foam holding

tanks"). It has also shown that the US Military had conducted surveys at MCAS Futenma in 2016 and that PFOS (27,000 ng/L) and PFOA (1,800 ng/L) were detected from samples of wastewater from a fire pit training site on the base.
All available survey data and analysis point to KAB and MCAS Futenma as the most likely sources of PFAS contamination in Okinawa.

Our Concern: PFOS/PFAS Affecting Sources of Drinking Water and Seeping into Agricultural Fields
We are very concerned that PFOS/PFOA have been detected in some sources of drinking water around KAB. For example, according to a recent report released published by the Okinawa Prefectural Enterprise Bureau (OPEB), the agency in charge of safeguarding drinking water, PFOS/PFOA (1,124 ng/L) were detected in the Dakujyaku river in March 2019. (See this site http://www.eb.pref.okinawa.jp/opeb/309/619). In response, OPEB has installed a carbon filtration system at the Chatan Water Treatment Plant as an effort to remove PFOS/PFOA from water coming from the sources around KAB. While continuing with its efforts to monitor water safety, the OPEB has seen costs near 1.5 million USD. Given the fact that effective measures to mitigate the problem had not been taken, OPEG must continually replace its filters while all the costs have to be shouldered by the local people, not by the US military or the Japanese government. Despite OPEB's efforts, however, the issue of PFAS contamination at the water sources around KAB remains unresolved.

According to data gathered in a subsequent survey conducted by Okinawa Prefecture around KAB in 2019, high concentrations of PFOS/PFOA were detected also from the natural springs and groundwater. From Yara Ubuga, natural spring in Kadena Town, 2,100 ng/L (PFOS/PFOA), was detected, which is the highest number of PFOS/PFOA since Okinawa Prefecture began survey off the bases. As in previous studies, the results also indicate it is highly likely that KAB caused the PFAS contamination.

It should be noted that the Chatan Water Treatment Plant provides drinking water via surrounding municipalities for US military bases: Camp Foster, Camp Smedley D. Butler, MCAS Futenma, Camp Kinser, Kadena Air Base, Camp Shields, Camp Lester, and Army POL Depos. In order to protect US citizens at risk of PFAS exposure and contamination, the Department of Defense should assume its responsibility for the PFAS issues in Okinawa. In light of the issue of PFAS contamination becoming public, KAB officials released a statement to its community on January 27, 2016 that downplayed the seriousness of the issue to public health. (See this site: https://www.kadena.af.mil/portals/40/documents/AFD-160124-001.pdf).

We are also gravely concerned that PFOS/PFOA have been detected in natural springs around MCAS Futenma where local community members have long used water from the springs, not as drinking water but for growing agricultural products and tending to domestic gardens. According to the report by the Environmental Preservation Division at the Department of Environmental Affairs of the Okinawa Prefectural Government, the department in charge of safeguarding water sources other than those for drinking water, PFOS/PFOA (2,000 ng/L) were detected in the Chunnagaa spring in the summer of 2018. (See this site https://www.pref.okinawa.jp/site/kankyo/hozen/mizu_tsuchi/water/documents/jfy2018s_report.pdf). Chunnagaa is not only a pristine natural spring, but also a cultural and historical site, which is designated as a National Important Cultural Property by the Japanese Government. Water from this spring, which is largely used for domestic gardening, poses a danger to the health and safety of people in local communities. While the Department of Environmental Affairs conducts surveys twice a year (summer and winter), the issue of PFAS contamination at MCAS Futenma remains unresolved.

Our Concern: US Military Evading Its Responsibility

Despite the available data, analysis, and evidence that points to the US bases as source of PFAS contamination, the US military has no actions to remedy this problem. Instead, in our view, the military has evaded its responsibility.

Between 2016 and 2018, the Okinawa Prefectural Enterprise Bureau convened four meetings with KAB and the Okinawa Defense Bureau (Japanese Government) with the aim of discussing issues of PFOS/PFOA related to KAB. During the meetings, however, KAB did not mention its on-site surveys in 2014, 2016 and 2017 (at 2 "hold ponds" and 16 "foam holding tanks") and their concerning results. In fact, at no point did the US Military inform the Prefectural Government or the people of Okinawa that the military had even conducted on-site surveys regarding PFAS contamination.

In 2016, the US Military, furthermore, declined the request of Okinawa Prefectural Government (Department of Environmental Affairs) for a meeting to discuss the issues of PFAS contamination related to MCAS Futenma. IPP's investigation reveals that the Marine Corps Installations Pacific have no interest in dealing with this issue: "Since PFOS is not a regulated substance in the US and Japan, therefore there is no point in responding to additional questions or holding a meeting for which there are no established standards nor regulations." The US Military's response is both outrageous and highly irresponsible. The reply, in fact, is contrary to DOD's formal recognition in 2009 that PFOS/PFOA are "Emerging Contaminants."

Moreover, the US Military has rejected the requests by the Government of Japan and Okinawa Prefectural Government to conduct surveys regarding PFOS/PFOA on the bases. The Department of Defense's report *Addressing Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)*, which was issued in March 2018 as an official response to the House Report 115-200, did not even include these test results from KAB and MCAS Futenma although it addressed test results from other US bases overseas.

Our struggle and Obstacles

The US Military has not been forthcoming with information on PFOS/PFOA on KAB and MCAS Futenma. It has not allowed the Okinawa Prefectural Government or the Japanese Government to carry out surveys on the bases. As a result, no comprehensive studies and no sufficient clean-up efforts of PFAS contamination have been carried out in Okinawa. No effective measure has been set up or implemented to safeguard the future of Okinawa and its residents. All the while, members of the communities, including members of US bases on Okinawa, are constantly exposed to the danger of PFAS.

IPP and residents of Okinawa have been struggling to change this situation. We have spent immeasurable time and energy attempting to address the issue of PFAS contamination and protect the environment and ourselves. Thus far, we have made little progress. The US military remains indifferent to our concerns. That the US and Japanese Governments conveniently interpret and implement the Status Forces Agreement (SOFA) between them has been and remains a major obstacle in our struggle.

We are also concerned that the February 2019 (delayed) action of the US Environmental Protection Agency (EPA) addressing PFAS contamination is insufficient. As most states within the United States find direction in the EPA's Health Advisories, the Okinawa Prefectural Government has also used EPA guidance and standards to evaluate the safety and quality of local water contaminated by PFOS/PFOA. We believe that more stringent safety standards and measures must be adopted.

Our Requests

It is imperative that proper action be taken in Okinawa and Japan and in the US. I thus wrote a letter of request to the Okinawa Prefectural Government, requesting them review their policies on the issues of PFAS contamination. I am now turning to the Environment and Climate Change Subcommittee and respectfully request the Subcommittee as follows:

1) Discuss and critically review the issue of PFAS contamination on the US military's bases overseas and affected local communities around the bases;

2) Hold the U.S. Military accountable for the issue of PFAS contamination in Okinawa by requiring the US Military to be more transparent with information and by collaborating with the Okinawa Prefectural Government to conduct surveys on the bases;

3) Recognize that US citizens are included in the affected communities contaminated by US Bases in Okinawa to protect Americans at risk of PFAS contamination and exposure;

4) Recognize that the SOFA violates the environment and human rights of the people of Okinawa.

5) Include issues of overseas bases in the legislation to address PFAS contamination issues.

Thank you for your time and attention to the issue of PFAS contamination in Okinawa.

Respectfully submitted,

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CHAMBER OF COMMERCE
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UNITED STATES OF AMERICA

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May 15, 2019

The Honorable Paul Tonko
Chairman
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U.S. House of Representatives
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The Honorable John Shimkus
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U.S. House of Representatives
Washington, D.C. 20510

Dear Chairman Tonko and Ranking Member Shimkus:

The U.S. Chamber of Commerce writes to you regarding the hearing, "Legislative Proposals to Protect Americans at Risk of PFAS Contamination & Exposure."

Per- and polyfluoroalkyl substances (PFAS) are a large and diverse class of chemicals with unique properties that have been used in a broad number of beneficial applications for years. Heightened attention to potential health effects of certain PFAS chemicals has understandably led to increased public concern and interest in new regulatory protections in this area.

The Chamber supports action to address these concerns, and is committed to proactively working with legislators, regulators, and all stakeholders to establish risk-based standards that protect human health and the environment. Collaboration and transparency are critical to any such efforts, and the government, industry, and the scientific community must work together to share knowledge and focus resources on the highest priorities based on actual risk, while utilizing existing regulatory processes to proactively address both current and future issues.

There are close to 5,000 PFAS class chemicals. The chemistries among these chemicals vary substantially and have different characteristics, profiles, and uses. Any federal action – legislative or regulatory – should be undertaken on an individual chemical basis, rather than as a class. Science should guide such decisions and neither legislation nor regulation should predetermine outcomes.

We also encourage the development of a consistent approach and clear timelines for assessing and regulating specific PFAS across all relevant federal agencies to ensure that government regulations, actions, and communications are consistent and coordinated for maximum effectiveness. Further, federal agencies should prioritize clear, science-based risk communication and regulatory transparency to ensure that the American public can better understand the actual risks associated with specific PFAS chemicals.

We look forward to working with you on this important matter.

Sincerely,

Neil L. Bradley

cc: Members of the House Subcommittee on Environment and Climate Change

May 14, 2019

The Honorable Paul Tonko
Chairman, Subcommittee on Environment and Climate Change
U.S. House of Representatives
Washington, DC 20515

The Honorable John Shimkus
Ranking Member, Subcommittee on Environment and Climate Change
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Tonko and Ranking Member Shimkus:

On behalf of the members of the American Chemistry Council, I am writing to provide input to the May 15th subcommittee hearing entitled, "Protecting Americans at risk of PFAS contamination and exposure." We request this letter be made part of the formal hearing record.

The American Chemistry Council (ACC) represents a diverse set of companies engaged in the business of chemistry. An innovative, $526 billion enterprise, our groundbreaking products are improving the world all around us by making it healthier, safer, more sustainable and more productive. The business of chemistry creates the building blocks for 96 percent of all manufactured goods. From life-saving medical devices to air bags and solar cells, from child safety seats to clean drinking water, chemistry is at the heart of our economy.

The chemical Industry supports a comprehensive approach to managing per- and polyfluoroalkyl substances (PFAS), including specific measures to prioritize, evaluate, regulate, innovate, advance best practices, and monitor PFAS. A comprehensive approach is needed to coordinate overall efforts and to focus resources on addressing immediate issues and areas of potential public concern.

It is important to recognize that most of the attention to date on PFAS has focused on a handful of substances that are no longer produced in the U.S., Europe or Japan. Additionally, significant regulations (including the Lautenberg Chemical Safety Act) are already in place for new and existing chemicals and specific actions have already been taken to help manage PFAS. These should be factored into any additional efforts to assess and regulate this broad class of chemistry. This includes EPA's recently announced PFAS Action Plan, which ACC supports, as well as other actions initiated by various federal agencies, states and the private sector.

Today's PFAS are essential to modern life and an important enabling technology. The strong fluorine-carbon bond allow PFAS to provide products with strength, durability, stability, and resilience. These properties are critical to the reliable and safe function of a broad range of products that are important for industry and consumers. PFAS play a vital role in everything from designing automobiles with lower emissions and improved safety, reliability and fuel-efficiency to manufacturing semiconductors, solar panels and high performance electronics. Multiple other industries depend on high-performance PFAS

including aerospace, alternative energy (solar), healthcare, building and construction, electronics, chemicals and pharmaceuticals, oil and gas, and outdoor apparel and equipment, just to name a few.

It is important to emphasize that PFAS are a diverse family of chemistry that includes a broad range of substances with different physical, chemical, and toxicological properties and uses. Hence, the hazard and risk profile of various PFAS are very different. It is neither scientifically-accurate nor appropriate to group all PFAS together or take a one-size fits all regulatory approach for this wide range of substances One-size-fits-all regulation of chemicals as a class is an approach that has been disfavored –if not outright rejected – repeatedly by U.S. agencies and other international regulatory bodies over the years. Consequences can range from deterring innovation to discouraging effective product design. It can also go as far as completely eliminating an entire chemistry that is an enabling technology for a broad array of essential products. Our industry supports examining alternatives to a one-size-fits-all class scheme for substances using a more deliberate approach that acknowledges the differences within the chemical family.

The scientific and safety data on specific PFAS substances should guide public policy. Effective chemical regulation, regardless of the substance, includes consideration of a substance's hazard characteristics, its use and actual levels of exposure to assess the potential risk of a particular chemical and determine the most appropriate risk management measures. These fundamental principles have unfortunately been lost in the current debate about PFAS chemistry.

Taking an overly-broad and non-scientific approach to PFAS will make it difficult to implement effective regulatory policies. It will also impact an extensive swath of the economy, including a broad range of industries and businesses, as well as and public entities like airports, hospitals, drinking water facilities, towns and municipalities. For these reasons, different PFAS require different regulatory approaches.

The federal government should implement a consistent, comprehensive approach for assessing and regulating specific PFAS utilizing existing regulatory frameworks with clear timelines. There is a robust regulatory system and established policies in place for managing chemicals in the U.S., including PFAS. The government should utilize these frameworks to ensure consistent, science-based regulatory approaches that also ensure transparency, broad stakeholder input and enforceable regulations. Clear timelines should be established to ensure policy decisions and regulatory outcomes are completed and implemented in a timely fashion. Bypassing or ignoring established regulatory authorities and procedures would also prevent policymakers from focusing resources on immediate issues and areas of potential public concern.

We urge Congress to consider these points as it deliberates policies and any potential legislation related to PFAS chemistry.

Sincerely,

Robert J. Simon
Vice President
Chemical Products & Technology

Wisconsin

The PFAS Community Campaign is a coalition of organizations based in Wisconsin working together to prevent exposures to PFAS via drinking water and other pathways. The Campaign is a project of Citizens for Safe Water Around Badger (CSWAB.org).

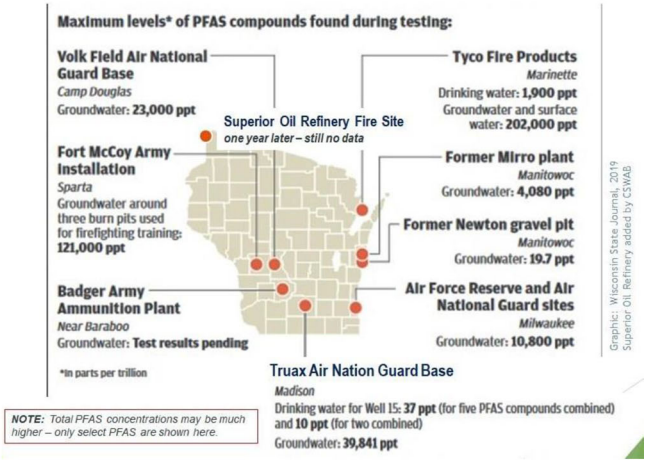
Community Partners:

Annie Appleseed Project
Casa Maria Catholic Worker – Milwaukee
Citizens for Safe Water Around Badger
Clean Water Action Council of Northeast Wisconsin
Code PFAS
Concerned Friends and Neighbors – Marinette WI
Crawford Stewardship Project
Family Farm Defenders
Fire Fighter Cancer Foundation
Friends of Lake Wingra
Green Wisdom School of Natural and Botanical Medicine – Women's Environmental Institute
Guahan Coalition for Peace & Justice
Madison Audubon Society
Midwest Environmental Advocates
Midwest Environmental Justice Organization
Mt. Sally Sanctuary, Inc.
Nukewatch
People Empowered (PEPL) Protect the Land of Rosendale
Physicians for Social Responsibility Wisconsin
Protect Wood County and Its Neighbors
Sustain Rural Wisconsin Network
Toxics Action Center
Wisconsin Environment
Wisconsin Environmental Health Network
Wisconsin League of Conservation Voters
Wisconsin Network for Peace, Justice, & Sustainability
Wisconsin Resources Protection Council

36

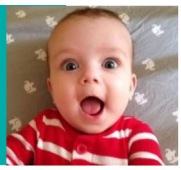
PFAS compounds have been found in or are considered to have a reasonable probability of entering the groundwater resources of the state. State health officials are working on health-based standards for all 36 compounds in groundwater – the primary source of drinking water for Wisconsin residents.

(Source: Wisconsin Dept. of Natural Resources, April 10, 2019)



PFAS Community Campaign – April 2019

Joint Position Statement Supporting **Regulation of PFAS as a Class**



Per- and polyfluoroalkyl substances (PFAS) are a large group of man-made toxic chemicals used to make consumer products resistant to water, grease or stains. Human health studies have shown that exposure to certain PFAS may affect growth, learning, and behavior of infants and older children, lower a woman's chance of getting pregnant, interfere with the body's natural hormones, increase cholesterol levels, affect the immune system, and increase the risk of cancer.[1]

The major types of human exposure sources for PFAS include contaminated drinking water and food contaminated with PFAS, including fish and shellfish. Other human exposure pathways include incidental soil/dust ingestion, dermal exposure and inhalation.

Approaching PFAS as a class for assessing exposure and biological impact is the best way to protect public health.[2] Assessing risks of chemicals having a similar mechanism of toxicity is not unusual and is similar to how other chemical groups such as dioxins and PCBs have been assessed and regulated.

A class approach is also consistent with environmental field data which consistently finds PFAS as a mixture of widely varying relative ratios and combinations which, in turn, may shift in response to other factors such as aerobic conditions. And further, a class approach is made necessary by the fact that manufacturers and responsible parties uniformly refuse to disclose PFAS product content and composition, arguing that such information is proprietary.

So far, 26 PFAS chemicals have been detected in or pose a threat to the Wisconsin's groundwater,[3] and as analytical methods for PFAS continue to evolve and improve, this number will quickly escalate.

For these reasons, we are unable to support regulations or corresponding legislation that address only a very few PFAS compounds and that address only one pathway of exposure such as groundwater.

ENDORSED by the following 28 Wisconsin organizations:

Casa Maria Community
Code PFAS
Citizens for Safe Water Around Badger
Clean Water Action Council of Northeast Wisconsin
Concerned Friends and Neighbors
Crawford Stewardship Project
Family Farm Defenders
Farms Not Factories
Fire Fighter Cancer Foundation
Friends of Lake Wingra*
Four Lakes Green Party
Headwater LLC
Midwest Environmental Advocates
Midwest Environmental Justice Organization
Nukewatch
PFAS Community Campaign
People Empowered Protect the Land (PEPL) of Rosendale*
Physicians for Social Responsibility Wisconsin
Protect Wood County and Its Neighbors*
Sierra Club – John Muir Chapter
Sustain Rural Wisconsin Network
Twin Ports Action Alliance
Wisconsin Conservation Voters
Wisconsin Environmental Health Network (WEHN)
Wisconsin Environment
Wisconsin Network for Peace, Justice & Sustainability
Wisconsin Resources Protection Council
Wisconsin Wildlife Federation

*Added after April 4, 2019

For more information, contact:
Laura Olah, Coordinator, PFAS Community Campaign – 608.643.3124 – info@cswab.org – www.CSWAB.org

[1] CDC/ATSDR to Assess PFAS Exposure in Communities Near U.S. Military Bases, Press Release, February 21, 2019.
[2] Dr. Birnbaum (Director of the National Institute of Environmental Health Sciences and National Toxicology Program of the National Institutes of Health) in testimony before the Senate Committee on Homeland Security and Governmental Affairs, Subcommittee on Federal Spending Oversight and Emergency Management, Sept. 26, 2018.
[3] S. Elmore, Wisconsin DNR, January 17, 2019 correspondence to Laura Olah, Executive Director, Citizens for Safe Water Around RE: Public Petition for Health Advisory Levels for PFAS in Groundwater and Drinking Water with Emphasis on the Tyco/Johnson Controls PFAS site - BRRTS Activity No. 02-38-580694.

Joint Position Statement

PFAS Treatment and Disposal Should Avoid Present and Future Toxic Effect

February 8, 2019

We seek to protect human health and the environment by calling for the immediate implementation of safer alternatives to incineration/combustion of PFAS products, wastes and contaminated media. Treatment and destruction technologies for PFAS must ensure that chemicals of concern or other harmful compounds, such as newly formed persistent organic pollutants or other hazardous substances, are not released to the environment. In destroying PFAS, the need/objective is irreversibly transforming chemicals in order to avoid any present and potential toxic effect. Collected PFAS product should remain STORED within each state until safe alternatives to incineration are in place and fully operational.

Where PFAS contamination is found or suspected to exist, testing and cleanup methods and remedies implemented should be fully protective of human and ecological health, prevent toxic emissions/releases, be readily and properly monitored, and provide permanent solutions. All PFAS wastes should have an authorized treatment plan acceptable to communities, tribes and indigenous peoples which excludes incineration and burial, for those both directly and indirectly impacted. Consistent with the public's right to know, PFAS products and wastes should be subject to manifest requirements similar to PCBs (as in 40 CFR 761.207).

Endorsed by the following Wisconsin-based organizations:

Citizens for Safe Water Around Badger (CSWAB)
Clean Water Action Council of Northeast Wisconsin
Midwest Environmental Justice Organization
Concerned Friends and Neighbors – Marinette WI
Fire Fighter Cancer Foundation
Sustain Rural Wisconsin Network
Farms Not Factories
Midwest Environmental Advocates
Physicians for Social Responsibility Wisconsin
Wisconsin Environmental Health Network (WEHN)
Wisconsin Resources Protection Council
Family Farm Defenders
Headwater, LLC
Casa Maria Community of Milwaukee

FOR MORE INFORMATION, contact:
Laura Olah | Executive Director
Citizens for Safe Water Around Badger | www.CSWAB.org
Coordinator | PFAS Community Campaign
E12629 Weigand's Bay South, Merrimac, WI 53561 | P: 608 643 3124 | info@cswab.org

A National PFAS Roadmap
Western Michigan University White Paper

Executive Summary

A Washington Post story on Jan. 2, 2019[1] entitled "Not a Problem You Can Run Away From: Communities Confront the threat of unregulated chemicals in their drinking water", focused on the discovery of PFAS in the drinking water in Parchment, Michigan, just 3 miles from the campus of Western Michigan University (WMU). This was not the first or most serious site in Michigan where PFAS has been found to contaminate the water supply. Michigan's early detection of at least 35 sites with 70 additional sites currently being tested provide a unique opportunity for applied research that will undoubtedly be important for other states and federal agencies in coming years.

Widespread contamination by per- and polyfluoroalkyl substances (PFAS), a diverse set of 3,000+ synthetic chemicals with at least one fully fluorinated carbon, is the most critical environmental contamination crisis in communities across the nation. The chemicals, found in firefighting foam, water-repellant clothing and footwear, non-stick pans and other household items, and used in many industrial processes is an emerging groundwater and human health threat.

Significant gaps in knowledge on detection, impact, spread and cleanup are frustrating communities and challenging regulators. This class of contaminants is toxic in parts per trillion concentration (lower than any other known contaminant), highly mobile in surface water and groundwater systems, resistant to degradation, and render most conventional remedial technologies ineffective. On February 14, 2019, the U.S. EPA (EPA) released the "PFAS Action Plan" as a first step toward setting a maximum contaminant level (MCL) in drinking that would be enforceable under the Safe Drinking Water Act. The plan also acknowledges that significant research is needed and identified multiple focal areas.

In this white paper, WMU proposes the development of a research consortium, The PFAS Analysis and Research Center (PAARC) with the express purpose of addressing many of the critical research areas using best science practices, state-of-the-art technology, and high impact dissemination of research findings and challenges.

[1] https://www.washingtonpost.com/national/health-science/not-a-problem-you-can-run-away-from-communities-confront-the-threat-of-unregulated-chemicals-in-their-drinking-water/2019/01/01/a9be8f72-dd4b-11e8-b732-3c72cbf131f2_story.html?utm_term=.9a6bd82bf384

The research focus would include:

1. Identifying and Quantifying PFAS compounds
   PFAS is a complex class of contaminants with an estimated 3,000+ compounds. The detection and quantification of these chemicals are restricted to a very small subset of compounds using accepted analytical methods. Only two PFAS compounds – PFOS and PFOA – have established advisory or enforceable levels. Many other PFAS compounds may be present in soil, groundwater and/or surface water across the nation.

2. Characterization of PFAS-containing Foams in Surface Waters
   Michigan is the only state with documented formation of foams on surface water near known PFAS contamination sites. Preliminary sampling has confirmed these foams hold much higher concentrations than found in the water itself. Visible and accessible PFAS-rich foams create significant public health concerns. Proper identification, containment and cleanup of these foams are critical.

3. Improved Technologies for PFAS Stabilization And Immobility Within Landfills
   The extent of PFAS contamination and risks to human health associated with PFAS in landfills and leachates are poorly understood. In Michigan alone, there are 78 active and 60 inactive permitted landfills and at least 1,650 un-permitted and legacy dump sites. Methods must be developed to stabilize, solidify or otherwise immobilize PFAS compounds in liquid wastes and biosolids so they can be safely landfilled. Preliminary experiments by the WMU research team show great promise in reducing water solubility of these materials.

4. Development of PFAS Fate and Transport Data
   One of the largest and most significant knowledge gaps and perhaps the most critical for identifying and quantifying exposure risks and pathways. The WMU research team has already developed a plan to generate the data for PAARC collaborators to quickly valuate exposure and extrapolate risks for human health at one of the largest contamination sites in Michigan.

5. Development and Utilization of Environmental Forensic Techniques
   Understanding past, current, and future PFAS releases to streams and waterways is vitally important to future remediation and cleanup. Wastewater treatment plants around the nation have unknowingly received PFAS laden waste and discharged this to waterways at the end of the treatment process. Plants have been known to uptake PFAS which can bioaccumulate in plant tissue. Coring of trees and testing plants located down gradient of waste water treatment plants provides a way to forensically reconstruct historical PFAS exposure.

6. Evaluation of Remediation Technology Efficacies
   Through predictive computer model simulations, laboratory and pilot-scale field projects, the research team can evaluate remediation techniques. This will ensure proven technologies are helping communities across the country respond to PFAS contamination.

These activities seamlessly align with the identified research in EPA's Action Plan. Through successful funding, critical research activities can rapidly commence. WMU will lead the establishment of a multi-disciplinary team of internal and external partners to fulfill the PAARC research mission. This multi-collaborative approach will accelerate high quality scientific investigations urgently needed for assessment and mitigation of human health exposure and risks associated with the legacy of PFAS use in a center located in the epicenter of this emerging contamination threat. WMU is uniquely qualified to develop this critical state and national recourse with multidisciplinary faculty innovation in aviation, environmental biology, chemistry, computational science, environmental engineering, geophysics, and hydrogeology; its applied scientific focus; existing collaborations with Michigan DEQ, MGREE geologic core laboratory, Michigan Geological Survey, and U.S. Geological Survey.

These assets, combined with collaboration of leading experts, will facilitate knowledge, tools and expedite remediation at PFAS contaminated sites across the country._WMU will work with state and federal agency partners, private testing labs, community stakeholders and experts from other institutions to build this important knowledge data base. Working together, we can swiftly and scientifically help communities impacted by the most significant emerging environmental crises in a generation.

Michigan's National Significance

There are currently 35 announced sites in Michigan with confirmed PFAS contamination in the soil, groundwater and/or surface water, and the list is rapidly growing with the advancement of the State testing program for PFAS. Approximately 70 more sites are under investigation by the Michigan Department of Quality (MDEQ) for suspected PFAS contamination. Many of the announced and suspected PFAS-contaminated sites are either municipal landfills or legacy dumps that received PFAS-laden waste generated by industrial processes and consumer products such as cosmetics, food containers and wrappers, non-stick cookware, and outdoor clothing as well as airports and military sites.

Michigan's early detection of PFAS sites provide a unique opportunity for applied research directed towards environmental fate and transport of PFAS that will undoubtedly be important for other states and federal agencies in coming years. These reasons include:

1. Michigan is one of the most industrialized states in the Nation, with a legacy of industries utilizing PFAS including auto manufacturing, metal plating and impregnation, carpet and fabric coating, leather tanneries, paper mill sludge, plus airports and military bases that have used aqueous film-forming foams for fire training and accidents;
2. Michigan has the most aggressive PFAS sampling plan in the nation that will test approximately 75% of the state citizen's drinking water, including private wells, and 100% of all drinking water to public schools;
3. The Michigan DEQ is investigating industrial processes utilizing PFAS to identify potential contaminated sites and mitigate risks to human health;
4. Michigan is the only state experiencing PFAS-concentrated foams in lakes and waterways, e.g., Huron River, Lake Huron and Van Etten Lake; and
5. The Clark's Marsh plume at the former Wurtsmith Air Force Base and the Wolverine Worldwide sludge dump rank among the most data-rich PFAS contaminated sites in the United States, yet the fate and transport and risks of exposure to human health remain to be determined for these sites.

The vision and leadership of a Michigan-based partnership will implement cutting edge research directed towards addressing critical knowledge gaps through intensive integration, synthesis, and interpretation of proactively generated data over a diverse set of PFAS contaminated sites throughout the state. Impacts of this research are intended to drive and improve the federal and state responses needed over the next decade.

Proposed Research Focus

This White Paper outlines needed research activities where Western Michigan University is uniquely qualified to assist public and private stakeholders and the communities impacted by PFAS contamination. Specific details for each of these research areas are identified below:

<u>Environmental Fate and Transport</u>

Of the many knowledge gaps with regards to PFAS, environmental fate and transport is perhaps the largest and most critical for assessing exposure and risks to human health. Environmental fate and transport is a very large umbrella category and includes: sampling and quantifying PFAS concentrations in surface water, ground water, soils and biota; characterization of local and regional subsurface geology and ground water flow systems; laboratory testing of PFAS retention mechanisms; development of site conceptual models of PFAS transport and mobility;

and development, calibration, and execution of cutting edge numerical models to estimate PFAS transport within the subsurface to derive mass loading rates to high exposure pathways such as municipal, community and private wells and surface waterways.

The WMU technical team has already developed a detailed plan using state-of-the-art equipment and techniques to generate the necessary data for external PAARC collaborators to valuate exposure and extrapolate risks to human health for the PFAS plume originating from the House Street sludge dump, located near Belmont, MI. This plume is arguably the highest profile site in Michigan in terms of potential exposure, total PFAS mass and near complete lack of understanding with regards to human health and risk. The other proposed research areas and facilities in the WMU PAARC will support this overarching research focal area.

Identifying and Quantification of PFAS Compounds

PFAS is a complex class of emerging contaminants with an estimated 3,000+ compounds. Of this total, the two most commonly accepted analytical standard methods, U.S. EPA method 537.1 and ASTM D7979-17, only provide concentrations for only 18 and 24 PFAS compounds, respectively. Furthermore, only two PFAS compounds – PFOS and PFOA – have established advisory and/or state-enforceable concentration levels. Many other PFAS compounds excluded from the 18 or 24 PFAS sampling suite (depending on analysis method), including many of the widely used GenX compounds (industrial replacements for PFOA and PFOS), may be present in soil, groundwater and/or surface water across the nation and pose significant health risks, yet remain undetected. At known contaminated sites, unknown PFAS compounds may include precusors and/or degradation products of known PFAS compounds. Better characterization of PFAS excluded from standard methods will provide critical insight into the potential for physical and chemical weathering at decadal scales, and perhaps evidence of microbially facilitate degradation.

The lack of information regarding PFAS compounds provides the need for state-of-the-art laboratory equipment for rapid identification, characterization, and quantification of a broader range of PFAS than currently available at the very few PFAS certified laboratories available in the nation.

Characterization of PFAS-containing foams in surface waters

Michigan is the only state with documented formation of foams on the top of the water surface near sites of known PFAS contamination. These foams result from the unique physical and chemical properties of PFAS and have been discovered on the water surface and at the water-land interface for rivers and streams, inland lakes, and in some of the Great Lakes. Preliminary sampling by MDEQ has confirmed that these foams concentrate PFAS to much higher concentrations than are found in the water body itself. Unlike dissolved PFAS, the PFAS-rich

foams are highly visible and accessible which draws public health concerns. The first step is to develop precise sampling methods specific to these foams, followed by analyses of the samples for PFAS identification and concentrations. The conditions that generate these foams must also be monitored so their formation can be predicted. Finally, remediation methods must be developed to skim or otherwise collect these PFAS-rich foams from the surfaces of Michigan waters.

Proper characterization, control and cleanup of these foams are critical. The research from these initial Michigan sites could directly impact public health if more foam formations appear in other communities.

PFAS stabilization and immobilization of wastes in Landfills

Some of the most significant PFAS contamination in Michigan is associated with landfill generated leachates. Many landfills in the state are no longer receiving certain PFAS-contaminated waste as a result, and certain generators of PFAS- contaminated wastes are experiencing critical storage problems. Specific examples include aqueous film-forming foams (AFFFs) used at airports and military bases for fire suppression, and PFAS-laden biosolids generated at wastewater treatment plants. Methods must be developed to stabilize, solidify, or otherwise immobilize (i.e., reduce the water solubility of) PFAS compounds in liquid AFFF wastes and in biosolids so that they can be safely landfilled. Such stabilization methods have been developed for other contaminants, but PFAS have unique chemical and physical properties requiring additional research. Some preliminary experiments have already been conducted by members of this research team on PFAS-contaminated biosolids and liquid AFFFs, and show great promise in reducing the water solubility of PFAS in these waste materials.

Environmental Forensics

PFAS has been used since the 1950s, yet is only recently recognized as an emerging contaminant. Previous contamination events to the nation's waterways are virtually unknown. For example, waste water treatment plants around the nation that have unknowingly received PFAS laden waste and discharged this waste to waterways at the end of the treatment process. Plants have been known to uptake PFAS which can bioaccumulate in plant tissue. Coring of trees located down gradient of waste water treatment plants provides a way to forensically reconstruct historical PFAS loading rates. Plants also serve as an additional, and not well characterized, accumulation reservoir and can be used as a non-invasive sampling method to sample for PFAS contamination within soil water accessible by plant roots. Numerical modeling can also be used to calculate the backward trajectories of known PFAS contaminant plumes. This is critical for identifying initial PFAS release regions which are often either unknown, due to the legacy of PFAS use or disperse source regions typically generated during training with PFAS fire suppression foams.

Facilities and Field Site Identification

State-of-the-Art PFAS Analytical Laboratory

To conduct the applied research outlined above, proper analytical equipment is critical. WMU already contains aqueous geochemistry laboratories and a high-resolution nuclear magnetic resonance spectrometer. The PAARC concept necessitates the establishment of a PFAS dedicated laboratory to serve as a key resource for internal and external investigators and promote collaboration with state and federal agencies and private laboratories. The key equipment acquisition for the laboratory is a Liquid Chromatograph (LC) and a high-resolution Linear Trap Quadrupole (LTQ) Orbitrap Velos mass spectrometer with tandem Mass Spectrometry (MS/MS). Liquid Chromatography coupled with tandem Mass Spectrometry (LC/MS/MS) is the analytical equipment required to quantify PFAS in samples of drinking water (EPA Method 537.1) and samples of water, sludge, influent, effluent and wastewater (ASTM Method D7979-17). The LC portion separates the individual PFAS compounds and the MS/MS portion quantifies the individual PFAS compounds thus separated. The LTQ capabilities of the proposed equipment will allow for significantly lower detection than both EPA Method 537.1 and ASTM Method D7979-17. Additionally, it will allow for Total Oxidized Precursor (TOP) and Time of Flight (TOF) assessments to identify the total mass and chemical structures of individual PFAS compounds present at contaminated sites, but not quantified by either the EPA and ASTM analytical methods.

This laboratory will serve as the cornerstone for the PAARC concept and will serve as the central analytical hub for all projects. Beyond the advantages listed above, current fees from laboratories can be approximately $500/sample with a turn-around-time (TAT) of 2 to 3 weeks. PFAS analytical capabilities would create an immediate TAT when results are critical and is likely to significantly reduce the cost per sample. The WMU analytical laboratory would provide faster, less expensive, and more precise test results. Faster responses can be vitally important when public health is in question.

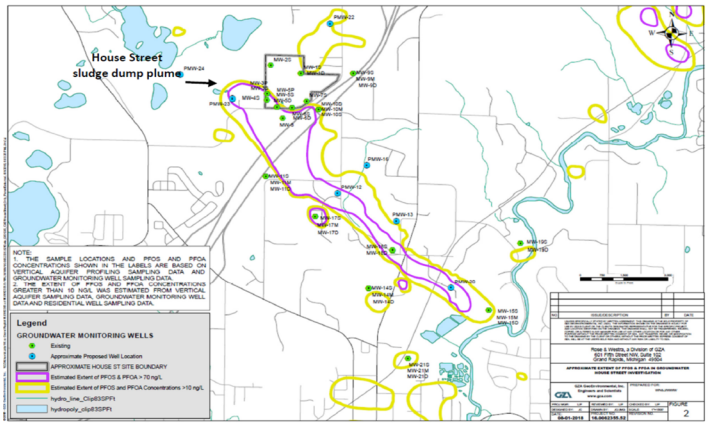
Supercomputing Facility

Numerical models, developed and supported with physical data collected from field sites, represent the best science for predicting past, current and future movement and potential exposure pathways for PFAS plumes. The computer simulations include the dominant physical mechanisms and processes controlling PFAS fate and transport in the environment and require large amounts of detailed site information. Additionally, the natural environment is highly variable and leads to uncertainty in the flow and transport predictions that can be addressed using probabilistic assessment frameworks that require running large number of models to better understand impacts of natural environmental variability. These factors result in

simulations that necessitate computational facilities beyond normal desktop computers due to computational, memory and storage demands. A supercomputing facility, comprised of either computational clusters at least 200 cores with high-speed connections for parallel simulations or a shared-memory supercomputer, is requested to run high-end numerical simulations and for post-processing subsurface geophysical data. The computational resources will be available to internal and external members of the PAARC.

Field Site – House Street Sludge Dump PFAS Plume

The field site identified for the majority of this research will be the House Street sludge dump in Belmont, MI. The sludge dump was a licensed and regulated 76-acre disposal facility located in a mixed rural and residential land use area that received tannery waste from the Wolverine Worldwide tannery from the mid-1960s until the 1970s. Remedial investigations over the dump site indicate total PFAS concentrations as high as 79,000,000 ppt in soil and borings and 280,000 ppt in ground water. Sampling of monitoring and private drinking water wells indicates the presence of a PFAS plume extending over 3 km from the dump that likely intersects the Rogue River. This is a very high profile site – perhaps the highest in the Nation – and the plume is very poorly characterized with little to no constraints or understanding of subsurface geology, total plume mass, plume geometry and historical PFAS concentrations, and most importantly, risks to human health exposure are completely unknown.



Delineated plumes in the Belmont and Rockford areas [Rose and Westra, 2018b]. The >3 km long House Street PFAS plume is in the center of the Figure (courtesy of GZA and MDEQ). The PFAS contamination associated with this site has affected many homeowners and resulted in, among other actions, the installation of a large number of in-home filtration systems. Groundwater analysis indicates the presence of volatile and semi-volatile organic compounds and inorganic compounds but are below regulatory limits except for a few instances in the source release area [Rose and Westra, 2018a,b].

Budget Summary

To execute the work described in this White Paper will require a diverse set of scientific expertise. Through successful funding, Western Michigan University will lead the establishment of a multi-disciplinary team of internal and external partners to fulfill the research mission. This multi-collaborative approach will accelerate high the assessment and mitigation of human health exposure and risks associated with the legacy of PFAS. WMU expertise, combined with collaboration of leading experts from state and federal agencies, private testing labs, community stakeholders and researchers at other institutions, will facilitate and expedite remediation at PFAS contaminated sites across the country.

The equipment identified in the budget justification includes analytical spectroscopic instruments that will aid in the detection of PFAS at low concentrations and identify molecular structures. Funding would support the faculty as well as three postdoctoral fellows. The plan would also support three graduate students. By specifically engaging graduate students, they can develop their expertise so they can continue to perform such tasks long into their careers in this important and emerging field.

Working together, we can swiftly and scientifically help communities impacted by the most significant emerging environmental crises in a generation.