PERFLUORINATED CHEMICALS IN THE ENVIRONMENT: AN UPDATE ON THE RESPONSE TO CONTAMINATION AND CHALLENGES PRESENTED

HEARING

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OF THE

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HOUSE OF REPRESENTATIVES

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[1] The information can be found at: https://docs.house.gov/meetings/IF/IF18/20180906/108649/HHRG-115-IF18-20180906-SD027.pdf.

PERFLUORINATED CHEMICALS IN THE ENVIRONMENT: AN UPDATE ON THE RESPONSE TO CONTAMINATION AND CHALLENGES PRESENTED

THURSDAY, SEPTEMBER 6, 2018

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

The subcommittee met, pursuant to call, at 10:00 a.m., in room 2123 Rayburn House Office Building, Hon. John Shimkus (chairman of the subcommittee) presiding.

Members present: Representatives Shimkus, Upton, McKinley, Olson, Johnson, Flores, Hudson, Walberg, Carter, Duncan, Walden (ex officio), Sarbanes, Welch, Tonko, Ruiz, Peters, Green, McNerney, Cárdenas, Dingell, and Pallone (ex officio).

Staff present: Samantha Bopp, Staff Assistant; Daniel Butler, Legislative Clerk, Health; Karen Christian, General Counsel; Kelly Collins, Legislative Clerk, Energy/Environment; Margaret Tucker Fogarty, Staff Assistant; Ali Fulling, Legislative Clerk, Oversight & Investigations, Digital Commerce and Consumer Protection; Drew McDowell, Executive Assistant; Brannon Rains, Staff Assistant; Mark Ratner, Policy Coordinator; Annelise Rickert, Counsel, Energy; Peter Spencer, Senior Professional Staff Member, Energy; Madeline Vey, Policy Coordinator, Digital Commerce and Consumer Protection; Elizabeth Ertel, Minority Office Manager; Jourdan Lewis, Minority Staff Assistant; John Marshall, Minority Policy Coordinator; Tim Robinson, Minority Chief Counsel; and Tuley Wright, Minority Energy and Environment Policy Advisor.

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

Mr. SHIMKUS. If I can ask all our guests today to please take their seats. The Subcommittee on Environment will now come to order. The chair recognizes himself for 5 minutes for an opening statement. All right, let's quiet down.

Good morning. Today's hearing focuses on a class of emerging environmental contaminants that are highly fluorinated chemicals. Technically known as perfluorinated polyfluoroalkyl substances, they are more commonly referred to by their acronym, PFAS.

PFAS is a group of man-made chemicals numbering in the thousands that have been manufactured and used in a variety of industries around the globe. These chemicals have been used to make

coatings and products that are widely used by consumers due to their oil and water repellent characteristics.

Items containing PFAS include food packaging like pizza boxes and microwave popcorn bags and in non-stick products like Teflon as well as polishes, waxes, paints, and cleaning products. The chemicals also serve to make components of firefighting foams and mist suppressants from metal plating operations. The military uses them in foam to extinguish explosive oil and fuel fires.

PFAS are considered emerging contaminants because today's advanced analytical technology is increasingly detecting their presence in the environment and there isn't a great deal of toxicology data on many of these substances, meaning that we don't know enough to say how risky each PFAS chemical is or what the exact impact of exposure to these substances will be for each person.

In truth, while we are only on the front end of the understanding how they move in the environment or their effect on the environment and public health, what we do know is that because of their unique properties and vast usage, most people have come into contact with at least one PFAS. In addition, studies on a few PFAS chemicals suggest those chemicals might cause health problems for humans. And, these PFAS chemical appear to be very persistent in the environment and in the human body, meaning they don't break down.

In the past few years, public anxiety about PFAS detection and uncertainty about what to do about it has grown. News reports have highlighted several communities, near military bases or facilities making PFAS, have discovered these chemicals in their drinking water.

This hearing is about starting the dialogue on PFAS. It means taking stock of what the government knows about PFAS, what efforts to contain its contamination have promise, and what is preventing people from being helped with cleanup or avoid contamination of their air, soil, and water. It is time to figure out what can be done right now and what needs to be done to respond appropriately to legitimate risks created by PFAS contamination in the environment.

I understand that in 2016 EPA established health advisories for certain PFAS chemicals to provide drinking water system operators and state, tribal, and local officials with information on health risks of these chemicals. In addition, in May of this year, EPA kicked off a national PFAS effort. We welcome back the committee, Dr. Grevatt, the unofficial EPA PFAS czar who will walk us through EPA's ongoing as well as future plans for addressing PFAS.

We also will hear from the Department of Defense because the various branches of the military have often used these chemicals for fire suppression and now many military installations are faced with significant issues concerning PFAS contamination. We welcome Mr. Niemeyer, the Department Assistant Secretary of Energy, Installations, and Environment—that is not right—Ms. Sullivan, who will talk us through what DOD is doing to tackle this issue.

For the critical state perspective, which represents the front lines for addressing the issue, we will hear from our friends in the state

drinking water and solid waste agencies. We welcome back Ms. Daniels who is here on behalf of the Association of State Drinking Water Administrators, and Mr. Sandeep who is here on behalf of the Association of State and Territorial Solid Waste Management Officials.

Without stealing from my colleagues from Michigan and their thunder, I also want to welcome Ms. Isaacs from the Governor's Office in Lansing. She is the official Michigan PFAS czarina and it will be good to understand her State's work in this area.

And with that I would like to yield to Mr. Hudson for the remaining of my time.

[The prepared statement of Mr. Shimkus follows:]

PREPARED STATEMENT OF HON. JOHN SHIMKUS

The Subcommittee will now come to order and I will recognize myself for 5 minutes for the purpose of offering an opening statement.

Good morning.

Today's hearing focuses on a class of emerging environmental contaminants that are highly fluorinated chemicals. Technically known as perfluoroalkyl and polyfluoroalkyl substances—they are more commonly referred to by their acronym: PFAS. Many of us are familiar with these substances because of the work of our colleagues, Mr. Tonko, Mr. Upton, and Mr. Hudson, in their districts and states.

PFAS is a group of man-made chemicals, numbering in the thousands, that have been manufactured and used in a variety of industries around the globe. These chemicals have been used to make coatings and products that are widely used by consumers due to their oil and water repellent characteristics. Items containing PFAS include food packaging like pizza boxes and microwave popcorn bags, and in nonstick products like Teflon, as well as polishes, waxes, paints, and cleaning products. The chemicals also serve to make components of fire-fighting foams and mist suppressants for metal plating operations. The military used them in foam to extinguish explosive oil and fuel fires.

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In addition, studies on a few PFAS chemicals suggest those chemicals might cause health problems for humans. And, these PFAS chemicals appear to be very persistent in the environment and in the human body—meaning they don't break down.

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We will also hear from the Department of Defense because the various branches of the military have often used these chemicals for fire suppression and now many military installations are faced with significant issues concerning PFAS contamination. We welcome Ms. Maureen Sullivan, the Department's Deputy Assistant Sec-

retary for Environment who will walk us through what DoD is doing to tackle this issue.

For the critical state perspective, which represents the front lines for addressing the issue we will hear from our friends in the State drinking water and solid waste agencies. We welcome back Ms. Daniels who is here on behalf of the Association of State Drinking Water Administrators and Mr. Sandeep who is here on behalf of the Association of State and Territorial Solid Waste Management Officials.

Without stealing my colleagues from Michigan's thunder, I also want to welcome Ms. Issacs from Governor's Office in Lansing. She is the official Michigan PFAS Czarina and it will be good to understand her State's work in this area.

Last, but not least, we welcome back Mr. Olson from NRDC and extend a new welcome to Ms. Donovan from Clean Cape Fear who will, respectively, provide the perspective of national environmental advocates and a local community affected by contamination from PFAS chemicals known as GenX. Members of this committee should be familiar with EPA's work on this PFAS compound because of our work by Mr. Hudson.

I hope that this hearing will result in a productive dialogue that will allow the Subcommittee to better understand the challenges presented by these chemicals; the roles of Federal, State, and local officials and programs—like the Drinking Water State Revolving Loan Fund that we renewed on voice vote; and what the current response is and what may need to be done to improve what we are doing across the country.

Before closing, I want to acknowledge that my Democrat colleagues are seeking a hearing on implementation of reforms to title I of the Toxic Substances Control Act. While we could have foreseen that the new law would be litigated, we could not have expected the acrimony that has occurred so quickly about these provisions. Moreover, many of us were told to expect implementation of this law to go one way, only to see it play out quite the opposite. While our staff has been receiving briefings every few months, the uncertainty surrounding a political head in the chemicals' office has complicated a having a hearing. I promise my colleagues that I will see what can be done with the time available to us to look at this subject.

I now yield to my colleague from New York, our subcommittee Ranking Member, Mr. Tonko.

Mr. HUDSON. Thank you, Chairman Shimkus and Ranking Member Tonko. I appreciate you holding this hearing today on PFOS and PFAS chemicals. This issue remains a top priority for me and I am looking forward to hearing from our witnesses today.

I want to thank the EPA for agreeing to testify so we can continue to learn more about these chemicals. The EPA recently accepted an invitation to hold its third community engagement summit in my district. Dr. Grevatt, I look forward to hearing from you and what you have learned at that summit as well as discussing what plans EPA has to release a public health advisory specifically for GenX.

I also want to thank Emily Donovan, a former North Carolinian, who will be testifying on our second panel. Too often we are focused on the technical sides of these issues and forget at the end of the day we are talking about real people. So I look forward to Emily's testimony that will put a human face on this issue, Mr. Chairman.

And with that I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The chair recognizes the gentleman from New York, my good friend Mr. Tonko, for 5 minutes.

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

Mr. TONKO. Thank you, Mr. Chair, and welcome to our guests, including the czars and czarina. So, it is awesome to have you here.

Seventy parts per trillion, per trillion—it is hard to even fathom that amount—drops in an Olympic-sized swimming pool, but that is the health advisory level established by EPA for lifetime exposure to PFOA and PFOS in drinking water. When we discuss other serious drinking water contaminants we often deal in parts per billion. Lead and perchlorate and other dangerous contaminants are considered on a scale order of magnitude larger than PFOA. That gives you a sense of how toxic this class of chemicals is.

After a number of high profile incidents in 2016, EPA significantly lowered its health advisory level from 400 parts per trillion to 70. Since then, we have seen some States set standards lower than 70 parts per trillion, and the press has reported what appears to be political interference that sought to delay a CDC toxicity study which suggests that these substances are dangerous at even lower levels than previously stated by EPA.

Clearly, we have issues with risk communication. So I understand the frustration felt by individuals and communities that do not know who to trust. Perfluorinated substances, collectively known as PFAS, have been linked to cancer, to thyroid disease, and other serious health problems. These compounds such as PFOA, PFOS, and GenX have been used for industrial purposes including cookware, food packaging, and firefighting foam.

We know PFAS are toxic, bioaccumulative, and stick around in the environment for years to come. We know almost all Americans have had some PFAS exposure and we know drinking water contaminations are being found in communities across our country. Research from Environmental Working Group estimated PFAS contamination in the water supplies of 15 million Americans. Due to how these chemicals are monitored the number is likely underestimated.

Under the EPA's Unregulated Contaminant Monitoring Rule, or UCMR, from 2013 to 2016, all U.S. public water systems serving 10,000 or more customers tested their supplies for PFOA, PFOS, and other similar compounds, but as it is UCMR is not adequate. It only covered six PFAS out of thousands within this chemical class that have been found in products or the environment.

About 50 million Americans are served by water systems that were not required to test for these PFAS at all, and 15 percent of Americans rely on private wells which are not covered by any EPA drinking water standards or testing requirements. Communities nearby my district are dealing with the consequences of contamination. Hoosick Falls, New York, in Upstate New York, only discovered they had a problem after a private citizen tested his water.

I want to stress that communities like Hoosick Falls and Newburgh in Upstate New York and the dozens and dozens of others are not unique and the elevated rates of cancer and unusual diseases are surely not a coincidence. It should not and cannot fall upon every private citizen to test the water only after a loved one passes away from kidney cancer. This is why we have national protective standards that require monitoring and treatment for dangerous common contaminants. We need EPA action on an enforceable standard, but without such action this committee has made efforts to ensure more widespread monitoring of PFOA and PFOS.

In the Drinking Water System Improvement Act passed by the committee last year, we would require water systems serving more than 3,300 people to test for unregulated contaminants, a vast improvement over that 10,000. Unfortunately, this does not help people served by the smallest systems or private well, but it is a start.

Mr. Chair, we should continue to look into additional ways to improve testing and monitoring. Today is a great opportunity for us to learn what EPA and state governments are doing to address the growing course of concerns from scientists and private citizens about the risks posed by PFAS. I hope we will hear that EPA is exploring all regulatory options available and plans to act expediently. But even on the most aggressive timeline, regulatory action will likely take years, so we must consider what can be done right now to identify contaminations, prevent exposure, and expedite cleanups.

We are also joined today by the Department of Defense. For decades, aqueous film-forming foam, a firefighting foam that contains PFAS, has been used by DOD and commercial airports. In communities where PFAS are not manufactured, ground water contamination has often been traced to a nearby DOD installation where these firefighting foams have been used. Communities near these bases and industrial facilities did not sign up for this risk and deserve, deserve clean water.

DOD must step up and make it right. We know the cost of remediation can be expensive and the health consequences of exposure can indeed be fatal. Ultimately, we must hold polluters accountable to clean up and make the communities and families that have suffered from this pollution whole again. And yes that standard must apply to our United States Department of Defense.

Mr. Chair, I am grateful that you have called this hearing today. I expect we will learn a lot about the options of EPA, DOD, states, and communities to protect people from these dangerous contaminants. But a hearing is not enough. I firmly believe there is a need for legislation to ensure that adequate testing, monitoring, remediation, and protection is occurring, and this can best be guaranteed if Congress requires EPA to take the steps necessary to make a determination on a maximum contaminant level in addition to other potential protective actions.

I believe there are legislative proposals that would have bipartisan support and I hope we can continue to look into this issue based on today's conversations. With that Mr. Chair, I yield back.

Mr. SHIMKUS. The gentleman yields back his time. We can tell by the length of the statement that Jackie has returned, so welcome back.

Mr. WALDEN. Swing and a hit.

Mr. SHIMKUS. The chair now recognizes the chairman of the full committee, Chairman Walden, for 5 minutes.

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

Mr. WALDEN. Thank you, Mr. Chairman. I appreciate you holding this hearing. It is really, really important work and I know many of our colleagues on the dais—Mr. Hudson, Mrs. Dingell, Mr. Upton and others—have been very involved in this.

On my way back to Washington at the end of last week, I went at Mr. Upton's request to Michigan to learn more firsthand from him about this horrible situation in his district and state. And I think it is really important we got right on this hearing. I appreciate everybody's input.

We are going to do three things here today. First is we need to increase our understanding of what the government knows or doesn't and establish what the public should know about the risks, how confident they should be in that information, and the best ways to prevent unhealthy exposure to these chemicals.

Second, we need to explore what can be done right now to address contamination by these substances based on what we do know starting with the practical steps that may be taken to reduce risk from contamination. And third purpose of the hearing, it should help develop an outline for a more sustained strategy to fill important information gaps, identify any longer terms challenges, and set realistic expectations for results based on science and risk-informed decision making.

And that is why we have our witnesses today who can help us in this effort. I want to thank Chairman Shimkus for assembling these two very good panels of witnesses. They have important knowledge not only on the complicated nature of PFAS contaminated sites and the state of the science on these contaminates, but also on policy.

I know EPA announced a more comprehensive PFAS plan this past May and have been traveling the country to hear from people impacted by PFAS contamination. And we look forward to hearing what EPA ranks PFAS exposure in terms of other environmental and public threats that are facing us and how the Federal Government plans to try to tackle the issues associated with PFAS chemicals including around Defense Department sites.

And we look forward to learning about the technical and economic barriers that states and communities face in dealing with this contamination. We have seen these sorts of things before in America. We know how difficult they can be and deadly they can be in various examples in the past including at Department of Defense sites. I think of Hanford in my region and the waste that is there from World War II we are still trying to clean up, and other things that have occurred around the country.

So I appreciate our panel being here. I appreciate this hearing. I am going to yield the balance of my time to the former chairman of this committee, nobody who has worked harder on this issue—got on it right away with Governor Snyder—than Fred Upton. So, Mr. Upton, I would yield the balance of my time to you.

[The prepared statement of Mr. Walden follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

Thank you for yielding to me, Mr. Chairman. I will be brief.

Today, the Environment Subcommittee is holding a hearing on a class of certain man-made organic chemicals—what are known as per-fluorinated chemicals—that are found in many common household items such as food packaging, non-stick cookware, clothing, shoes, furniture, and carpets.

I know these chemicals are a topic on the minds of many Americans. I was recently in Michigan with Mr. Upton and understand the concerns of many there where these chemicals are so pervasive, toxicity information for numerous PFAS is

illusive, and people are rightly confused and scared. I understand, from Mr. Hudson, that a similar situation exists in his state and I appreciate his efforts to help North Carolinians.

The goal of this hearing is three-fold.

First: the hearing should help increase our understanding about what the government knows—or doesn't—and establish what the public should know about the risks, how confident they should be in that information, and the best ways to prevent unhealthy exposures to these chemicals;

Second: it should explore what can be done right now to address contamination by these substances based on what we know, starting with the practical steps that may be taken to reduce risks from contamination; and

Third, it should help develop an outline for a more sustained strategy to fill important information gaps, identifying any longer-term challenges, and setting realistic expectations for results based on a science and risk-informed decision-making.

I would like to thank Chairman Shimkus for assembling these two informative panels of witnesses. They have important knowledge on not only the complicated nature of PFAS contaminated sites and the state of the science on these contaminants, but also on the policy.

I know EPA announced a more comprehensive PFAS plan this past May and has been traveling the country to hear from people impacted by PFAS contamination. We look forward to hearing where EPA ranks PFAS exposure in terms of the other environmental and public threats it is facing, how the federal government plans to try to tackle the issues associated with these PFAS chemicals, including around Defense Department sites, and to learning about the technical and economic barriers that states and communities face in dealing with this contamination.

I want to thank our witnesses for agreeing to be with us today. We welcome your insights on both the science and the policy of this complicated issue. I look forward to our testimony and learning from your experience and persepectives.

Thank you again Mr. Chairman for this time. I yield back the remainder of my time.

Mr. UPTON. Well, thank you, Mr. Chairman. And I want to particularly thank you too, Mr. Chairman Shimkus, not only for this hearing this morning, but also for your great work in the last Congress to pass TSCA legislation, something that passed this committee when I was chairman, on a unanimous vote thanks to your leadership, and really provided the EPA the authority to begin to look at all these somewhat unregulated chemicals for the first time in 40 years. And had that not happened we probably wouldn't be here today. So that work really paid off.

Let me just share with you a couple things at what happened when I went back to Michigan beginning the August break. I literally was just off the plane on my way home when I got a call from my state senator, Margaret O'Brien, and she said, Fred, I have really bad news. We just got the results from a small city in my district, Parchment, and they are 20 times the standard for PFAS and we are assembling a meeting yet tonight, we want you to come.

And so I went to the other end of my district, it was not a problem, and we spent about 5 or 6 hours there that night. We had a conference call with the state with every player of any importance to figure out what we should do. And we praised the media, because this particular town doesn't have the system on their cells even though earlier in the week here in Washington we got a weather alert that everyone's cell phone buzzed, take cover, flooding, et cetera, we didn't have that ability to do that in Parchment.

But we knew at 1,400 parts per trillion, 20 times the standard that they should not be using that water right away. People were ready to go door-to-door to tell folks in this small community don't put the water out for your pet, don't use it for infant formula, don't

make it for coffee in the morning—just disconnect your icemaker, no water for cooking, and thanks to the media, particularly Channel 3 and Channel 8, they came out with radio stations and the word was out right away to stop.

And for a month we literally were giving bottled water to everyone in those two communities, City of Parchment and Cooper Township. That water just got turned on last week and when they were able to connect with the City of Kalamazoo to hook up. But you still have a good number of private wells and others that are in trouble because that level is too high.

So as the Governor said, this is a textbook case of what ought to happen, getting the word out, trying to figure out what is the next step, but immediately take care of the residents that were there. So I want to praise so many people on the ground.

I know that we have a good panel, a couple panels here ahead of us. I look forward to the questions. But, Mr. Chairman, I appreciate you taking this hearing up literally the first week that we are back so that we can better understand this and help other communities that yes will be on the same path as Parchment and Cooper Township in the future. I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The chair recognizes the ranking member of the full committee, Mr. Pallone, for 5 minutes.

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. We will hear today from some of those communities and I urge my colleagues to listen closely to the firsthand accounts of the harm these chemicals can cause.

These health issues include multiple types of cancers, impaired childhood development, reproductive issues, hormone disruption, increased cholesterol levels, and immune system issues. And Americans across this country are being injured right now by these chemicals and it seems that more affected communities are being discovered all the time.

This hearing is a good start but the communities affected by PFAS contamination need more than just a hearing. They need real solutions and real action from the EPA and the DOD. The impacted states need more than just summits and enforceable advisories. We need a binding, enforceable, and strong drinking water standard.

Democrats on this committee have been pushing to set a deadline to promulgate a strong drinking water PFAS standard for several years and recently we have heard calls for alternative approaches to address these chemicals from communities and experts who don't believe EPA's regulatory process under the Safe Drinking Water Act will actually work, and it isn't hard to see why.

In 2016, the EPA released a health advisory for two chemicals in this category at 70 parts per trillion. We know this level is too high to protect public health. States have known it for years and have set their own standards much lower, yet millions of Ameri-

cans currently receive water that exceeds even this weak standard and the problem is spreading.

The more water systems we test for PFAS, the more contamination we find. Earlier this year, the Agency for Toxic Substances and Disease Registry drafted a report identifying hazardous effects well below the EPA health advisory standard. Instead of acting on this information to protect the public health, the EPA and the White House worked to block publication of the report.

And the Trump administration feared the potential public relations nightmare more than public health nightmare facing many communities today, so this is yet another outrageous example of the Trump administration ignoring the health needs of the American people. And we have seen these delay tactics before, particularly with another drinking water contaminant spread by the Department of Defense, namely perchlorate.

Next month will mark a decade since EPA determined that a drinking water standard for perchlorate was needed and we still have yet to see a proposed rule. So some may say that these troubling actions show that the Safe Drinking Water Act won't work, but I think Congress can make it work. Congress should play a central role in setting the timeline for developing the PFAS drinking water standard and ensuring that the standard is truly protective of public health. And I hope this hearing is a sign that committee Republicans are finally beginning to share this view.

Additional actions under other environmental laws may be needed to fully address this contamination and support these communities, so I hope this subcommittee can work together quickly to address PFAS contamination and implement some of the solutions that we will hear about today.

And I would like to yield the remainder of my time to the gentlewoman from Michigan, Mrs. Dingell.

Mrs. DINGELL. Thank you, Mr. Chairman, and thank you to Chairman—well, I meant Ranking Member, but thank you, Chairman Shimkus and Ranking Member Tonko, for holding this important hearing today to discuss and highlight the growing presence of harmful perfluorinated chemicals being discovered across the country.

There is an old saying that says nothing lasts forever. Unfortunately, nothing that is except for fluorinated chemicals which were designed to stand the test of time. These chemicals, their dangers already having been laid out by my colleagues, can be found all around us, and in recent years we have seen more and more cases of confirmed contamination sites in the environment and drinking water sources, especially across Michigan.

And like my colleague, Mr. Upton, we too found very dangerous levels in fish in the Huron River and have had the same crisis during the month of August. As we continue to test for PFAS I fear that this is only the beginning, the trend is going to continue. PFAS are man-made and will require a man/woman-made solution from all of us working together, every Federal agency, every state and local official and Congress needs to immediately take this issue seriously.

I look forward to working with everyone on this committee and my colleague, Mr. Upton, and I, who will be shortly introducing legislation. Thank you and I yield back.

Mr. SHIMKUS. The gentleman yields back his time and the chair thanks the individuals.

We want to thank all our witnesses for being here today and taking the time to testify before this subcommittee. Today's witnesses have the opportunity to give opening statements followed by a round of questions from members. Our first witness panel for today's hearing includes Dr. Peter Grevatt, Director, Office of Groundwater and Drinking Water, U.S. Environmental Protection Agency, and Ms. Maureen Sullivan, Deputy Assistant Secretary of Defense for Environment, U.S. Department of Defense.

We appreciate you being here today. We will begin the panel with Dr. Grevatt and you are now recognized for 5 minutes for your opening statement. Thanks for being back and joining us.

STATEMENTS OF PETER GREVATT, DIRECTOR, OFFICE OF GROUNDWATER AND DRINKING WATER, U.S. ENVIRONMENTAL PROTECTION AGENCY; AND MAUREEN SULLIVAN, DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR ENVIRONMENT, U.S. DEPARTMENT OF DEFENSE

STATEMENT OF PETER GREVATT

Mr. GREVATT. Good morning, Chairman Shimkus, Ranking Member Tonko, and members of the subcommittee. I am Peter Grevatt, Director of the Office of Groundwater and Drinking Water at the U.S. Environmental Protection Agency. I also serve as chair of EPA's cross-agency efforts to address per and polyfluoroalkyl substances, or PFAS. Thank you for the opportunity to testify today.

Protecting America's drinking water is one of EPA's top priorities and I am here today to share with you the actions the Agency is taking to address PFAS. PFAS are a group of man-made chemicals that have been in use since the 1940s and PFAS are or have been found in a wide array of consumer products and as an ingredient in firefighting foam.

PFAS manufacturing and processing facilities, airports, and military installations are some of the contributors of PFAS releases into the air, soil, and water. Because of their widespread use, most people have been exposed to PFAS and there is evidence that exposure to certain PFAS may lead to adverse health effects. EPA has taken steps under its various statutory authorities to understand and address these chemicals. For example, under the Toxic Substances Control Act, the Agency has issued various significant new use rules for certain PFAS chemicals to guard against their reintroduction into new use or new use with prior EPA review.

Under the Safe Drinking Water Act, which my office oversees, EPA has also monitored for six PFAS to understand the nationwide occurrence of these chemicals in our drinking water systems and in 2016, EPA issued drinking water lifetime health advisories for two well-known PFAS compounds, PFOA and PFOS, of 70 parts per trillion.

EPA is also working to move research forward on PFAS to better understand their health impacts, options for treatment, and how

information on better known PFAS compounds can be applied to inform our knowledge of other PFAS. To build on these actions, EPA hosted a PFAS National Leadership Summit in May of 2018. The summit provided an opportunity for participants to share information on ongoing efforts, to identify specific near-term actions, and to address risk communication challenges.

At the event, EPA committed to work on four significant actions: First, to initiate the steps to evaluate the need for a maximum contaminant level for PFOA and PFOS; second, to begin the necessary steps to consider designating PFOA and PFOS as hazardous substances; third, to develop groundwater cleanup recommendation for PFOA and PFOS at contaminated sites; and lastly, to develop draft toxicity values for the PFAS compounds GenX and PFBS.

EPA also continues to provide support to states, tribes, and communities who are addressing PFAS issues. As EPA takes these actions, the Agency is also committed to working with our Federal partners including the Department of Defense and the Department of Health and Human Services. We look forward to continuing our interagency dialogue and collaboration.

Additionally, EPA recognizes the need to hear from citizens. Since June, EPA has traveled to five states across the country to hear directly from impacted communities and these experiences have been invaluable and community feedback will now shape how we move forward. EPA will consider information from the National Leadership Summit, the community engagements, and the public docket to develop a PFAS Management Plan.

Protecting public health is EPA's top priority. Acting Administrator Wheeler has expressed his continued commitment to considering actions on PFAS so that EPA can lead efforts that meet the needs of impacted communities.

Once again Chairman Shimkus, Ranking Member Tonko, and members of the subcommittee, thank you for the opportunity to discuss PFAS. I look forward to answering any questions you may have.

[The prepared statement of Mr. Grevatt follows:]

TESTIMONY OF
PETER C. GREVATT, Ph.D.
DIRECTOR
OFFICE OF GROUND WATER AND DRINKING WATER
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
HOUSE COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENVIRONMENT
REGARDING PER- AND POLYFLUOROALKYL SUBSTANCES

SEPTEMBER 6, 2018

Good morning, Chairman Shimkus, Ranking Member Tonko, and members of the Subcommittee. I am Peter Grevatt, Director of the U.S. Environmental Protection Agency's Office of Ground Water and Drinking Water. I also serve as the chair of the EPA's cross-agency efforts to address per- and polyfluoroalkyl substances (PFAS). Thank you for the opportunity to testify today.

Protecting America's drinking water is one of the EPA's top priorities. I am here today to share with you the actions the agency is taking to provide states, tribes, and communities with the tools they need to effectively address PFAS.

BACKGROUND

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that have been in use since the 1940s, and are (or have been) found in a wide array of consumer products like cookware, food packaging, and stain repellants. PFAS have also been used in aqueous film-forming foams. PFAS manufacturing and processing facilities, airports, and military installations that use firefighting foams are some of the contributors of PFAS releases into the air, soil, and water, including sources of drinking water. There are many PFAS chemicals, including the

chemicals perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), and GenX (HFPO dimer acid).

Because of their widespread use, most people have been exposed to PFAS. Some PFAS can accumulate and can stay in the human body for long periods of time. There is evidence that exposure to certain PFAS may lead to adverse health effects.

EPA'S WORK ON PFAS

The EPA has taken steps under its statutory authorities to understand and address these chemicals. For example, certain PFAS chemicals are no longer manufactured in the United States as a result of the EPA's PFOA Stewardship Program in which eight major chemical manufacturers agreed to phase out the use of PFOA and PFOA-related chemicals in their products and as emissions from their facilities. All companies met the PFOA Stewardship Program goals by 2015. In support of this effort, through the EPA's work under the Toxic Substances Control Act, the agency has issued various significant new use rules (SNURs) to guard against the unreviewed reintroduction and new use, through domestic production or import, of certain PFAS chemicals in the United States. However, the SNUR authority did not cover ongoing uses such as low-volume use of some PFAS in limited industrial applications.

The EPA has also worked with the states and local communities to monitor for six PFAS under the Safe Drinking Water Act to understand the nationwide occurrence of these chemicals in our drinking water systems. In 2016, the EPA issued drinking water lifetime health advisories for PFOA and PFOS of 70 parts per trillion individually or combined. The health advisories are non-regulatory values that help to provide technical information to state agencies and other public

health officials on the level of PFOA and PFOS that would provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOA and PFOS from drinking water. The EPA is also working to move research forward on other PFAS to better understand their health impacts, options for treatment, and how information on better-known PFAS (such as PFOA and PFOS) can be applied to inform our knowledge of other PFAS chemical classes.

To build on these actions, the EPA hosted a PFAS National Leadership Summit in May 2018 that brought together state, tribal, and federal partners, as well as key stakeholders including industry, utilities, Congressional staff, and nongovernmental organizations. The Summit provided an opportunity to share information on ongoing efforts, to identify specific near-term actions, and to address risk communication challenges.

At the event, the EPA committed to work on four significant actions:

1. Initiating the steps to evaluate the need for a Safe Drinking Water Act maximum contaminant level for PFOA and PFOS.
2. Beginning the necessary steps to consider designating PFOA and PFOS as "hazardous substances" through one of the available statutory mechanisms, including potentially CERCLA Section 102.
3. Considering groundwater cleanup recommendations for PFOA and PFOS at contaminated sites.
4. Working in close collaboration with federal and state partners to develop draft toxicity values for GenX (HFPO dimer acid) and for perfluorobutane sulfonic acid (PFBS).

The EPA also continues to provide support to states, tribes, and communities who are addressing PFAS issues. For example, at the request of the North Carolina Department of Environmental Quality, the EPA continues to perform independent laboratory analysis for GenX and several other PFAS compounds in water samples collected along the Cape Fear River. In Michigan, the EPA is providing technical assistance to the Michigan Department of Environmental Quality as the state responds to PFAS contamination in communities such as Parchment.

As the EPA takes these actions, the agency is also committed to working with our federal partners, including the Department of Defense and the Department of Health and Human Services, on response actions and continuing research into the health and environmental impacts of these substances. For example, the EPA is coordinating with its federal agency partners as the agency develops draft toxicity values for GenX and PFBS. Interagency coordination is key to providing a common Federal approach to addressing these substances in order to best support our state, local, and tribal partners as well as the public. We look forward to continuing to our interagency dialogue and collaboration on PFAS issues.

COMMUNITY ENGAGEMENT

The EPA recognizes the need to hear directly from communities that have been and/or continue to feel the impact of PFAS. Since June, the EPA has traveled to Exeter, New Hampshire; Horsham, Pennsylvania; Colorado Springs, Colorado; Fayetteville, North Carolina; and Leavenworth, Kansas. The EPA also engaged with tribal representatives at the Tribal Lands and Environment Forum in Spokane, Washington. At these events, the EPA has engaged with nearly a thousand individuals, including more than 150 people who delivered remarks about their personal experiences. We listened to these community members to better understand their

concerns and to learn from them ways that the agency can best support the work being done at the state, local, and tribal levels. The EPA is also seeking recommendations from state and local officials through the agency's Local Government Advisory Committee. Hearing directly from impacted communities has been invaluable, and community feedback will shape how we move forward on this important issue.

To ensure that everyone who would like to provide input can do so, the EPA has set up a public docket that will remain open until September 28, 2018. The EPA will consider information from the National Leadership Summit, community engagements, and the public docket to develop a PFAS Management Plan. The Management Plan is expected to include actions that the EPA will take to provide tools that states, tribes, and communities can use to address PFAS.

CONCLUSION

Protecting public health is the EPA's top priority. Acting Administrator Wheeler has expressed his continued commitment to considering actions on PFAS so that the EPA can lead efforts that meet the needs of impacted communities.

Once again, Chairman Shimkus, Ranking Member Tonko, and Members of the Subcommittee, thank you for the opportunity to discuss PFAS and the EPA's ongoing commitment to working to find solutions to address these chemicals. I look forward to answering any questions you may have.

Mr. SHIMKUS. Thank you very much.

We next turn to Ms. Maureen Sullivan. Your full statement is in the record. You have 5 minutes.

STATEMENT OF MAUREEN SULLIVAN

Ms. SULLIVAN. Chairman Shimkus, Ranking Member Tonko, and distinguished members of the subcommittee, I am Maureen Sullivan, the Deputy Assistant Secretary of Defense for Environment. My portfolio includes policy and oversight of DOD's programs to comply with environmental laws such as the Safe Drinking Water Act and the Comprehensive Environmental Response Compensation and Liability Act, CERCLA. That is a mouthful.

I want to thank Congress for your strong support for the Department of Defense, our national security priorities, and for funding that we need to protect our nation. Ensuring the health and safety of our service members, the families living on our installations, and the surrounding communities is one of our top priorities.

I want to thank this committee for the opportunity to discuss the establishment of a national approach to per and polyfluoroalkyl substances, PFAS. We believe DOD has been leading the way to address these substances. One commercial product that contains PFOS is aqueous film-forming foam, or AFFF. This highly effective firefighting foam has been used by the Department of Defense, commercial airports, local fire departments, and the oil and gas industry. However, it only accounted for approximately 3 to 5 percent of the PFOS production in calendar year 2000.

And the Department of Defense is just one of the many users of the foam. DOD has committed substantial resources in the last 2 years and taken significant actions to respond to the concerns from PFOS and PFOA. When EPA issued the lifetime health advisory for PFOS and PFOA in 2016, the Department quickly acted to voluntarily test our 524 drinking water systems that serve approximately two million people on our installations worldwide. Twenty four of these systems tested above EPA's LHA level.

Although it is only an advisory, DOD followed EPA's recommendations to include providing bottled water or additional water treatment at those locations. CERCLA provides consistent approach across the Nation for cleanup. The Defense Environmental Restoration Program statute provides authorities to DOD to perform and fund actions and requires they be carried out in accordance with CERCLA.

The first step is to identify the source of known or suspected releases. The Department of Defense has identified 401 active and Base Realignment and Closure installations with at least one area where there is a known or suspected release of PFOS or PFOA. The Military Departments then determined whether there was exposure through drinking water and, if so, the priority is to cut off human exposure where drinking water exceeds EPA's lifetime health advisory. Once the exposure pathway is broken, the Military Departments prioritize the sites for further action using the longstanding CERCLA risk-based process, worst first.

These known and suspected PFOS and PFOA release areas are in various stages of assessment, investigation, and cleanup. To prevent further releases to groundwater, DOD issued a policy in Janu-

ary of 2016 requiring the Military Departments to prevent uncontrolled, land-based AFFF releases during maintenance, testing, and training activities. The policy also requires the Military Departments to remove and properly dispose of supplies of AFFF containing PFOS other than for shipboard use.

Currently, no fluorine-free version of AFFF meets the military's stringent performance requirements to extinguish petroleum fires. From fiscal year 2017 to fiscal year 2019, we solicited research products to identify and test the performance of fluorine-free AFFF. These efforts support DoD's commitment to finding an AFFF alternative that meets critical mission requirements while protecting human health and the environment and will represent at least $10 million in research and development funding.

In summary, DOD is taking actions to reduce the risks. We are committed to mitigating PFOS and PFOA releases to the environment that are a direct result of DOD activities. We are making significant investments in a fluorine-free AFFF. These combined efforts reinforce DOD's commitment to meeting critical mission requirements while protecting human health and the environment. Thank you very much.

[The prepared statement of Ms. Sullivan follows:]

Subcommittee on Environment
House Committee on Energy and Commerce

Hearing: September 6 @ 10:15am
2322 Rayburn House Office Building

Chairman Shimkus, Ranking Member Tonko and distinguished members of the Subcommittee. Thank you for the opportunity to discuss DoD's actions related to perfluorinated chemicals.

Background:

Perfluoroalkyl substances (PFAS) refers to the entire class of poly- and per-fluoronated alkyl substances, of which perfluorooctane sulfonate (PFOS) and perfluorooctanic acid (PFOA) are the most well-studied substances. These substances are ubiquitous in many industrial and consumer products because they increase a product's resistance to heat, stains, water, and grease. As such, they are not uniquely attributable to Department of Defense (DoD) activities. The Interstate Technology and Regulatory Council (ITRC) determined three to six percent of the perfluorooctanyl chemicals produced were used as firefighting foam.[1] Of this percentage, DoD is only one of many users of Aqueous Film Forming Foam (AFFF), which also includes commercial airports, the oil and gas industry, and local fire departments. The remaining perfluorooctanyl chemicals produced were used in the following industrial and consumer applications: approximately 41 percent for paper and packaging protectors; 36 percent for textiles, leather and carpet treatment, and fabric protection; and 19 percent for industrial surfactants, additives, and coatings. Perfluorooctanyl chemicals are used in electroplating and etching, household additives, insecticides, and other applications.

DoD's limited use of PFAS started in the 1970s, with the introduction of AFFF for aircraft fuel fire-fighting purposes. AFFF may contain PFOS and, in some formulations, PFOA. AFFF is mission-critical because it quickly extinguishes petroleum-based fires, which is why the Federal Aviation Administration has also adopted its use at airports nationally. AFFF containing PFOS, other than in potential trace amounts, is no longer manufactured or available for purchase in the United States, although legacy stocks of these AFFF remain.

On May 19, 2016, the EPA issued Safe Drinking Water Act (SDWA)lifetime health advisories (LHA) recommending individual or combined levels of PFOS and PFOA concentrations in drinking water be below 70 parts per trillion. While the LHA is non-regulatory guidance under the SDWA and not a required or enforceable drinking water standard, DoD began proactively taking action to address drinking water impacted by DoD releases.

Despite the fact that the EPA drinking water LHA for PFOS and PFOA is only an advisory, DoD has taken a three-pronged approach: 1) DoD has taken quick action to address

[1] The Interstate Technology and Regulatory Council (ITRC) analysis is based on a 3M July 7, 2000 letter to the U.S. Environmental Protection Agency Office of Prevention, Pesticides and Toxic Substances on 3M Phase-Out plan for perfluorooctane sulfonyl fluoride (POFS)based products. This analysis does not include PFOA produced by 3M or PFOS/PFOA or other PFAS production by other manufacturers

PFOS and PFOA in the drinking water it supplies, 2) DoD has taken response action in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, aka Superfund), and 3) DoD has committed significant funds in research and development to identify and test fluorine-free AFFF.

Drinking Water:

DoD provides drinking water to approximately 2 million people on its installations worldwide. The Department began testing DoD-operated drinking water systems worldwide in June 2016 to identify drinking water that exceeded EPA's LHA. DoD completed testing of all 524 DoD-owned drinking water systems worldwide in August 2017. These tests determined that twenty-four DoD drinking water systems contained PFOS and PFOA above the LHA. Accordingly, though not required by law or regulation, DoD has followed the EPA LHA recommendations, to include providing consumers bottled water or additional water treatment. In cases where DoD purchases drinking water, the Department identified 12 drinking water systems where the results were above the EPA LHA level. These installations are working with the drinking water supplier(s) to encourage appropriate actions.

Remediation Action:

CERCLA provides a consistent approach across the Nation for cleanup and includes environmental regulators and public participation. The Department addresses on-base and off-base migration of its PFOS and PFOA releases to protect human health and appropriately spend taxpayer dollars. The Defense Environmental Restoration Program (DERP) (10 USC 2701-2711) provides authorities to DoD to perform and fund these actions, and requires they be carried out in accordance with CERCLA. Our first step is to identify the source of a known or suspected release. The Military Departments identified installations where DoD stored or used AFFF containing PFOS or PFOA and suspects there was a release. DoD has identified 401 active and former (Base Realignment and Closure) installations with at least one area where there is a known or suspected release of PFOS or PFOA.

The Military Departments then determined whether there is exposure through drinking water and, if so, the priority is to address high exposure levels. DoD's actions are consistent with EPA's LHA recommended actions, which include treatment of drinking water or closing drinking water wells and providing alternative water supplies, such as bottled water or connecting private residents to public drinking water systems. Once the exposure pathway is broken, the Military Departments are prioritizing sites for further actions using the normal CERCLA risk-based process. This longstanding site prioritization process is based on "worst first," meaning the Military Departments will address sites that pose a greater potential risk to human health and the environment first.[2]

[2] Further details for this longstanding CERCLA prioritization process was developed by EPA and state regulators, as well as the other stakeholders such as DoD, and documented in recommendations of the Federal Facilities Environmental Restoration Dialogue Committee (FERDEC 1999).

DoD follows the CERCLA process to fully investigate the release and determine the appropriate cleanup actions based on risk. These known or suspected PFOS and PFOA release areas are in various stages of assessment, investigation, and cleanup. Although the EPA LHA level is only guidance under the SDWA and is not an enforceable drinking water standard, DoD considers the EPA's LHA toxicity information when assessing risk to human health under CERCLA. Under the EPA's longstanding risk assessment and hierarchy of toxicity value policies, the LHA toxicity information is used to determine a site-specific risk-based cleanup level for groundwater used as drinking water. This calculated risk cleanup level may be higher than the EPA LHA, which can cause communication challenges when explaining to the public how this groundwater cleanup level is within safe parameters.

Before Fiscal Year (FY) 2018 when the Department first included such cleanup in the President's Budget, DoD had to prioritize funds from other cleanup activities in order to address PFOS/PFOA. Now that we have an initial inventory, we are determining the potential cleanup costs as we collect information on the nature and extent of the releases. It will also be necessary to understand the regulatory cleanup standards for PFOS and PFOA to adequately plan and budget for DoD responsibilities. As DoD moves through the CERCLA process, the Department will work in collaboration with regulatory agencies and communities, and will share information in an open and transparent manner.

Research and Development:

In May 2000, 3M, the sole American manufacturer, began voluntarily phasing out the production of PFOS-related products, including AFFF containing PFOS, in response to proposed EPA regulations under the Toxic Substances Control Act. Since PFOS is no longer manufactured in the U.S., the U.S. AFFF on the market today should not contain PFOS, although legacy stocks of these AFFF remain. However, some formulations still contain trace amounts of PFOA. While AFFF containing PFOS (other than potential trace amounts) is no longer manufactured for purchase in the U.S., the Military Departments may still have AFFF containing PFOS in equipment, such as aircraft hangar fire suppression systems. There is currently no fluorine-free formulation of the foam commercially available that meets the critical Military Specification (MILSPEC) requirement to suppress aircraft fires effectively, although DOD is testing alternative formulations. DoD must maintain the capability to fight fires to protect the men and women serving in the military and the communities surrounding their installations.

To address this challenge, DoD is taking several steps. To prevent further releases into the ground water, DoD issued a policy in January 2016 requiring the Military Departments to prevent uncontrolled, land-based AFFF releases during maintenance, testing, and training activities. The policy also requires the Military Departments to remove and properly dispose of local warehouse supplies of AFFF containing PFOS (other than for shipboard use), where practical. Each Military Department is taking actions to remove this AFFF containing PFOS from its inventory.

The Department is also researching and developing technologies to enhance our response to PFAS and to ensure the safe use of AFFF through two key programs: the Strategic Environmental Research and Development Program (SERDP), which focuses on basic and

applied research, and the Environmental Security Technology Certification Program (ESTCP), whose mission is to validate more mature technologies to transition them to widespread use.

SERDP initiated research into the fate, transport, and remediation of PFOS and PFOA shortly after EPA released the 2009 Provisional Health Advisories for these compounds. Follow-on research beginning in 2014 has targeted developing several approaches for treating groundwater containing PFOS and PFOA. These efforts have matured from the small scale to field demonstrations that began under ESTCP in 2017, with an additional demonstration in 2018.

In addition to these initial projects on PFOS and PFOA, the SERDP and ESTCP Environmental Restoration Program Area has launched an aggressive effort to develop more cost effective treatment options for other, newly-identified PFAS. At the conclusion of the ongoing projects, the Department will have invested $40M in PFAS-related research and development through SERDP and ESTCP.

In FY 2017 and FY 2018, SERDP solicited research projects to identify and test fluorine-free surfactants for use in next-generation AFFF that can meet the military's stringent performance requirements while eliminating PFAS. Two core projects and seven limited-scope, quick-look projects have been initiated in this effort.

In FY 2019, ESTCP will initiate demonstrations of existing replacement AFFF formulations at DoD facilities to determine if their performance can meet mission requirements. These combined efforts support DoD's commitment to finding an AFFF alternative that meets critical mission requirements while protecting human health and will represent $10M in research and demonstration funding.

The Department of the Navy is funding research and development efforts related to AFFF alternatives and development of analytical methods to test commercial products for PFAS. Recognizing the need to continue to have a foam that fights aircraft fires effectively while also looking for options without PFOA, the Navy is working with the manufacturers to test various alternative products. The Navy has tested commercially available fluorine free foams to determine if they can meet MILSPEC. These tests are critical from a personnel safety perspective and validate a foam's performance capabilities. To date no commercially available fluorine free foam has demonstrated comparable performance on critical MILSPEC required performance tests.

Exposure Assessment and Health Study:

We are working with the Agency for Toxic Substances and Disease Registry (ATSDR) to support the effort to conduct an exposure assessment at not less than 8 military installations and a nation-wide health study, as required by the FY2018 NDAA. We recently provided ATSDR $10M to begin conducting the exposure assessment and health study and are preparing to send them an additional $10M in FY2018. Another $10M will be transferred in FY2019. ATSDR is establishing the criteria to select the military installations.

Conclusion

In summary, DoD is proactively taking action to reduce the risks of PFOS and PFOA to human health. The Department is committed to mitigating PFOS and PFOA in the drinking water it supplies, as well as addressing releases to the environment under CERCLA that are the direct result of DoD's AFFF use. DoD has also invested in research to develop fluorine-free substitutes for AFFF that meet the military's stringent performance criteria, and develop technologies to quantify and clean up PFOS and PFOA and related PFAS chemicals. These combined efforts reinforce DoD's commitment to meeting critical mission requirements while protecting human health.

As the Department addresses this national issue, we strive to work in collaboration with regulatory agencies and communities to ensure our resources are applied effectively to protect human health across the country as part of a national effort led by EPA. We must ensure our response and clean-up resources are effectively applied to result in a reduced risk and exposure of personnel on our installations and in the surrounding communities around the country. We are prioritizing our investments to those actions which will address the greatest degree of risk. Although this is a national problem involving a wide array of industries and commercial applications, DoD has taken the lead in protecting the health of persons on and near DoD installations by following the CERCLA process to fully investigate releases and determine the appropriate cleanup actions based on risk.

Mr. SHIMKUS. The chair thanks the gentlelady.

We now conclude with the opening statements from our panel and we would like to recognize members for their round of questions. And we would like to start by recognizing myself for 5 minutes, and this is to Dr. Grevatt.

A little over a year ago, our committee unanimously reported a bill to reauthorize and modernize the Safe Drinking Water Act to help water systems comply with federal mandates and keep their water safe. The centerpiece of that bill was a 5-year, $8 billion reauthorization of the Drinking Water State Revolving Loan Fund. We are quite proud of that bill and I want to explore how that bill can help with PFAS contamination.

Can Drinking Water State Revolving Funds themselves be used for infrastructure upgrades needed for things like treatment, well upgrades, or distribution upgrades to help address levels of PFAS?

Mr. GREVATT. Thank you, Chairman Shimkus. Yes. Yes, certainly that fund can be used for those purposes.

Mr. SHIMKUS. Would this include filtration, disinfection and disinfectant facilities, and project planning and design activities?

Mr. GREVATT. Yes, sir. The fund can be used for those purposes as well.

Mr. SHIMKUS. What about Drinking Water State Revolving Fund set-asides? May these be used by a state to provide technical assistance to support PFAS related work?

Mr. GREVATT. Certainly the set-asides can be used for those purposes and are used quite broadly across the country to support these efforts.

Mr. SHIMKUS. Would this apply to contamination and treatment problems, outreach, and training on new issues for water system workers' scoping studies for treatment purposes?

Mr. GREVATT. Yes, sir. All those things would be covered by the Drinking Water SRF as eligible activities.

Mr. SHIMKUS. Thank you. We have several viewpoints on what government should do to address PFAS contamination. What specific actions under existing statutory authority can Federal Government take to address PFAS?

Mr. GREVATT. Thank you, Chairman. So there are many actions across the broad authorities that we have at EPA currently that we are using right now to address PFAS and those include actions under the Safe Drinking Water Act. For example, the Unregulated Contaminant Monitoring Rule effort that a number of the members have cited under SDWA focused on PFAS. The last round we have the opportunity to develop drinking water health advisories which we did for PFAS compounds and we also have the opportunity as a number of the members have noted to develop maximum contaminant levels. That particular action is one that we are looking at very carefully as we speak. We have used steps under TSCA to address PFAS compounds including under TSCA Section 5. We have also used our authorities under CERCLA to address PFAS compounds at contaminated sites. So there are many opportunities that exist today to address these issues.

Mr. SHIMKUS. Which of these actions has EPA or others in the Federal Government not used and why?

Mr. GREVATT. So likely the two most significant that folks may be thinking about are the development of an MCL and also the listing of PFAS compounds as hazardous substances under CERCLA. And both those actions that EPA committed in its National Leadership Summit to explore very carefully and we are involved in that process right now as we speak.

They are both potentially very important in terms of the requirements that would be put on community water systems across the country on an MCL and also the hazardous substance listing would provide EPA with the opportunity to both order cleanup actions and recover costs that EPA may expend in cleanup actions. So they are both very important steps. There are many different ways to achieve the hazardous substance listing not only through CERCLA but through a number of the other statutes that currently are in place that EPA is responsible for fulfilling.

Mr. SHIMKUS. Thank you.

Ms. Sullivan, your testimony notes that DOD is taking response actions in accordance with CERCLA or Superfund law. Does DOD agree that cleanup of PFAS contamination is governed under CERCLA?

Ms. SULLIVAN. Yes, sir. Following the longstanding process that EPA has established under CERCLA it is considered a tier 3 value. The reference dose behind the lifetime health advisory can be used and is being used to determine the risk associated with sites.

Mr. SHIMKUS. I will end my questions and yield back my time and turn to the ranking member, Mr. Tonko, for 5 minutes.

Mr. TONKO. Thank you, Mr. Chair.

And, Dr. Grevatt, thank you for your testimony. You described a number of actions EPA committed to doing earlier this year. I would ask here, what steps must be taken before EPA can make a determination about PFOA and PFOS as a hazardous substance under Section 102 of CERCLA and what is the timeline for that decision?

Mr. GREVATT. Right. Thank you very much, Ranking Member Tonko. I appreciate the question and as I note it is a very important issue. And so there are a number of ways that EPA can achieve this hazardous substance listing through CERCLA as you noted, but also through TSCA, through the Clean Water Act, through the Clean Air Act, so there are a number of different ways to achieve a hazardous substance listing.

And EPA is currently looking at the various authorities including RCRA that allow us to list these as hazardous substances thinking carefully about the different steps that would be involved under each of those statutory authorities and weighing which ones are going to make the most sense in this case. Ultimately, the administrator will be making the decision both as to whether he wants to proceed with the hazardous substance listing and then under which statutory authority to address that.

Mr. TONKO. And again what would the timeline for the decision be?

Mr. GREVATT. So EPA is going to be developing a National Management Plan for PFAS compounds. That was one of the commitments at the National Leadership Summit and our goal is to have that National Management Plan completed by the end of this cal-

endar year. So we are working diligently on that right now, we expect that National Management Plan will include this consideration of the hazardous substance list.

Mr. TONKO. So that is in less than 4 months.

Mr. GREVATT. Yes, sir.

Mr. TONKO. If this determination is made, how will it help states and localities address contamination issues and hold responsible parties accountable for remediation?

Mr. GREVATT. Right, thank you. So the critical issue that the hazardous substance listing will allow under CERCLA is for EPA to order cleanup actions and if EPA has to expend funds from the Superfund for the purpose of cleaning up sites EPA will be able to recover costs that are expended. So this will give very important tools for states and local communities to address these PFAS challenges at contaminated sites.

Mr. TONKO. Right. And what is the timeline for that decision?

Mr. GREVATT. Right. So as I noted, we expect that this issue will be addressed in the National Management Plan and our goal is to have that completed by the end of this calendar year.

Mr. TONKO. OK. And if you listen to today's second panel, I am certain you will hear from states' public health advocates and concerned citizens that there is a widespread problem that needs a national framework and federal funding to support state, local, and individual responses. At this point there can be no doubt about the severity of the problem. You cannot hold a national summit and a public meeting tour without acknowledging this.

So the gravity of the situation should be apparent by today's hearing, we are not holding hearings on other CCL or contaminants. So with all that in mind, will EPA commit to including PFOA and PFOS as part of Regulatory Determination 4?

Mr. GREVATT. So a couple of important points on your question and thank you, Ranking Member Tonko, for that question. So the Regulatory Determination Number 4 is, the schedule for that is 2021 when that is due. EPA is currently looking at this issue of the Regulatory Determination for PFOA and PFOS as we speak. We expect that decision will be made long before 2021 and we will be addressing this issue as well in the context of the National Management Plan that will be completed by the end of this year.

Mr. TONKO. So can we commit to that then or, obviously there is a sense of urgency here.

Mr. GREVATT. Yes, absolutely. So we certainly can commit to look carefully at this issue in terms of how the agency will approach the Regulatory Determination. I don't have an answer yet as to whether and how EPA will include PFOA and PFOS in the Regulatory Determination. That is an issue that as the Safe Drinking Water Act states is in the sole judgment of the administrator, and Acting Administrator Wheeler is looking at this issue right now as we speak.

Mr. TONKO. OK. Well, we have seen some walking away from commitments to the environment. So if you are going to make this extensive effort to explore potential regulatory actions, in the end EPA must be willing to say one way or another if these contaminants need a national standard. There can be no more kicking the

can down the road, so I would hope that we would get that sort of commitment.

Mr. GREVATT. Yes, sir.

Mr. TONKO. With that Mr. Chair, I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The chair now recognizes the vice chairman of this subcommittee, Mr. McKinley, for 5 minutes.

Mr. MCKINLEY. Thank you, Mr. Chairman. Certainly we have had, in West Virginia we have had some exposure to the PFOA and PFOS. We went through it a couple of years ago and we saw the concerns that people had, the population in one of the communities. Vienna, West Virginia wound up, with about 10,000 people it cost them $6 million to address this problem and annually now it is going to be about a $200,000 cost that they are going to have to incur.

We all want clean water. I am a hundred percent behind that on this, where we need to go on this. I am just, I am a little bit curious. Often we have an independent verification and validation process in software. Are we going to have anyone review the—as we drop down from, remember, it went from 400 down to 70, now we may be talking about going down to 10. That is all wonderful. Is there going to be another validation of that to see that as we keep ratcheting down, will there be an independent verification, a second opinion so to speak that that is the right thing to do?

Mr. GREVATT. Without question, Congressman, if we were to make a change from the current drinking water health advisory of 70 parts per trillion for PFOA and PFOS combined, we would subject that, the scientific basis for that to independent peer review before we were to take such an action.

Mr. MCKINLEY. Thank you. I think that is going to be overall well, because I am concerned we had 63 sites around the country 2 years ago. This was a very interesting report. Did you help author that 2 years ago?

Mr. GREVATT. Yes, sir.

Mr. MCKINLEY. About 103 pages long, as an engineer it was enjoyable reading but it also told how the points we have to raise on these matters. So now we had 63 communities that are affected with this back then. If we were to go down to 10, 15 do you have any idea how many communities across the country could be impacted with that?

Mr. GREVATT. Thank you, sir. It is difficult to conjecture on the exact number. What I can say is in terms of UCMR process that that process covered, it was a census of all the large drinking water systems, larger than 10,000 people served, and a representative sample of systems smaller than 10,000. As you noted, we found 63 of those systems had levels above the drinking water health advisory of PFOA and PFOS of 70 parts per trillion. That sample covered 80 percent of the United States population that is served by community water systems and so we consider it a very comprehensive effort.

Mr. MCKINLEY. Well, what kind of numbers are we talking? Could we have if we were to drop to 10, which again in an ideal world that would be wonderful. As an engineer, all of us want to have the purest water we can. But to get down to 10, is that going

to affect perhaps 300 communities, 3,000 communities to get down to 10?

Mr. GREVATT. I think it is very difficult to guess. What we can say for certain is it will be more than 63 and we know as a result of——

Mr. MCKINLEY. So as a result I know the timeframe on this is that we, at least in West Virginia we had a company that was on the hook to pay for this, but there are going to be some communities that the companies are long gone and how are they going to do this, so I don't know whether from the military or the communities.

We have trouble right now with brownfield sites that we have 480,000 brownfield or contaminated sites across America but we only clean up about a thousand or less during a years' time. I want to see this thing done, but I have got to find out how to push the urgency that this is our number one priority in addressing water on that.

Would you say that of all—I want to, careful now on this. Of all the water contaminants that we face—bleach, salts, nitrates—is PFOA, is that the number one contaminant?

Mr. GREVATT. I think it is very important to look at this——

Mr. MCKINLEY. Is it the number one? Is that the one, because we can chase a lot of rabbits here. I want to make sure that we are chasing the right rabbit, the one that is causing the greatest harm to the American public I want to see us focus on that. Not one that just pops up over here and that—I won't give you an analogy. Is this the number one health risk in water today in America, PFOA?

Mr. GREVATT. Thank you, Congressman. In communities where PFAS compounds have impacted drinking water supplies they are presenting significant challenges. Nationally, I would say no, this is not the number one challenge that we face. I think there are important issues around the basics of water treatment, especially around areas, things like disinfection and disinfectant byproducts in systems. It is very important to make sure that we also focus holistically on the full spectrum of challenges that face our nation's drinking water systems.

Mr. MCKINLEY. Thank you and I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The chair now recognizes the ranking member of the full committee, Congressman Pallone, for 5 minutes.

Mr. PALLONE. Thank you, Mr. Chairman.

My home State of New Jersey has been studying PFAS contamination in drinking water since 2006, following reports of contamination from a DuPont facility, and monitoring by the State and by EPA has shown widespread contamination across New Jersey. In 2017, New Jersey set an MCL for PFOA at 14 parts per trillion and another MCL for PFNA at 13 parts per trillion.

And those standards were a triumph for science and advocates in New Jersey who worked for years to overcome political opposition and this standard has been important to communities across the State and ensures that drinking water is being treated to remove those chemicals. But I have heard serious concerns that the

Department of Defense is not cleaning up contaminated sites in New Jersey to that state standard.

So, Ms. Sullivan, the Department of Defense has conducted testing at and around some military facilities in New Jersey. According to the presentation you made to Congress in March, drinking water contamination has been found around Naval Weapons Station Earle, which is in my district, and Joint Base McGuire-Dix-Lakehurst.

Groundwater contamination has also been found around the former Naval Air Warfare Center in Trenton with levels as high as 22,800 parts per trillion detected. According to your March report, the contamination at former Naval Air Warfare Center in Trenton will be handled through a continued Superfund process.

So my questions are, will that cleanup in Trenton meet the New Jersey standards of 14 and 13 parts per trillion and will you commit to me that DOD will meet those standards for cleanups in my state?

Ms. SULLIVAN. Thank you, Congressman, for the question. I appreciate that you have read our detailed report from earlier this year. The Department of Defense as we are required to by CERCLA in the Defense Environmental Restoration Program statute is following the CERCLA process. And as part of that process the state levels are rolled in through the risk assessment process.

So as we go through our analysis following the structure of it, these state standards will in fact be rolled in as a consideration as an appropriate and relevant regulation. At the end of that risk assessment process there will be a determination of unacceptable risk that will be reviewed not only by us, but by the state, your state environmental agency and the Environmental Protection Agency to determine what the end remedy solution will be.

Mr. PALLONE. But my concern, as you can imagine, is that because I am very familiar with the Superfund process is oftentimes DOD or even EPA do not necessarily recommend a more strict standard. They look at it as a factor and you are saying they will, which I appreciate, but they may not adopt the standard.

They may not insist on that as the remediation alternative that they pick. And the fact that DOD is not bound by these state drinking water standards, to me, shows how important a national drinking water standard is because it may very well be that those state standards are not met. Obviously I would urge you to meet them, but you are not going to guarantee that they would be because you are just saying it will be considered.

Ms. SULLIVAN. Yes, sir. They will be considered as part of the CERCLA process which we are bound to.

Mr. PALLONE. Yes. Well, I think that is unfortunate. I think you should be bound by them, and even if you are not that you should adopt them. But I appreciate your candor.

Now, Ms. Sullivan, what chemicals is the Department of Defense using in place of PFOA and other PFAS? Has the Department conducted studies of those chemicals to establish their safety?

Ms. SULLIVAN. Thank you again, sir, for that question. We are in the process of investing a significant amount of research and development to first demonstrate the commercially available substances to see—that are PFOA-free—if they meet our strict stand-

ards in order to fight fires. We are also investing research and development dollars to sponsor development of a fluorine-free foam that also meets.

And as I stated, while we continue to do that we are working with the current manufacturers to fully understand how much PFOA is in the products that they are providing to us and controlling the releases of those.

Mr. PALLONE. All right. I am just going to run out of time. I just was going to ask you if you could provide the committee, through the chairman, with any and all studies that the Department of Defense has regarding the safety of these substitute chemicals if you would.

Ms. SULLIVAN. Certainly we can.

Mr. PALLONE. And, Mr. Chairman, I know my time is running out, but I know you were so much involved with TSCA and I just wanted to say that the concern over substitutes is not limited to PFAS and was central to our efforts to reform TSCA as you know. And unfortunately EPA's implementation of TSCA has fallen short of our hopes and so I was hoping that we have an opportunity for a hearing on TSCA implementation. I will make that request again, Mr. Chairman.

Mr. SHIMKUS. I would thank the chairman. I think that is going to be doable. We will try to figure out a time. I think both sides are kind of frustrated with the process and my frustration is a surprise in some of the areas and I think it has been flipped on both issues. So I think we will do our best to try to find some time to do that. As one of our signature legislative accomplishments, we would hate to see it bogged down in implementation.

Mr. PALLONE. Thank you.

Mr. SHIMKUS. Having that the gentleman returns his time, the chair now recognizes the gentleman from Ohio if he is ready, Mr. Johnson, for 5 minutes.

Mr. JOHNSON. Thank you, Mr. Chairman. I appreciate you holding this very important hearing. You know, many people throughout the country are very familiar with the issues we are discussing today. And along the Ohio River, along with other states along the river we are no exception to that. It is vital that we continue to develop a complete understanding of how chemicals in high concentrations like PFOA impact populations and how best to take any actions necessary.

I know many studies including some prominent ones within Ohio such as the University of Cincinnati have been conducted on this issue and I hope to see those studies continue. I also know that the EPA is working on these issues as Dr. Grevatt has indicated in his testimony.

So, Dr. Grevatt, you have worked with Ohio on many occasions on water contamination issues and we appreciate that. How can Ohio continue to best engage with the EPA on these issues?

Mr. GREVATT. Thank you, Congressman, and appreciate your noting my work with Director Butler and others from Ohio EPA, my home State, so I have a great connection with folks there.

We are working very closely with all the states on the activities that we have underway. We will continue to stay very close to the State of Ohio and other states on issues like the development of

toxicity factors for PFBS and GenX on these questions about development of the decision on a hazardous substance listing and potentially on an MCL, so as well as the groundwater cleanup goals. These are all issues that we are working very closely with the State of Ohio and other states on. We will commit to continuing that connection with the states.

Mr. JOHNSON. OK. And are you working with them on any of the DOD facilities as well?

Mr. GREVATT. Yes, sir.

Mr. JOHNSON. OK.

Mr. GREVATT. So yes, as Ohio and other states request support from EPA we are for certain going to be there to assist them with these challenges.

Mr. JOHNSON. OK. I understand the local government advisory committee is soliciting input. How can people along the river along my district best engage in this process and what can Congress do to help?

Mr. GREVATT. Thank you very much. So one of the things that citizens across the U.S. can do right now is we have opened the docket in addition to the community engagement sessions which I referred to that we have had now in five different states. We opened the docket so anyone in the U.S. who wants to submit their perspectives to us can do so right now. That way we have about 80,000 comments that we have received thus far.

We will hold that docket open until right about the end of this month. And then if there are specific issues that you have that you would like to follow up on, we would be happy to circle back with you and your staff to discuss those.

Mr. JOHNSON. OK, thank you.

Ms. Sullivan, same question for you. We have a significant Defense Department footprint in Ohio—Wright-Patterson, Mansfield, Youngstown Air Reserve Base, et cetera. Is there anything that we can do to more closely engage with the DOD on some of these issues?

Ms. SULLIVAN. Thank you, Congressman. I know that Wright-Patterson has, well, Wright-Patterson has a restoration advisory board which is community based so to try and engage the local community and be transparent in what is going on, on the base, and I encourage the local communities to engage in that. The Air Force has been very transparent in their process having established websites and public meetings and I encourage the community to get engaged in those processes.

Mr. JOHNSON. And, Ms. Sullivan, your written testimony discusses the remediation of PFOS and PFOA and you note that DOD is addressing known or suspected releases of these chemicals to determine whether there is exposure through drinking water. Is DOD only looking at drinking water exposure and what about releases to soil sediment and groundwater?

Ms. SULLIVAN. Thank you, I appreciate the opportunity to answer that question. The exposure through drinking water was our first priority so we wanted to make sure that we fully understand if anybody, humans were being exposed and to cut that off. Then we are going through the standard process to look at all of the potential exposure pathways including soil and groundwater. But we

are taking a more deliberative approach because our first priority was to cut off human exposure.

Mr. JOHNSON. OK. Just real quickly back to you, Dr. Grevatt. You mentioned EPA is working on response actions with other agencies such as HHS. Can you explain your work partnership with HHS including what agencies at HHS and what collaboration has occurred and what we can expect moving forward?

Mr. GREVATT. For certain. Thank you, Congressman. So as I noted we are working very closely with HHS on a number of the actions which we identified. Those include the development of the toxicity values of PFBS and GenX. We are working, really, with all the different parts of HHS including the assistant secretary's office, Assistant Secretary for Health, right down through FDA, NIEHS, ATSDR, CDC, every part of HHS has been involved to participate in this effort. And we will continue to work side by side with them on these issues.

Mr. JOHNSON. OK. Well, thank you both for your testimony.

Mr. SHIMKUS. The gentleman's time has expired. The chair now recognizes the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman, you and the ranking member, for holding this hearing. Per or polyfluoroalkyl substances, or PFAS, has been around for many years and has found a wide variety of uses in consumer products from our cookware to stain repellents to fire retardants. Due to the widespread use, most people have some exposure to PFAS. While scientific data shows minimal amounts of exposure do not pose substantial risk, higher levels of exposure could lead to a wide array of adverse health effects. I would like to thank our witnesses for being here today to testify and look forward to your opinion.

Dr. Grevatt, in 2016, EPA revised its nonbinding lifetime health advisory level for PFAS down from 400 parts per trillion to 70 parts per trillion. What was the impact of this decision?

Mr. GREVATT. Thank you, Congressman, a very important step in terms of having a final lifetime health advisory. We provided this to the states and members of the public in terms of not only the value of the health advisory but steps that communities could take to address concerns with PFAS. And this health advisory came out as we were completing the UCMR process, the national monitoring study that I mentioned, and so together they were able to help to identify communities that may have concerns related to PFAS in their drinking water supply. So it was a very important step.

Mr. GREEN. What does it take to go from a nonbinding to binding?

Mr. GREVATT. That would be, and as you noted, sir, the drinking water health advisories are really guidance values. They are not requirements. It would take us a national drinking water regulation, an MCL for PFAS compounds to create a binding requirement in terms of meeting those levels.

Mr. GREEN. Well, I have a very urban district in Houston, a chemical industry, refinery industry, but in Texas like Ohio we have a number of military bases. In fact, Fort Hood is probably the biggest base in the world. We have air bases. Has there been a partnership with the bases in Texas as you said that in Ohio?

Mr. GREVATT. Yes, sir. We are working closely with DOD on these issues all across the country. And perhaps Ms. Sullivan would like to respond.

Ms. SULLIVAN. Thank you, sir. The bases in Texas are subject to the same processes that we have established across the Nation. They had to go and look where they had known and suspected releases and if there were any they had to determine if there was exposure through drinking water and address that. I can provide you detailed information if you would like on the bases in Texas.

Mr. GREEN. I would appreciate that so I can share it with my other colleagues in Texas. Does EPA currently have the technical expertise to set MCL that protects public health?

Mr. GREVATT. Yes, sir. I believe we do.

Mr. GREEN. How do you reconcile that the Agency for Toxic Substances and Disease Registry released a draft study of the public health risk of PFAS that showed maximum safe levels of chemicals are seven to ten times less than the health advisory set by EPA? Is EPA ignoring this mission or how do you reconcile that between the Disease Registry?

Mr. GREVATT. Thank you, Congressman. So I would say a couple of things about that. The first is that the purpose of the document that ATSDR developed is different from our drinking water health advisory. They used these toxicity profiles as screening values for sites and then also they chose to view the science somewhat differently than we did. We are working very closely with them on these issues to make sure that we are sharing the best information we have as we go forward.

Mr. GREEN. Well, obviously there is some concern because, we know what happened in Flint, which was not that issue, but what former Chairman Upton talked about in his area and again in an industrial area we could have the same thing.

Given the action that is seen at the state level to set maximum containment levels, or MCL, what is EPA's expected timeline for setting federal MCL for PFAS under the Safe Drinking Water Act?

Mr. GREVATT. Thank you, Congressman. So this is one of the key actions that we identified earlier this year that we were going to be exploring throughout the year. We expect this to be included in the National Management Plan and we hope to have that completed by the end of this calendar year.

Mr. GREEN. OK. Well, I would hope EPA would quickly move and address the issue in a competent manner relying on the solid peer reviews data and allowing public input throughout the process. And like I said, I don't think any member on the dais would not be willing to partner in our communities if that was the issue.

I will yield back my time, Mr. Chairman.

Mr. SHIMKUS. The gentleman yields back the time. The chair now recognizes the gentleman from Texas, Mr. Flores, who with my apologies for skipping you, you are recognized for 5 minutes.

Mr. FLORES. That is OK. You just let the other gentleman from Texas ask my question. But I would like to thank you, Mr. Chairman.

Dr. Grevatt, a couple of questions for you really quickly. Continuing Mr. Green's line of questioning, did the EPA learn anything

from the ATSDR report that was dramatically different from what it had developed internally with respect to maximum levels?

Mr. GREVATT. Thank you, Congressman. So as I noted, we have worked closely with ATSDR on the communication of their report and in the development of their report. We provided comments to them and have worked throughout this process. I think one of the things that we have learned and perhaps these reports reinforce is the importance of focusing on risk communication with the public so we don't lead people to a place where they are confused about what do these different values mean.

And as I noted, they have different purposes, the toxicity profile from our health advisory, but that has been a really important message. Also throughout the national engagement that we have done risk communication is something we need to continue to focus and try and advance.

Mr. FLORES. Let's go ahead and move to the communications question. Mr. Upton brought this up during his opening testimony. Would you say that the current communication efforts with respect to PFAS are effective?

Mr. GREVATT. I think, sir, that we always can improve and we need to focus on continuing to improve on our risk communication and this is a top priority for Acting Administrator Wheeler.

Mr. FLORES. So what improvements would be needed? What are your initial thoughts as far as improvements that could be put in place?

Mr. GREVATT. I think it is important for us to continue to work toward characterizing the context for these values, what they mean, what does 70 parts per trillion mean and what are the implications for a community that may have a level above 70 parts per trillion. I think it is natural that folks will become very concerned when they see levels approaching that. And we think it is important to focus on PFAS. We think it is important to focus at the local level on awareness of these compounds and taking steps to address them. But we want to try to continue to share this information in a way that doesn't create a great deal of anxiety and fear on the part of the public. I think that is a place where we can make further progress.

Mr. FLORES. Let's drill into the 70 parts per trillion metric for a minute. Does today's technology readily measure concentrations of this contaminant at that level?

Mr. GREVATT. Yes, sir.

Mr. FLORES. It does, OK. Thank you. I yield back the balance of my time.

Mr. HUDSON [presiding]. The gentleman yields back. The chair recognizes the gentleman from California, Mr. McNerney.

Mr. MCNERNEY. Well, I thank the chair. While I appreciate that the EPA is hearing from the public and engaging with communities impacted by PFAS, recent actions by the EPA have undermined public confidence and my confidence in the Agency's ability to address human health risks posed by these toxic chemicals.

In April of this year, the EPA proposed a rulemaking titled, "Strengthening Transparency in Regulatory Science." Now, this was modeled after the secret science legislation drafted by the House Republicans. The proposal could require the EPA to ignore

important scientific studies of human health effects because the data included private medical information.

Dr. Grevatt, was the Office of Water consulted before the rulemaking was proposed?

Mr. GREVATT. Thank you, Congressman. This rulemaking is an Agency rulemaking and so all parts of the Agency are engaged on this. It is being led from the Office of Research and Development but we are connected in this effort.

Mr. MCNERNEY. OK. Did your office assess how the proposal would impact your ability to address PFAS contaminations?

Mr. GREVATT. Sir, while the proposal has received many, many comments as I think you are aware and the Agency is in the process of considering the comments as they move towards development of a final rule, and I think it is difficult to conjecture at this stage what those impacts might be.

Mr. MCNERNEY. Well, in June of this year I joined Ranking Member Pallone and Ranking Member Tonko in sending a letter to the Agency requesting additional information on the issue, 2 months later the Agency responded to me personally. I would like to submit my letter and the Agency's response to the committee for the record.

Mr. HUDSON. Without objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. MCNERNEY. Thank you. Mr. Grevatt, are you aware of this letter?

Mr. GREVATT. I am aware that we have received the letter. I personally have not been engaged specifically on this issue in the response to that letter.

Mr. MCNERNEY. OK. Well, the letter requests that the EPA provide us with copies of all comments or feedback from the EPA staff on the Agency's proposed Strengthening Transparency in Regulatory Science rulemaking, including but not limited to members from the rulemaking's Action Development Working Group. There were other requests as well as this.

This information is important so that we can better understanding what, if any, concerns were raised on how the proposed regulation would impact its ability to address human health risks associated with PFAS. Again it took the Agency 2 months to respond, but they haven't, the Agency hasn't produced the documents that were requested in the letter.

Would you commit to providing those documents for the record?

Mr. GREVATT. Sir, I will certainly commit to working with our congressional staff to follow up with you and your office to make sure that we are having the conversations that you are wanting to have on this.

Mr. MCNERNEY. OK. I did mention earlier that the public has lost confidence. What do you think that you personally can do to help restore that confidence?

Mr. GREVATT. Sir, I appreciate your question and I would turn back on this PFAS issue to the national engagement that we are involved in. And through this process I personally have had the opportunity to meet with hundreds of impacted citizens across multiple states. I have heard statements from over 120 individuals

talking about their challenges and we are taking this back and folding this into the National Management Plan.

I think it is very important for the public to be able to see how their comments to us are reflected and the steps we are taking and that is really what we are committed to here through this national engagement. I think it has been a very important step, a very valuable step for us as we are addressing this issue.

Mr. MCNERNEY. Do you agree with the provision that would exclude information because it is from private medical information?

Mr. GREVATT. So this issue is under careful consideration by the Agency and we are thinking through the public comments that we have received on the transparency rule and that process continues.

Mr. MCNERNEY. All right. Thank you, Mr. Chairman. I yield back.

Mr. HUDSON. The gentleman yields back. At this time the chair will recognize himself for 5 minutes for questioning.

Dr. Grevatt, Administrator Pruitt has been here a number of times and I have questioned him each time about this PFAS issue, about GenX in particular and the need to develop a comprehensive plan for containment and removal. The Agency responded in April to a letter I followed up with on that, those two testimonies, saying that a key priority for the EPA is to further the understanding of human health impacts of PFAS to support states and local communities.

The EPA is currently developing a human health toxicity information for GenX that will provide a scientific basis for states and communities to set that will refine public health goals. So I want to ask you a few questions about that and we only have 5 minutes so I would just ask you to be as concise as you can. Could you provide a timeline for when the toxicity value for GenX will be released?

Mr. GREVATT. Yes, sir. We are very close to this now. We expect in the coming weeks to have that available, in draft, for public review and comment.

Mr. HUDSON. OK, thank you for that. Once this toxicity value of GenX is released, can you commit to releasing a public health advisory specifically for GenX?

Mr. GREVATT. So thank you, Congressman. We will work closely with the states to determine what will be most helpful to them. And, for example, on GenX specifically with regard to North Carolina, we are working side by side with them and want to make sure that we are providing them the support they need.

And, sir, I might just add that we appreciate your invitation to come to Fayetteville. We appreciate your participation in that event and that in particular along with the others we found to be tremendously valuable. So thank you very much for your leadership on that.

Mr. HUDSON. Thank you. I would just stress that I think the public health advisory is really the next step in the process once we get those toxicity numbers to really help the state understand what we need to do going forward. So I appreciate you working so closely with the state.

Based on my past discussions with EPA officials, I understand EPA is working very closely with the state and I get that feedback

from the state. Are you aware of any outstanding questions or information that EPA still owes the state of North Carolina?

Mr. GREVATT. I think there are ongoing conversations with the State of North Carolina addressing all kinds of issues including stack testing at the Chemours facility, sampling the Cape Fear watershed and so I think those discussions are ongoing. So I am reluctant to say there is nothing outstanding because there is a lot that is going on and we will remain committed to supporting the state throughout this process.

Mr. HUDSON. I appreciate that. Now my understanding is there are over 20 other chemicals besides GenX who were found in the Cape Fear Basin. Is that part of this ongoing discussion is looking at those chemicals as well?

Mr. GREVATT. Yes, sir.

Mr. HUDSON. Can we expect to have those results this month as well in the draft form or is that going to be later?

Mr. GREVATT. So those results if you could, I want to make sure I understand specifically your question. So we are going to have the GenX toxicity assessment in the coming weeks available and then we will have the National Management Plan. Our goal is to have that completed by the end of the calendar year. That will be a comprehensive view across EPA's actions in conjunction with the State to address these issues.

Mr. HUDSON. Great. Again I appreciate you accepting our invitation to come to Fayetteville for the community engagement, but I understand you are doing those around the country in other communities. Can you provide us just a few brief takeaways from our community engagement summit?

Mr. GREVATT. Yes, sir. Thank you. So as I mentioned, in the case of Fayetteville I heard from over 50 citizens about the concerns they face and the concerns are very significant and they range from concerns about protecting families, their children, to economic impacts of the decisions.

We heard from folks in Wilmington as well who came up and talked about the economic impact on the very important work that the drinking water utility is doing to put in drinking water treatment and concerns about they are going to pay for these actions. And so extensive concerns addressed and we will remain committed to working closely with the community in Fayetteville, the State of North Carolina, community of Wilmington, on addressing those issues going forward.

Mr. HUDSON. We appreciate that very much. Is there any information you learned that you think helped move you forward in terms of examining the chemical?

Mr. GREVATT. I think again reiterating the point on risk communication in the case of North Carolina because they themselves have been working towards a health value on GenX. We heard from them very clearly how important it is to be closely coordinated and we are working side by side with them in every step of this process.

Mr. HUDSON. I appreciate that. One other issue I am trying to wrap my brain around maybe you can help me with is, in your opinion, what is the lowest allowable and scientifically reliable level at which PFAS can be detected and monitored?

Mr. GREVATT. Right. So in terms of the reliable level where it can be detected, I think we are down into the single digits of parts per trillion that can be monitored. And in part that is a result of the national study that we did to build lab capacity across the country, so this continues to advance. But I think we are in the single digits of parts per trillion for these compounds.

Mr. HUDSON. Great, thank you for that and my time is expired. At this time I will recognize the gentlelady from Michigan, Mrs. Dingell, for 5 minutes.

Mrs. DINGELL. Thank you, Mr. Chairman. I think you can tell that Republicans and Democrats are pretty unified here on the concern about the PFAS chemicals.

And I want to build, the Flint water crisis is something that every member on this dais has in their head and every American across the country is worried about. And PFAS in Michigan is scaring people more than the Flint water did, but I also think that it is across the country as you have heard from my colleagues here.

I have several points I want to make, but I will build right on the last questions first. And I am very glad that you went to Fayetteville. North Carolina wanted to see you, but so did Michigan and Michigan had originally been scheduled to be one of those community forums. People wanted you from one side of the State to the other and you didn't come. Why did you cancel Michigan and could we get you to still come?

Mr. GREVATT. Right. So we have been working very closely with Michigan and all the States in determining the locations for these events, and if in fact Michigan now wants us to do an event in the sState we will be glad to talk with you and talk with them about how we might do some kind of an event.

Mrs. DINGELL. This is a formal invitation on behalf of a whole lot of people. I know Fred joins me on the other side, don't you, Fred?

Mr. UPTON. Unanimous, yes.

Mrs. DINGELL. So you have an Upton Walberg Dingell invitation for a community forum in Michigan and we take that you have accepted it. And I think our czarina would support it too.

Mr. GREVATT. So we will be very glad to follow up with all of you and your staffs about this as well as with the State. And as I mentioned, we have been working closely with Michigan and if they in fact now have decided they want us to come then we will be glad to come.

Mrs. DINGELL. I know a lot of people have. I was asked by many people to raise that.

I want to go back again, and I know we all keep asking the same question. But I think what has really got everybody worried is we need to change the national standard for what is a safe level and you are telling us that you are going to, I think you are telling us. You are not saying you are going to determine whether we need it. I hope that you are saying that we do need to revise the standard.

You are going to put out a National Management Plan by the end of the year. What is going to be in that plan? Are you going to give us what the new standard should be and how long is that going to take? How do we create that sense of urgency that cuts

through bureaucracy and keeps Americans safe drinking their water?

Mr. GREVATT. Thank you very much for those questions. So a couple of things I want to respond with, first, to be clear, we have a guidance value now not a regulatory standard and one of the key items we are committed to at EPA by the end of the year in the Management Plan is to consider whether we should be developing an MCL for PFOA and PFOS or other compounds. So we are still engaged in that process.

If we were to, in the context of a drinking water health advisory, think about lowering that level, we would subject that to scientific peer review before we took that kind of a step. So we are working through these issues now. We expect these to be addressed in the National Management Plan and our goal is to have that done by the end of the calendar year.

Mrs. DINGELL. So I am going to push on that a little. So are you telling us you are still—I think that all of us on this dais have seen enough in scientific studies that we have got a problem. I think the children in Flint that got poisoned wish somebody had cared enough. So are we talking about another 2-, 3-, 4-, or 5-year bureaucracy or are we looking at something that is really going to get at this quickly to keep the American people drinking safe water?

Mr. GREVATT. I thank you. And making sure Americans' drinking water is safe is a top priority for EPA and we will continue to focus on this issue.

You asked about the National Management Plan. This will be a comprehensive view not only in the drinking water area, but across all of our statutory authorities about steps that we can take now to make sure that we are protecting Americans in their communities. And so that will be the focus of the National Management Plan and the goal is as I noted to have that done by the end of the calendar year.

Mrs. DINGELL. I have more questions for you but I don't want Ms. Sullivan to feel lonely. So we have got five sites in Michigan that are sites that have been contaminated because of military presence. What is DOD doing to help us clean up in Michigan?

Ms. SULLIVAN. Well, thank you, ma'am, for asking. At all of those sites we have gone out and identified where we have known and suspected releases. We have tested many drinking water sources. Every drinking water source that has tested above the EPA's advisory level——

Mrs. DINGELL. Five of them.

Ms. SULLIVAN [continuing]. We have worked with the communities to provide those citizens, because some of them are private wells as you can appreciate, alternative drinking water sources. It is up to them which of these options are available. Then we are embarking on the entire CERCLA process to really fully analyze the situation. What are the sources, what are the pathways, and working with the State and EPA on what the remedy solution would be in strong partnership.

Mrs. DINGELL. Obviously there are a lot more questions but I am out of time.

Mr. SHIMKUS. The gentlelady's time is expired.

Just for our information we have Navy bases, Air Force bases, Coast Guard bases, and Army posts. So just in definitionary terms as an Army guy we have posts. The chair recognizes the gentleman from Michigan, Mr. Walberg, for 5 minutes.

Mr. WALBERG. Thank you, Mr. Chairman, and thank you to the panel for being here. It was good to have Administrator Wheeler in Michigan in my district on the banks of Lake Erie and other places and it was good to be able to talk to him about this PFAS/PFOS issue and to understand very clearly that it is being taken seriously and that there is, and I want to follow up on my friend and colleague from Michigan as well. It is good to know that you are willing to come, but it is also good to know that you remain in contact with our state as well on this issue on a regular basis.

Mr. Grevatt, you mentioned you are working with States like Michigan and North Carolina. What do you think are the things of greatest value that you could offer them at this time?

Mr. GREVATT. Thank you very much, Congressman. So a number of the things that the States have communicated to us that they really need help on include assistance with risk communication in talking to the impacted public in their States about these issues, support with analytical methods, development of additional tools to sample for these compounds in the environment, the toxicity values are also important, and then consideration of treatment techniques that are available. And, in fact, all of those things are things that we are currently working on with the states to support them in addressing these challenges.

And so we are staying very close to the states and focused on what tools we can provide to help them to address these challenges and how do we best address these challenges and how do we best support local communities.

Mr. WALBERG. With these challenges if the states struggle in some of these areas like Michigan, North Carolina, other States, if they struggle where do they struggle the most?

Mr. GREVATT. I think there have been challenges certainly around technical questions, around sampling and analysis of compounds. Those are issues that we have talked about extensively with Ms. Grether in the State of Michigan. With questions around characterizing levels of these compounds in the environment and how to do so, those are issues that we worked on very closely with the State of North Carolina.

And toxicity as well, there are questions around the broad set of compounds, PFAS compounds, where we talk a lot about PFOA and PFOS, but there are many other compounds that we need to stay focused on. And I think those are issues that have been a concern to States as well.

Mr. WALBERG. OK. Section 1453 and 1454 of the Safe Drinking Water Act create a framework for States to do source water planning and voluntary response efforts. H.R. 3387, the Drinking Water System Improvement Act, the bill our committee, thankfully, unanimously supported, would allow new and updated States' source water plans to qualify for assistance. Would these source water plans permit States to address PFAS contamination?

Mr. GREVATT. Yes, sir. I think they would help to address PFAS contamination. And it has been very important the work that Ms.

Sullivan has talked about at DOD. We see that many of the instances of drinking water contamination are related to known sources. Those might be DOD facilities, but there are certainly many others as Ms. Sullivan indicated. And I think the source water protection focus can really help local communities to understand their vulnerabilities for PFAS and other compounds.

Mr. WALBERG. OK. Would these plans and responses also be eligible from the resources of a State SRF under Section 1452(k)?

Mr. GREVATT. And certainly in particular through the set-asides and the technical assistance these are activities that can be covered in that area, yes.

Mr. WALBERG. In your response to the chairman you mentioned that DWSRF funding could be used for PFAS. Could it be used for other emerging contaminants as well?

Mr. GREVATT. Yes, sir.

Mr. WALBERG. Do you know how many States are already doing this?

Mr. GREVATT. I think a number of States are providing support to drinking water systems in their State, particularly through the set-asides, the technical assistance and I think that is going to continue to be a focus. But there are broad opportunities through the drinking water SRF to support both infrastructure investments and also to support technical assistance and operator certification and strengthening in terms of the capacity of drinking water systems. So there are broad eligibilities that are provided through that tool.

Mr. WALBERG. OK, thank you and I appreciate your responses. I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The chair recognizes the gentleman from California, Mr. Peters, for 5 minutes.

Mr. PETERS. Thank you, Mr. Chairman, and thanks to the witnesses for being here. I had two questions, one for Mr. Grevatt. Dr. Grevatt, studies tracking PFOS in marine organisms and ocean waters, PFOS was added to the Stockholm Convention on Persistent Organic Pollutants in 2009, and we are not party to that Convention but is EPA doing anything to monitor coastal waters for these compounds and are you working with other countries to control the spread of these contaminants?

Mr. GREVATT. Thank you. So EPA is engaged as I noted in the broad characterization of drinking water supplies. We also have ongoing monitoring activities in watersheds. As I mentioned, the Cape Fear watershed has been an important area of work. And so I think as we get into estuarine environments, those are areas where we are thinking about the presence of these compounds. I think our primary initial focus has been around issues that immediately affect public health in making sure that we are addressing the needs of communities.

Mr. PETERS. OK. I would love to be updated on any activity on that.

Mr. GREVATT. We would be glad to follow up with you on that.

Mr. PETERS. Thank you.

And, Ms. Sullivan, I had a question about firefighting foams. You noted that it was a small part of the problem in terms of overall volume, but it looks to me like the military specs require fluorine compounds and I wanted to know how you see progress in moving

away from that and does that requirement interfere with your work in dealing with the toxicity of these particular chemicals?

Ms. SULLIVAN. Thank you for that question. The current military specification requires a certain performance as well as a makeup and part of that is driven by the need to be able to fight fires associated with aircraft quickly and efficiently. It is managed by the Department of the Navy because it is highly important that when we have shipboard fires that we have the ability to fight those fires very rapidly. We are working carefully with the current suppliers to determine what levels are in those compounds, the current formulations.

In terms of research that we are investing in on a fluorine-free, it is basic research at this time, bench scale research. But we are committed to continuing that research to ultimately, hopefully, produce a product that does in fact meet our critical mission needs and is in fact fluorine-free.

Mr. PETERS. Good. I think that will be helpful throughout the economy and in a number of applications as well. So thank you very much for being here, and I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The chair now recognizes the birthday boy, Dr. Carter, for 5 minutes.

Mr. CARTER. I appreciate that, Mr. Chairman.

Ms. Sullivan——

Mr. SHIMKUS. You are very red.

Mr. CARTER. Yes, I am. I am. Sorry, I got my notes mixed up here.

Ms. Sullivan, you mentioned in your testimony about the actions that the Department of Defense is taking not only in providing the clean drinking water, but also in the remediation efforts. And I was just wondering, I am interested in learning more about how you actually go about notifying the individuals on these installations and what the communication structure looks like.

Ms. SULLIVAN. Well, first of all, happy birthday, sir.

Mr. CARTER. Thank you.

Ms. SULLIVAN. Each of the military installations this is voluntary on their part. We encourage military installations and the communities to establish what we call restoration advisory boards and these boards are populated by local citizens who want to learn about the cleanup going on on those bases. It is voluntary on their part, but we support then and fund that activities.

As far as on our bases, we have sophisticated notification systems for the populations present on the installations to make sure the information gets out and in full consistency with the Safe Drinking Water Act where we are in fact the purveyor. We do the routine monitoring and issue the consumer confidence reports on top of routine correspondence with the citizens on the base.

Mr. CARTER. So you are providing them with bottled water; is that right?

Ms. SULLIVAN. It depends on the situation, sir, and what their choices are. In some cases we may hook them up to an alternative water supply or if in some cases they want bottled water, or we may install some sort of granulated activated carbon solution. It depends on the circumstance.

Mr. CARTER. But whichever way you do it, you do it until the remediation is completed.

Ms. SULLIVAN. Correct.

Mr. CARTER. OK, good. What types of sites? Is there a particular type of site that you see the most contamination on?

Ms. SULLIVAN. It is interesting it is a range of sites. A lot of it is associated with as you can understand firefighting activities, training mostly. The newer sites for us that we have to go and explore are crash sites. So usually with the firefighting sites there has been some other chemical or compound that has been used, so we have already done a certain amount of investigation. However, the crash sites are now newer that it is a challenge for us to go out and identify where those sites were and understand the circumstances around them.

Mr. CARTER. Good, thank you very much.

Dr. Grevatt, you mention in your testimony that there were four significant actions that you were considering when you were making these recommendations for PFOS and for the contaminated areas. Can you explain those four to me very quickly?

Mr. GREVATT. Yes, certainly. So the first is to explore the development of a national primary drinking water regulation for PFOA and PFOS. There are important considerations that we have to work through. That is ongoing right now. The second is exploring the listing of PFOA and PFOS as hazardous substances under CERCLA. There are many statutory mechanisms for achieving that goal that is very important in terms of our ability to order cleanup actions and to recover costs that EPA may expend for those actions. The third is development of groundwater cleanup goals under our waste cleanup programs for these substances, very important in terms of addressing contaminated sites. And then the final one is developing toxicity values for two additional PFAS substances, those are GenX and PFBS. And we are hoping to have those draft values available for public review and comment in the coming weeks.

Mr. CARTER. Do you have a timeline on all four of these or on the different steps?

Mr. GREVATT. Right. So as I noted, the toxicity values is probably the closest to being completed and we are looking toward the coming weeks to have those completed. The groundwater cleanup recommendations are currently undergoing interagency review so that process is actively underway. The last two will be addressed in the National Management Plan which our goal is to have the completed by the end of the calendar year in terms of identifying the path forward on these important actions.

Mr. CARTER. Great. Well, thank you both in your work on this, very challenging.

Thank you, Mr. Chairman. I yield back.

Mr. SHIMKUS. The gentleman yields back his time.

Seeing no further members of the subcommittee, the chair now recognizes the gentleman from Vermont for 5 minutes.

Mr. WELCH. Thank you very much, Mr. Chairman, a couple of things. First of all, I just want to say that I believe the Environmental Protection Agency is a vital agency to protect the health

and well-being of the American people and I want to thank you for your dedicated service.

Second, we have an issue in Vermont with PFOA so I want to talk a little bit about that and then ask whether you can help. But in 2014, PFOA was discovered in Hoosick Falls, which is just across the border, and in the town of Bennington on the Vermont side there was a Teflon plant, Saint-Gobain, and it turns out that hundreds of private drinking wells in Bennington are contaminated and we are trying to work through that to provide for the health and safety of the residents there.

But in June 2017 I wrote to then EPA Administrator Pruitt with a couple of direct requests and all as a result of what was happening in Vermont. One was that the EPA establish a national primary drinking water regulation for PFOA; two, that PFOA and PFOS be listed as hazardous substances under CERCLA; and three, that we take action under the Toxic Substances Control Act to review and regulate PFCs and I continue to request that those steps be taken.

And, in addition, I believe and many in Vermont believe that there are several additional steps that the EPA must take on this front: One, establish toxicity profiles for the entire class of PFAS compounds; two, establish a reliable testing methodology for PFAS contamination that is present in sources other than water. For instance, how do we test milk produced from a cow drinking contaminated water or maple syrup from a tree drawing on contaminated water?

Three, establish a maximum contaminant level as a backstop while providing resources to states that wish to adopt a more stringent standard; four, develop reliable and sufficient testing laboratories to identify contamination; and five, develop a national listing of products that contain PFAS.

So the questions, Mr. Grevatt, I will ask you, can EPA commit to establishing toxicity profiles for the entire class of PFAS compounds?

Mr. GREVATT. Thank you, sir. That is a very important question. As you know, it is a broad set of compounds, actually in total many thousand compounds. And through our Office of Research and Development we are looking not only at how to develop toxicity values for individual compounds like PFBS and GenX, but how to start to look at the broader suite of compounds and look at them holistically. That is still a research area. It is going to take some time for that work to advance, but that is a focus area for us and we are working with other parts of the Federal Government on those questions as well.

Mr. WELCH. Can you keep us posted on that?

Mr. GREVATT. Yes, sir. We would be glad to do so.

Mr. WELCH. The clock is ticking on that.

Two other questions, as I mentioned we currently lack a publicly available list of products that contain PFAS and related chemicals. We would like the EPA to compile that list. If you can't, what resources would the EPA need and what barriers are preventing you from doing that?

And, finally, is the EPA currently investigating ways in which to test for contamination of non-water products like the milk example, the maple syrup example I just mentioned?

Mr. GREVATT. Yes. Let me take the last question first, and absolutely yes, we are doing that. One of our commitments is to develop additional analytical methods for a media other than drinking water understanding how important that is in your state. And I had the opportunity to visit your great State just last week with the Environmental Council of the States meeting there and talk about these issues there. And our TSCA program is working right now comprehensively to get a broader view of the presence of PFAS compounds in different products. So that is an issue we will continue to work on and we will be glad to circle back with you and talk about that further.

Mr. WELCH. All right. Well, I would like to have you stay in touch with us as progress is being made.

Mr. GREVATT. We would be glad to do so, sir.

Mr. WELCH. Thank you very much. I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The chair now recognizes the former chairman of the full committee, Fred Upton, for 5 minutes.

Mr. UPTON. Well, thank you, Mr. Chairman. Again I appreciate this hearing and I have got a lot of questions. I want to thank my colleagues on both sides of the aisle as we explore this situation for sure.

But, Dr. Grevatt, I am going to start with you. As you know, the Safe Drinking Water Act that passed out of this committee was very bipartisan. We learned a lot of lessons from Flint. One of the lessons that we learned ended up in legislation that President Obama signed that killed the Upton bill which requires that the EPA when they know about situations of contamination that they are required within 24 hours to inform the Governor, develop to work with the State on a plan to implement that.

So my first question when I learned about Parchment, Michigan was is the EPA involved and the answer was yes. So I am very grateful for that and I brought that to the attention of the Acting Administrator Wheeler when I talked to him about it on the phone within a couple of days.

I am glad to hear about the National Management Plan coming to Michigan. It is something that we want in Michigan and I know that my colleagues on both sides of the aisle will very much encourage that to happen and I would urge that as part of that visit that you come to Parchment as well where we have had a lot of different meetings.

In mid-July, before we learned about Parchment, I would note that Congresswoman Dingell, Kildee, and myself and other members of the Michigan delegation urged the EPA to review the toxicology profile and if, in fact, it needed to be adjusted below 70 parts per trillion that they do so in an expedited process. Quick question, is that happening? What can we do to expedite that process? What is the timing of that?

Mr. GREVATT. Thank you, Congressman. So we continue to look very carefully at all of the scientific information that is coming forward related to PFOA and PFOS. That is the focus of the drinking

water health advisory and we will continue to consider that information going forward as we explore whether those values need to be changed.

At this time EPA does not have plans to change the drinking water health advisory, lifetime health advisory for PFOA and PFOS, but we will continue to watch the literature and stay focused on this.

Mr. UPTON. I know that there is legislation that I am a cosponsor of that is going to encourage EPA to look at that to see what happens as that moves.

Ms. Sullivan, your role is very important here, appreciate you being here. I have to say that I was very troubled reading your testimony last night in that on page 3 you indicate that you will share information, the Department of Defense will share information in an open and transparent manner.

As you know, I wrote a letter back on August 1st relating to the National Guard Base in Battle Creek. Testing data had been taken 3 months prior to that, so 4 months now, and MDEQ, Department of Environmental Quality in Michigan, had independently found that there were perhaps as much as 21,000 parts per trillion at that site.

In addition, our Governor Snyder sent a letter regarding Wurtsmith and I think Selfridge as well, which I will put into the record. Again prior to August 1st, there was a public meeting held on July 30th. Yesterday, last night, I received a draft report of which I will put this page into the record. I will note that it is a draft, but on page ES–4 they tested 14 different sites at Battle Creek. Nine of the sites were over a thousand parts per trillion. Four of the sites, one was 3,800 parts per trillion; 4,300 parts per trillion; 25,000 parts per trillion; and 53,000 parts per trillion.

So I would say as a non-engineer, I think Mr. McKinley would acknowledge that there is little doubt that it came from that site. So the questions are where is it moving? There are rivers that are close by. I don't think that there has been a real identification of private wells that are close by, but what is the impact on those? What is the impact on the community itself?

But how is that full and transparent when it is now 4 months after the testing? As we saw in Parchment, it was 4 days after the testing that we made it public.

Ms. SULLIVAN. Sir, thank you for the question. I am not familiar with the specifics in Battle Creek. I actually lived there for a period of time so I am familiar with the area, but I will have to get with the Department of the Army and get the specifics.

Mr. UPTON. Well, did they share this with you before today?

Ms. SULLIVAN. No, they have not. But I will——

Mr. UPTON. I mean this was literally dropped off at my office late yesterday afternoon as I understand it. I didn't see it until this morning.

Ms. SULLIVAN. I have not seen it, sir. But I will get with the Army and we will get the answers for you.

Mr. UPTON. I look forward to that because I agree that that information ought to be in an open and transparent manner as you indicated in your testimony, and it is not when it is 4 months late, let alone, how do we deal with this in the long-term way for those

individuals that are certainly impacted? Not only the servicemen and women, but also the folks that are living close let alone those that are along the Kalamazoo River.

Ms. SULLIVAN. Yes, sir.

Mr. SHIMKUS. The gentleman's time has expired. It is an Air National Guard Base so not an Army's.

Ms. SULLIVAN. I apologize, sir. Yes.

Mr. SHIMKUS. Not an Army post.

Ms. SULLIVAN. I always think of Fort Custer. I am sorry.

Mr. SHIMKUS. All right. The chair now recognizes the gentleman from California, Congressman Cárdenas, for 5 minutes.

Mr. CÁRDENAS. Thank you very much. I may be on the other side of the country from my colleague, Ms. Dingell, next to me, but we share many of the same concerns, water and the effects of chemicals. And our water systems in California and Los Angeles are in some cases very dire so the EPA's activity and determination is very critical to every American all across the country.

I note that Mr. Pruitt may be gone, but I wonder if the disinterest that I felt from him and his when he was there in human and environmental health still remains. Hopefully the commitment has changed. I didn't have much confidence in him and his ability to make sure that what is important to the EPA and to American citizens is consistent.

Dangerous chemicals are contaminating our drinking water and we have known about it for years. We also know the extremely harmful effects that chemicals have on people, especially our children and seniors. Even this EPA has determined that chemicals like perchlorate and PFAS are dangerous to human health at levels found in our drinking water.

Perchlorate, for example, disrupts the normal function of the thyroid, which is necessary for regulation of the heart rate and blood pressure. For babies, thyroid health is crucial for the development of the central nervous system. Yet, EPA has not established a national drinking water standard for perchlorate despite established research and proven science.

Dr. Grevatt, can you tell the committee what the mission of the EPA is?

Mr. GREVATT. Yes, sir, protecting human health and the environment.

Mr. CÁRDENAS. I love the fact that it is human health and the environment in that order. And I don't personally believe that there should ever be a disconnect between those two. I think we can do justice by minding both and doing what is right in both instances. So it is not, there is nothing in the EPA that says the EPA's mission is to protect industry or make compliance easier for industry, does it?

Mr. GREVATT. Sir, the focus is on protecting human health and the environment and working broadly across the country to achieve that goal.

Mr. CÁRDENAS. OK, good. And being the largest economy in the world I understand, and being a former businessman myself I understand how important it is that we try to strike that balance of responsibility and regulation and laws, et cetera, so that we can have a healthy environment, healthy human beings, and also have

the healthiest economy in the world. So I appreciate your clarity on that.

Dr. Grevatt, when did EPA determine that a drinking water standard for perchlorate would meaningfully reduce risk for customers of public drinking water systems?

Mr. GREVATT. This was a number of years ago in 2012.

Mr. CÁRDENAS. 2012. So why was that determination made or where did that come from?

Mr. GREVATT. Sir, that was made following the key factors under the Safe Drinking Water Act that this is a compound that was determined to present a threat to the health of persons, that it occurred at a level and frequency in the Nation's drinking water supplies, and that in the sole judgment of the Administrator that a national primary drinking water regulation was necessary to protect public health.

Mr. CÁRDENAS. Do we have a national standard today?

Mr. GREVATT. We do not yet. We are engaged in that process of developing the proposed rule.

Mr. CÁRDENAS. OK. You are engaged in that and what is your hope timeline wise? I know you don't have a crystal ball, but I am sure there are a lot of moving parts and there is a lot to be done before we set that or excuse me, you set that. So what do you think?

Mr. GREVATT. Yes, sir. We are under consent decree for this process right now and we have interacted with the court to request a bit more time to address the latest science that came in through our process and so we are hoping to have a proposed rule available in the coming months.

Mr. CÁRDENAS. OK. Oh, so a bit more time, you are talking about your hope is in the coming months.

Mr. GREVATT. Yes, sir.

Mr. CÁRDENAS. Not in the coming years.

Mr. GREVATT. Yes, sir.

Mr. CÁRDENAS. That is awesome. This administration has been asking courts on various issues for more time, more time, more time, so I am glad to your response and hopefully you will meet your expectation and ours as well.

How long has the EPA known about the risks of PFAS in drinking water?

Mr. GREVATT. So we have known about the potential risks of PFAS in drinking water for a number of years and that is why we engaged with the manufacturers in the phase-out of these compounds over the last decade or so. And so that phase-out has been achieved, we followed that up with significant new use rules under TSCA to make sure that we weren't relying on the voluntary agreement, but we actually had the ability to require notification of EPA before these compounds would be reintroduced.

So it has been a number of years that we have been actively engaged in this. And then I think you are aware that we completed this national drinking water survey of the presence of PFAS compounds in the Nation's drinking water supplies over the last several years as well.

Mr. CÁRDENAS. Thank you, Doctor. I appreciate it. And I yield back.

Mr. SHIMKUS. The gentleman yields back his time.

Just a side note, you want to know that Dr. Grevatt's professional educational background as a toxicologist; is that correct?

Mr. GREVATT. That is correct.

Mr. SHIMKUS. Thank you. The chair now recognizes the very patient Congressman Sarbanes from Maryland.

Mr. SARBANES. Thank you, Mr. Chairman. Thank you all for being here.

As you know, in 2018, ATSDR had prepared this study which showed the safe level of PFAS may be closer to 7 parts per trillion not 70. And at that time, officials at EPA and the DOD contacted the White House to express concerns about that report being released and what the public relation fallout might be and there are some emails related to that that were released in response to a FOIA request from the Union of Concerned Scientists.

I wanted to ask a couple of questions about that because to be candid I have grown increasingly concerned about lack of transparency within the Trump administration and its various agencies. So this goes to that concern.

So, Ms. Sullivan, in these emails that were released pursuant to the FOIA request somebody wrote, We, EPA and DOD, cannot seem to get ATSDR to realize the potential public relations nightmare this is going to be. At the time those emails were sent, were you aware of any DOD officials who shared those concerns?

Ms. SULLIVAN. Sir, I am so glad you asked that question. When this process was going on my communications with the Office of Management and Budget were solely to ask when it was going to happen and what the communication plans would be. I did not provide any assessment of whether that was good or bad, it was simply asking when would it be released and what would the risk communication——

Mr. SARBANES. So I appreciate that but were you aware of any DOD officials who were sharing the concerns expressed in that email?

Ms. SULLIVAN. No, I was the voice, sir.

Mr. SARBANES. OK. And I take it then you were not aware of efforts by DOD officials to impede the release of the report?

Ms. SULLIVAN. No, I was not aware of any efforts.

Mr. SARBANES. Were you aware of any, or are you of any internal DOD review or response that relates to the matters discussed in the email?

Ms. SULLIVAN. We have reviewed the draft document and submitted comments to the ATSDR and will respect the process that ATSDR goes through to develop the final document. I want to emphasize that we, and Dr. Grevatt has mentioned this before, we believe it should be peer-reviewed based on sound science, developed in a transparent manner, and we support the outcome of that.

Mr. SARBANES. Well, I appreciate it and I just worry that concerns about public relations can lean on the scale in a way that could undermine the scientific conclusions and judgments and assessments that are being made.

Dr. Grevatt, we have seen some lack of transparency issues at the EPA as well. Under the previous administrator, Scott Pruitt, there were secret calendars hiding meetings with industry leaders,

there was an undermining of career employees and scientific advisors. I know you are a career employee. I wonder if you have experienced any pressure from political folks at EPA or other administration officials to make decisions on a basis other than a scientific basis.

Mr. GREVATT. I personally have not.

Mr. SARBANES. And are you or were you aware of the emails I just referenced at the time that they occurred?

Mr. GREVATT. At the time I wasn't aware of the specific emails, but I was aware as Ms. Sullivan indicated of the strong interest in making sure that we had a coordinated communications effort across the federal government on these issues.

Mr. SARBANES. And I guess that is the concern, because you could dress up what might be a reflex to stop the release of something or slow it down significantly, notwithstanding the scientific basis for getting it released. That could be dressed up as just wanting to get all the ducks in a row and so forth and that is a fine line. And I am concerned based on some of the exchange of those emails that it may have tipped into a place where concern about PR, the public revelation of these new standards might have taken over the scientific judgment that should have been in place.

So I will continue to bring some interest and attention to this, but I thank you for your testimony. I yield back.

Mr. SHIMKUS. The gentleman yields back his time.

Seeing no further members wishing to ask questions, I want to thank the first panel for their time, their due diligence, and their answering of the questions. I think you can get an impression that this subcommittee and this committee they are pretty smart folks up here and have done their homework.

I can't even pronounce some of these chemicals, but at least I think it was a good hearing on this and we look forward to addressing things again. So with that thank you very much and we will sit the second panel down.

[Recess.]

Mr. SHIMKUS. We want to thank our witnesses for being here today and take the time to testify before the subcommittee. The second panel consists of the following members: Ms. Lisa Daniels, Director of Bureau of Safe Drinking Water, Pennsylvania Department of Environmental Protection on behalf of the Association of State Drinking Water Administrators; Mr. Sandeep Burman, Manager of Site Remediation and Redevelopment, Minnesota Pollution Control Agency on behalf of the Association of State and Territorial Solid Waste Officials, both organizations I have worked with closely; Ms. Carol Isaacs, Director of Michigan PFAS Action Response Team, the czarina as was referred to earlier; and think soon to join us, Ms. Emily Donovan, Co-founder of Clean Cape Fear; and Mr. Erik Olson, Senior Director of Health and Food, Healthy People & Thriving Communities Program with the Natural Resources Defense Council.

We appreciate you all being here today. We will begin the panel with Ms. Daniels, and you are now recognized for 5 minutes to give your opening statement.

STATEMENTS OF LISA DANIELS,, BUREAU OF SAFE DRINKING WATER, PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION; SANDEEP BURMAN, MANAGER, SITE REMEDIATION AND REDEVELOPMENT, MINNESOTA POLLUTION CONTROL AGENCY; CAROL ISAACS, DIRECTOR, MICHIGAN PFAS ACTION RESPONSE TEAM, EXECUTIVE OFFICE OF GOVERNOR RICK SNYDER; EMILY DONOVAN, CO-FOUNDER, CLEAN CAPE FEAR; AND, ERIK OLSON, SENIOR DIRECTOR, HEALTH AND FOOD, HEALTHY PEOPLE & THRIVING COMMUNITIES PROGRAM, NATURAL RESOURCES DEFENSE COUNCIL

STATEMENT OF LISA DANIELS

Ms. DANIELS. Good morning, Chairman Shimkus, Ranking Member Tonko, and members of the subcommittee. Thank you for the opportunity to talk about PFAS in drinking water. My name is Lisa Daniels and I am the President of the Association of State Drinking Water Administrators, whose members include 50 state drinking water programs, five territorial programs, the District of Columbia, and the Navajo Nation. Our members have primacy for implementing the Safe Drinking Water Act and they are on the front lines every day providing technical assistance, support, and oversight to our public water systems which is critical to protecting public health.

So my other full-time job, I am also the director of the Bureau of Safe Drinking Water within the Pennsylvania Department of Environmental Protection.

Today I would like to discuss ASDWA's concerns about PFAS and then really delve into three key recommendations we would like to make. PFAS compounds of course have been a growing concern for the drinking water community for more than a decade. To date, PFAS has been found in groundwater in at least 38 states, and I think that is an important number to remember, 38 states.

The solubility, mobility, and bioaccumulative properties of PFAS continue to heighten concerns about the potential adverse health effects and there are many unanswered questions. For example, where are these compounds being manufactured and used in commerce, what are there toxicity levels, how are they impacting the environment and public health, and these are just to name a few.

In 2016, EPA finalized the lifetime health advisories for two of the most common PFAS compounds, PFOA and PFOS. In June of 2018, as folks have remarked, ATSDR released a draft tox profile that proposed minimal risk levels and they proposed it at different levels than the EPA's health advisory number. The lack of a Federal standard and, really, this inconsistent health risk number have really led to increased public concern and driven some states to establish their own PFAS action levels. However, there are also other states that cannot take any independent action because they are prevented from being any more stringent than EPA.

With all of this together it is really no wonder that the average American is left questioning whether their drinking water is safe. In my own State of Pennsylvania, our Environmental Cleanup Program is conducting site investigations at about 11 sites across the State. The investigations that we are doing are where there are

levels above EPA's health advisory of 70, because we are fortunate that we can recognize health advisory levels in Pennsylvania and we do have authority to look at unregulated contaminants at those levels.

However, certainly the adequacy of our actions are being called into question because of differing numbers that we see coming out from ATSDR and potentially some other States. We do recognize the science is still evolving PFAS and risk to human health. There is a whole host of analytical and technology challenges and data gaps surrounding this issue. And, really, what folks need are more robust information on health effects, analytical methods, and treatment efficacy.

So clearly more work is needed, more research and data are needed to really help support a consensus-based standard and tox values. ASDWA partnered with several organizations including ECOS, Aqua, and EPA to help chart a path forward for States and Federal agencies. We have provided extensive written comments and recommendations to EPA and other Federal agencies on two different occasions. The first one was back in January of this year, and then a second set of comments was submitted in July. Essentially we are asking these folks to work together to help solve this issue. Anybody that is interested in seeing the comments that we wrote, all of that information is on our website as well as information that we continue to gather and pull together based on other States.

ASDWA absolutely supports the commitments the EPA made during the National Leadership Summit and we think that is a solid step forward but more work is needed. In terms of ASDWA recommendations, states' water systems and the public need national leadership now to address this issue. And for us, the question is not whether to regulate but when and how, but make sure it is done using sound science.

The three key areas we would like to suggest: We believe PFAS must be addressed at the national level using a holistic approach and we ask Congress to direct all the Federal agencies to develop a unified message for risk.

Number two, we ask Congress to provide additional funding to EPA and the States to deal with this issue. Currently we do think folks are diverting money away from the core program in order to address this issue which is causing problems there.

Third, Congress should recommend EPA to expand and coordinate across all of the programs and media. And with that we look forward to continuing to work with you to solve this issue. Thank you.

[The prepared statement of Ms. Daniels follows:]

Testimony of Lisa Daniels

President, Association of State Drinking Water Administrators (ASDWA)

Director, Bureau of Safe Drinking Water

Pennsylvania Department of Environmental Protection and

to the

Subcommittee on Environment

House Energy and Commerce Committee

Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented

Thursday, September 6, 2018

Executive Summary

Per- and Polyfluoroalkyl Substances (PFAS) have been a growing concern for the drinking water community for more than a decade. The solubility, mobility and bio-accumulative properties of PFAS continue to heighten concerns about potential adverse health effects. States, water systems, and the public need national leadership now to figure out this growing public health problem. ASDWA believes the question is not whether to regulate PFAS, but when and how, using sound science as required by the Safe Drinking Water Act (SDWA). ASDWA has identified three key areas for action:

1. ASDWA believes that PFAS must be addressed at the national level using a holistic approach and asks that Congress direct all appropriate federal agencies to develop a unified message regarding the PFAS risks, and as soon as possible, list PFAS compounds as hazardous substances under CERCLA, require PFAS reporting under the Toxic Release Inventory, and take other steps to control and limit PFAS contamination.

2. ASDWA asks that Congress provide additional funding to EPA and the states to address PFAS. At present, state primacy agencies are diverting resources from core drinking water programs (including inspections, technical assistance and training, permitting/plan approvals, and compliance/enforcement) to address PFAS. Without additional funding, both the core program and the additional work to address PFAS will suffer.

3. ASDWA asks that Congress recommend that EPA expand the PFAS focus beyond drinking water to encompass PFAS reductions across all programs and media. Our efforts should be coordinated across all contributing media.

Testimony

Good Morning Chairman Shimkus, Ranking Member Tonko, and Members of the Subcommittee. Thank you for this opportunity to talk about how we can best address public health protection issues associated with Per- and Polyfluoroalkyl Substances (PFAS) found in drinking water.

My name is Lisa Daniels and I am the President of the Association of State Drinking Water Administrators (ASDWA), whose 57 members include the 50 state drinking water programs, five territorial programs, the District of Columbia and the Navajo Nation. Our members have primary oversight responsibility, known as primacy, for implementing the Federal Safe Drinking Water Act (SDWA). Our members and their staff are on the front lines every day, providing technical assistance, support, and oversight of drinking water systems, which is critical to ensuring safe drinking water and protecting public health. I am also the Director of the Bureau of Safe Drinking Water within the Pennsylvania Department of Environmental Protection.

Today, I will explain why ASDWA has concerns with PFAS and offer three principal recommendations on how to address PFAS to protect drinking water, and, in turn, protect public health.

What are ASDWA's concerns with PFAS? As background, PFAS compounds have been a growing concern for the drinking water community for more than a decade. PFAS compounds have been found in ground water in at least 38 states. The solubility, mobility and bio-accumulative properties of PFAS continue to heighten concerns about potential adverse health effects. It is believed that there are hundreds of compounds approved for use in the U.S., and thousands more being used worldwide and imported in goods. With more compounds being

approved for use every year, there are many unanswered questions. Where are these compounds being manufactured and used in commerce? What are their toxicity levels? How are they impacting the environment and public health? And much of this information has been confounded by federal agency silos and industry trade secrets.

In 2016, EPA finalized lifetime health advisories (HAs) for two of the most common PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) at 70 parts per trillion (ppt) as well as a combined HA of 70 ppt for the sum of PFOA and PFOS. HAs are not the same as Maximum Contaminant Levels (MCLs); they are non-regulatory and are non-enforceable. To add to the confusion, the Agency for Toxic Substances and Disease Registry (ATSDR) has released a draft toxicological profile that evaluates risk factors for PFOA and PFOS across all media while EPA's advisories are specific to drinking water. The draft profile also proposes different toxicity values, i.e. different levels of concern than EPA's. Absent a clear Federal direction and consistent health risk numbers, this uncertainty has increased public concern and driven some state drinking water programs to establish their own PFAS action levels or guidelines. Such levels, for some states, are lower than EPA's HAs, while others are similar but contain caveats, and others use the same limits but add additional compounds beyond PFOA and PFOS. Other states have taken no independent action, lacking the authority to be more stringent than EPA standards. It's no wonder that the average American is left wondering whether their drinking water is safe.

The science is still evolving regarding PFAS exposure and health risk. Some studies document associations with adverse health effects, but not causality. Most studies have focused solely on PFOA and PFOS, which leaves a severe data gap for the other 3,500+ PFAS compounds. Animal studies that show that high PFAS exposure levels can result in changes in liver, thyroid,

or pancreatic functions do not always translate well to effects in humans. The bioaccumulative properties of many PFAS heightens the concerns about potential adverse health effects Clearly, more research is needed to make informed regulatory decisions.

We all agree that PFAS must be addressed. ASDWA agrees that any potential SDWA regulatory determination must be based on sound science as required by the SDWA and should be made in a timely fashion. The question is not whether to regulate, but when and how. PFAS is not just a drinking water issue – all sources of exposure must be considered and PFAS must be addressed in other media as well. EPA is not the only Federal agency that needs to appropriately address PFAS. The Departments of Health and Human Services, Food and Drug Administration, and the Department of Defense also have roles to play. Therefore, states feel very strongly that PFAS must be addressed at the national level using a holistic approach.

Absent a coordinated Federal framework:

- Health Advisories (HAs) create challenges for both state primacy agencies and public water systems. HAs lack clarity on necessary actions that state primacy agencies and water systems should take when concentrations of the chemicals are above the HAs.
- The inconsistent public health message between EPA's HA levels and ATSDR's minimum risk levels when combined with individual state actions leaves the public wondering which information source is more credible and if their water is safe, or not.
- Without a regulatory determination based on sound science along with the information landscape, making public health decisions based on an increasing amount of scientific information has become increasingly complicated. Without Federal leadership, states

are left on their own to make the tough decisions on whether and/or how to address PFAS in drinking water.

For example, in my own state of Pennsylvania, our Environmental Cleanup Program is conducting site investigations, interim response actions, and/or oversight activities at 11 sites contaminated with PFAS. Several of these sites are impacting public water systems and all are impacting ground water and/or private wells. The impacted public water systems have taken appropriate action, including issuing public notice, and taking the impacted sources offline while treatment is being installed. Most of the sites are near Superfund sites where EPA and the responsible party have taken the lead. Two of the sites are state led. However, the adequacy of the state's actions is being called into question by the public due to differing numbers from EPA, ATSDR and other states. There have been several draft bills proposed in the Pennsylvania legislature and other calls for action in the absence of a national standard and/or national leadership on this issue. And, we are here to tell you that states cannot figure out this growing public health problem alone.

The science is still evolving regarding PFAS exposure and risks to human health. Most studies have focused solely on PFOA and PFOS, which leaves a huge data gap for other PFAS. Many studies have shown liver, kidney, immunological, and reproductive effects in laboratory animals, but animal studies do not always translate well to adverse health effects in humans. And while some studies have been able to show "associations" with adverse health effects, they have not necessarily documented "causality". The increasing number of PFAS is creating a host of data collection, analytical and technological issues, as regulators and researchers struggle to obtain enough robust information on health effects, analytical methods, and treatment efficacy. Clearly,

more research and data are needed to support consensus health-based toxicological values and risk determinations and inform regulatory decisions.

What is ASDWA Doing about PFAS? ASDWA has partnered with several organizations, including EPA, to chart a path forward for states and Federal agencies. In January 2018, ASDWA sent a letter to then EPA Administrator Scott Pruitt and Dr. Brenda Fitzgerald, former Director of CDC and the ATSDR, asking that the two agencies work in partnership with ASDWA and state drinking water programs as well as with the Department of Defense to address growing public health concerns surrounding PFAS. That letter outlined seven recommendations for enhanced collaboration and development of a unified Federal message. Subsequently, in July 2018, ASDWA submitted a second letter in response to EPA's call for input to "aid in identifying solutions to address PFAS challenges in drinking water and at contaminated sites."

As a starting point, EPA made a commitment for five actions during the Spring National Leadership Summit in Washington DC to:

- Develop an EPA National PFAS Management Plan by the end of the year
- Evaluate the need for an MCL for PFOA and PFOS
- Address the status of PFOA and PFOS as "hazardous substances" under their existing statutory authority such as CERCLA §102
- Develop groundwater cleanup recommendations for PFOA and PFOS by fall of this year.
- Issue toxicity values for GenX and PFBS by fall of this year.

While each of these technical actions represent a solid step forward, critical issues remain, and more work is needed.

What Should Happen Next? Ongoing PFAS research into health effects, analytical methods, occurrence, and treatment efficacy is essential. We must be mindful to base any decision for a regulatory approach or standard on sound scientific principles. EPA must also address PFAS in a holistic fashion. To accomplish this, more attention needs to be given to development of additional PFAS analytical methods for drinking water, wastewater, and other media which also requires greater lab capacity. We strongly believe that EPA must follow a deliberative and sound process to achieve a reasonable protective health level for PFAS.

What does ASDWA Recommend? ASDWA has identified three principal areas for action:

1. ASDWA asks that Congress direct all appropriate Federal agencies, at a minimum EPA, HHS/ATSDR, FDA and DOD, to work in concert to:
    - Develop a unified message for state regulators, water utilities, and the public regarding the risks from PFAS, current steps being taken at the national level to protect public health, and what the next steps will be.
    - Work with the states to identify sources of PFAS use and potential contamination and identify the steps that are/will be taken to control and limit PFAS contamination of the environment and the public's drinking water.
    - As soon as possible, list PFAS compounds as hazardous substances under CERCLA, require PFAS reporting under the Toxic Release Inventory for air and water, and take other steps to control and limit PFAS contamination of the environment and the public's drinking water.

2. ASDWA asks that Congress provide additional funding to EPA and the states to address PFAS as a public health concern. At present, state primacy agencies are having to divert

resources from core drinking water program implementation efforts (inspections, rule implementation and compliance, technical assistance and training, and supporting system infrastructure needs) to address all aspects of PFAS management – source identification, mitigation, research, and public messaging. In this era of flat funding, the additional demands on states' resources are impacting their core programs.

One of the primary Federal funding sources for state drinking water programs is the Public Water Supply Supervision Program (PWSS). Given all the ongoing Federal budget demands, PWSS funding has remained flat for the past decade. Inflation over the past decade has eroded this funding by approximately 18%, and this flat funding has gradually eroded the funding for states' core programs.

Complicating the funding issues are additional demands being made on state drinking water programs to address several non-regulatory issues, including PFAS. In addition to PFAS, states are taking additional actions on lead post-Flint, working to minimize contamination from algal toxins from harmful algal blooms (noting the algal toxin problem in Salem, Oregon over Memorial Day weekend), and working with partners in healthcare agencies and other organizations to address *Legionella* in building water systems. ASDWA has asked its members to estimate the resource demands from these non-regulatory activities and has found these activities demand an additional 5%-10% of their resources, which, when added to the loss of 18% from inflation, compounds the funding challenges that states face in meeting all the challenges facing drinking water now.

Without additional funding, both the core program and the additional work to address PFAS will suffer.

3. ASDWA asks that Congress recommend that EPA expand the PFAS focus beyond drinking water to encompass PFAS reductions across all programs and media as part of their public health protection mission. A single focus initiative will have only limited success. Our efforts should be coordinated across all contributing media.

Conclusion: ASDWA looks forward to continuing the PFAS dialog with both Congress and our Federal agency partners to develop a workable solution that respects the timelines and processes necessary for a sound decision in how best to solve the PFAS problem.

Mr. SHIMKUS. Thank you.
The chair now recognizes Mr. Burman for 5 minutes.

STATEMENT OF SANDEEP BURMAN

Mr. BURMAN. Good morning, Chairman Shimkus, Ranking Member Tonko, and members of the subcommittee. Thank you for the opportunity to speak at today's hearing. My name is Sandeep Burman and I am the Manager of Site Remediation and Redevelopment for the Minnesota Pollution Control Agency. I am also a member of the board of directors of ASTSWMO. While Minnesota is a member of ASTSWMO, I am here today speaking on behalf of the Association.

As you know, ASTSWMO is an association representing the waste management and cleanup programs of the 50 States, five territories, and the District of Columbia. As you know and as you heard from prior testimony today, per and polyfluoroalkyl substances, PFAS, have emerged as one of the most complex and challenging environmental and public health issues to have confronted the country in recent times. Many of ASTSWMO's member States are reporting widespread impact and risks from PFAS. Alabama, Colorado, Minnesota, New Jersey, Vermont are a few States who have provided summaries that are included in ASTSWMO's written testimony, but many States have similar stories to share.

As States conduct additional sampling and response to the continually evolving understanding of PFAS and associated risks, it is expected that more releases and impacts will be discovered from both historical and current sources. The problem is therefore likely going to assume even greater magnitude and even more serious implications for public health and the environment.

The current absence of established Federal regulatory standards for these compounds is creating uncertainty as public drinking water systems, wastewater treatment systems, regulatory agencies, responsible parties, and communities are attempting to address risks to public health and the environment. There is an urgent need for federal standards including reference doses, drinking water standards, surface water standards, and remediation standards that can be used to reliably address ongoing public health concerns.

A comprehensive system of national standards will provide a level of certainty and consistency for environmental permitting, compliance, and cleanups. For instance, when it comes to drinking water, PFOS and PFOA are the only two chemicals from the PFAS family that currently have a federal guidance value. These were issued in 2016 by the EPA in the form of a non-enforceable lifetime health advisory of 70 parts per trillion.

However, many states that are investigating PFAS impacts in drinking water cannot limit their efforts to just PFOS and PFOA. This is because they are detecting a mix of PFAS in the groundwater and drinking water. As a result, some States have had to develop their own standards and guidance for the various PFAS that have been detected in their drinking water and groundwater while other States have adopted the EPA lifetime health advisories for PFOA and PFOS.

However, there are differences between the various State standards and many of the State standards for PFOS and PFOA differ from the EPA advisory values for those two chemicals. As you can imagine, this causes questions and confusion for the public as well as for regulated parties and regulators themselves.

National groundwater standards are therefore urgently needed for the PFAS family to promote consistent and comprehensive cleanups across the country. This will assist States that do not currently have promulgated standards as well as those that may lack the resources to ever have their own standards. At the same time there will be the need to recognize the PFAS standards that are promulgated by States especially if they are lower than the corresponding Federal ones.

States are also unclear on how responsible parties can be requires to remediate PFAS contamination. Therefore, a national regulatory framework not just guidance or recommendations is needed for the cleanup of PFAS in groundwater and drinking water.

In May of 2018, EPA hosted a National Leadership Summit in Washington, D.C. to take action on PFAS. EPA announced several significant actions the Agency would take on PFAS primarily focused on PFOS and PFOA. ASTSWMO acknowledges these EPA proposed actions have been important first steps and appreciates the collaborative efforts EPA has made since the summit on these actions.

However, ASTSWMO is still recommending to EPA that in addition to the action plan outlined at the summit, EPA should closely examine an approach that will treat the multiple PFAS as a class or a mixture of chemicals for the purpose of designating them as CERCLA hazardous substances or RCRA hazardous waste. This will ensure that there is clear regulatory authority to require responsible parties to investigate an immediate contamination from the multiple PFAS that are already being discovered as contaminates of concern across sites around the country beyond just PFOS and PFOA.

There is also a clear need to coordinate efforts at the national level on all scientific and policy issues pertaining to PFAS. ASTSWMO has taken and will continue to take many steps to assist with this national collaboration. With that I thank you again on behalf of ASTSWMO for this opportunity to offer testimony and I will be happy to take any questions later.

[The prepared statement of Mr. Burman follows:]

ASTSWMO, Providing Pathways to Our Nation's Environmental Stewardship Since 1974

Hearing

"Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented."

U.S. House of Representatives

Committee on Energy and Commerce

Subcommittee on the Environment

September 6, 2018

Testimony of

Sandeep R. Burman

On behalf of the

Association of State and Territorial Solid Waste Management Officials

Main Points:

- Per- and polyfluoroalkyl substances (PFAS) are a family of manmade fluorinated organic chemicals that have been produced and commercially used for several decades. This family of chemicals, believed to number in the thousands, possess certain unique chemical and physical properties that have made them highly successful in commercial and industrial applications and products.
- These widely used chemicals are very persistent in the environment and can accumulate in the human body. There is evidence that exposure to PFAS can lead to adverse human health effects.
- Although PFAS have been manufactured and used for several decades, they could not be detected in the environment until the mid-2000s. This was due to the absence of suitable laboratory analytical methods.
- As sampling and analysis efforts have been developed, studies have now shown that PFAS are extremely widespread in the environment. They are detected in soils and sediments, surface and groundwater, wildlife, and human blood.
- Many ASTSWMO members (States and Territories) are reporting widespread impact and risks to public health and the environment from PFAS. States and Territories are struggling to deal with PFAS given many prevailing uncertainties. Some of the main problems the membership is grappling with are the ubiquitous prevalence of these chemicals, the uncertainty regarding being able to prioritize amongst the large number of chemicals in terms of human health risks, the lack of a regulatory framework (including standards) to manage usage, disposal or cleanup, the inability to provide certainty to the public in risk communications, and the limited remediation and treatment options currently available.
- Significant attention, resources, and coordination are needed to put in place on a priority basis a national regulatory framework, including standards, for environmental media such as soils, surface waters, groundwater, and drinking water.
- There is also a great need to coordinate efforts between federal and State agencies, researchers, industry, associations, etc., in researching and implementing analytical methods and remediation technologies. ASTSWMO has taken, and will continue to take, several steps to assist with this critically needed broad based national collaboration.

Good morning Chairman Shimkus, Ranking Member Tonko, and Members of the Subcommittee. Thank you for the opportunity to speak at today's hearing. My name is Sandeep Burman and I am the Manager of Site Remediation and Redevelopment for the Minnesota Pollution Control Agency. I am also a member of the Board of Directors of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). While Minnesota is a member of ASTSWMO, I am here today to testify on behalf of the association. ASTSWMO is an association representing the waste management and cleanup programs of the 50 States, 5 Territories and the District of Columbia (States). Our membership includes managers from the State environmental protection programs, including those responsible for overseeing the cleanup programs that are charged with responding to contamination from hazardous substances and wastes.

Per- and polyfluoroalkyl substances (PFAS) have emerged as one of the most complex and challenging environmental and public health issues to have confronted States in recent times. PFAS are a family of manmade fluorinated organic chemicals that have been produced and commercially used for several decades. This family of chemicals, believed to number in the thousands, possess certain unique chemical and physical properties that have made them highly successful in commercial and industrial applications and products. These widely used chemicals are very persistent in the environment and in the human body, meaning they do not break down and they can accumulate over time. There is growing evidence that exposure to PFAS can lead to adverse human health effects.

Although PFAS have been manufactured and used for several decades, they could not be detected in the environment until the mid-2000s. This was due to the absence of suitable laboratory analytical methods. As sampling and analysis efforts have been developed, studies have now shown that PFAS are extremely widespread in the environment. They are detected in soils and sediments, in surface and groundwater, in wildlife, and in humans.

States are finding PFAS at the numerous locations where they were, or are still being, manufactured and used. At these former and current industrial locations, PFAS appear to have been released into the environment in several ways, such as air emissions, spills, disposal of wastes, stormwater runoff, and discharges of process wastewater. Because of the mobility and persistence of many PFAS, the impacts to air, soil, surface water, stormwater, and groundwater are present not only at release areas but over the surrounding area, often even at considerable distances away from the source. [1]

PFAS are also increasingly being detected in the leachate from municipal solid waste landfills across the country, due to the disposal of wastes from PFAS manufacturing processes as well as from disposal of PFAS containing products.[2]

A type of firefighting foam, called Class B foam, has been extensively used for extinguishing flammable liquid fires since the 1960s. These firefighting foams are a complex mixture of both known and unidentified PFAS. These foams have been stored and used for fire suppression, fire training, and flammable vapor suppression at hundreds of military installations and civilian airports, as well as at petroleum refineries and storage facilities, and chemical manufacturing plants throughout the United States. Additionally, local fire departments across the country have used and stored Class B foams. Use of these firefighting foams constitute one of the most direct mechanisms of PFAS being released into the environment, with thousands of gallons often being released to fight fires and for training exercises. PFAS from these foams can contaminate soils, leach into groundwater, and run off into surface water.[3]

Wastewater treatment plants are another location where PFAS can be released into surface waters. PFAS from a variety of sources such as landfill leachate and industrial discharges make their way to these plants, which are not designed to adequately treat them and therefore discharge them in the effluent.

Additionally, PFAS is often concentrated in the sewage sludge. Across the country, large quantities of these sludges, often referred to as biosolids, are applied as soil amendments to agricultural lands.[4]

Many of ASTSWMO's member States are reporting widespread impacts and risks from PFAS. Alabama has reported that contamination resulting from the manufacturing and use of PFAS compounds has resulted in current fish consumption advisories and impacts to public drinking water supplies, as well as impacts to major surface water, groundwater and soil resources, including segments of the Tennessee and Coosa Rivers. Some of the sources of this contamination are from within Alabama, while others appear to be from manufacturing operations in surrounding States.

In Colorado, PFAS contamination has been found in three communities. In one particular community south of Colorado Springs, PFAS has contaminated both municipal and private water supply wells, affecting over 60,000 residents.

In Vermont, PFAS have been detected in drinking water supplies, groundwater, rivers and lakes and in air emissions from industries. PFAS have been found at landfills, locations where firefighting foam was used, at schools, in biosolids and even in soils at the top of the Green Mountains. In Bennington County, one community has PFAS contamination affecting over 500 private drinking water wells and another community has PFAS contaminated water in a public water supply affecting over 400 users.

[1,2,3,4] ITRC (Interstate Technology & Regulatory Council). 2018. PFAS Fact Sheets PFAS-1. Washington, D.C.: Interstate Technology & Regulatory Council, PFAS Team. *http://www.itrcweb.org/pfas-1*

In New Jersey, PFAS have been detected throughout the State in drinking water supplies, groundwater, rivers and lakes. Known sources include industrial discharges and locations where firefighting foam was used, primarily at military installations. A comingled plume of PFAS-contaminated groundwater exists in the southwestern part of the State, spanning three counties and encompassing an area of roughly 100 square miles. In this impact area alone, public supply wells from 13 public water systems have been affected and, to date, the New Jersey Department of Environmental Protection (NJDEP) and responsible parties have provided treatment or an alternate water supply for more than 200 residences with PFAS-contaminated drinking water wells. Concentrations of perfluorononanoic acid (PFNA) in the hundreds of parts per trillion (ppt) have been detected in the waters of the Delaware River extending over more than 50 river miles.

In the absence of federal standards or regulatory authority, NJDEP has designated PFNA as a hazardous substance and adopted a 13 ppt drinking water Maximum Contaminant Level (MCL). These actions enable NJDEP to more effectively protect the public, respond to discharges, pursue those responsible and provide financial assistance to water purveyors impacted by PFNA. New Jersey's Drinking Water Quality Institute, an advisory body responsible for developing MCLs and for recommending those standards to the NJDEP, has recommended MCLs of 14 ppt for PFOA and 13 ppt for PFOS, which NJDEP is currently evaluating.

The NJDEP expanded testing of fish in selected water bodies of the State to include several PFAS. These analyses have resulted in the DEP's first consumption advisories for these chemicals.

In Minnesota, PFAS have been found in soils, stormwater, groundwater and surface water near manufacturing and disposal sites, in leachate from landfills, at firefighting foam use locations, in sludge

and effluent from wastewater plants, and in the runoff from composting facilities. PFAS has also been found in the fish, water and sediments of rivers and lakes, in drinking water supplies, and in the blood of residents. Fish consumption advisories and outright fishing bans have had to be put in place for lakes and rivers to protect the public. In the Twin Cities Metropolitan area, a 150 square mile plume of groundwater contaminated with multiple PFAS has polluted the drinking water for 140,000 people.

As States conduct additional sampling in response to the continually evolving understanding of PFAS sources and transport pathways, it is expected that more releases and impacts will be discovered from both historical and current sources. The problem is therefore likely going to assume even greater magnitude and even more serious implications for public health and the environment. Public concerns and the risk communication challenge in regards to PFAS are therefore only likely to increase.

The current absence of established federal regulatory standards for these compounds is creating uncertainty as public drinking water and wastewater treatment systems, regulatory agencies, responsible parties, and others are responding to put in place appropriate measures to ensure that public health is protected. There is an urgent need for federal standards including reference doses, drinking water protection standards, surface water quality standards, and remediation standards that can be used to reliably address on-going public health concerns. A comprehensive system of national standards will provide a level of certainty and consistency for environmental compliance, permitting and cleanups. Such a national framework will also serve as a consistent foundation for the development of other related environmental standards which individual States may discover the need to establish in the future.

For instance, when it comes to drinking water, Perfluorooctane sulfonate (PFOS) and Perfluorooctanoic acid (PFOA) are the only two chemicals from the PFAS family that currently have a federal guidance value.

This was issued in 2016 by the United States Environmental Protection Agency (EPA) in the form of a non-enforceable lifetime health advisory (LHA) of 70 parts per trillion (ppt), for each chemical or for both combined. However, many States that are investigating PFAS impacts in drinking water cannot limit their efforts to just PFOS and PFOA, as they are detecting a suite of co-existing related chemicals. As a result, several States have developed their own standards and guidance values for the various PFAS being detected in drinking water and groundwater. Other States have adopted the EPA LHAs for PFOA and PFOS. There are differences between the various State PFAS standards, and many of the State standards for PFOS and PFOA also differ from the EPA LHAs for those two chemicals. This causes questions and confusion for the public as well as for regulators and regulated parties. National groundwater standards are therefore urgently needed for the PFAS family to promote consistent and comprehensive response actions across the country. This will assist States that do not have promulgated standards, and may in fact lack the resources to develop the necessary standards within a reasonable period, in assessing and responding to impacted drinking water supplies. At the same time, there will be the need to recognize the PFAS standards that are promulgated in select States, especially if they are stricter than the corresponding national ones.

States are also unclear on how responsible parties can be required to remediate PFAS contamination. Therefore, a national regulatory framework – not just guidance or recommendations – is needed for the cleanup of PFAS in groundwater and drinking water.

In May 2018, EPA hosted a National Leadership Summit in Washington, D.C. to take action on Per- and Polyfluoroalkyl Substances (PFAS) in the environment. At the Summit, EPA announced several significant actions the Agency would take on PFAS, primarily focused on PFOS and PFOA. ASTSWMO acknowledges these EPA proposed actions as being important first steps and appreciates the collaborative approach EPA

has adopted for these activities following the Summit. ASTSWMO is committed to assisting EPA in accomplishing the objectives announced at the National Summit in a timely manner. In addition to the action plan outlined at the Summit, ASTSWMO continues to recommend that EPA should examine an approach that will treat the multiple PFAS as a class or mixture of chemicals for the purpose of designating them as Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances and as Resource Conservation and Recovery Act (RCRA) Hazardous Wastes. This will ensure that there is clear regulatory authority to require responsible parties to investigate and remediate contamination from the multiple PFAS which are already contaminants of concern at sites across the country, beyond just PFOS and PFOA. This approach will also:

- Be a consistent national approach that will ensure comprehensive protection and restoration of groundwater resources from multiple co-occurring PFAS contamination;
- Allow PFAS compounds that do not yet have toxicity values to be addressed in a similar manner in the future as toxicity values are developed; and,
- Allow State promulgated regulations to be used in developing remediation goals.

An added advantage of developing such an approach is that the same model could be considered with other potential emerging contaminants, especially those that may be detected in drinking water in the future and could pose a public health concern. With increases and enhancements in scientific understanding and technical methods, other contaminants, or contaminant classes, may emerge and rise to the same level of concern as PFAS have done at present. In order to be proactive, the development of a nationally consistent framework of both regulations and standards for dealing with PFAS combinations in groundwater and drinking water that can also serve as a model for future emerging contaminants needs to be a priority.

There is also a great need to coordinate efforts between federal and State agencies, researchers, industry groups, associations, etc., in researching and implementing analytical methods and remediation technologies. ASTSWMO has taken, and will continue to take, several steps to assist with this critically needed national collaboration.

Close coordination with the Environmental Council of the States (ECOS), the Interstate Technology and Regulatory Council (ITRC), the Association of Clean Water Administrators (ACWA), and the Association of State Drinking Water Administrators (ASDWA) are also important objectives for ASTSWMO. These associations are partners with ASTSWMO and are playing major roles in representing the States in the national efforts pertaining to PFAS.

Additionally, in 2016, the ASTSWMO Board of Directors formed a PFAS Workgroup, which includes representatives from our Board of Directors, Subcommittees, and Staff. The Workgroup's primary focus since its inception has been to share information for discussion and distribution to ASTSWMO's members through ASTSWMO meetings, web postings, and email distributions. The Workgroup will continue these activities with a focus on specific PFAS issues identified in responses to a survey sent to the ASTSWMO Voting Members in May 2018 that impact the State solid waste, hazardous waste, and cleanup programs. In the survey, ASTSWMO asked Voting Members what role the association should take in the national PFAS dialogue. The most common responses were:

- Information sharing, including facilitating dialogue between EPA and States, sharing State information (case studies, regulations, policies, resources);
- Advocate for national cleanup standards and other federal regulations; and
- Work closely with other State associations to share information among all State media programs (waste, water, air, health) and avoid duplication of efforts.

ASTSWMO's PFAS Workgroup and Staff will continue to focus our efforts in monitoring these activities, ensuring State involvement in the development of any planned regulations and policy documents, participating in current and planned dialogues, and sharing updates with our membership.

I thank you again on behalf of ASTSWMO for this opportunity to offer testimony. I would be pleased to answer any questions you may have.

Mr. SHIMKUS. Thank you very much.

The chair now recognizes Ms. Carol Isaacs, the director of Michigan's PFAS Action Response Team. You are recognized for 5 minutes.

STATEMENT OF CAROL ISAACS

Ms. ISAACS. Thank you so much. Good morning, Chairman Shimkus and Ranking Member Tonko, other members. I also want to recognize our Congressman Upton and Walberg and Congresswoman Dingell from Michigan and recognize them for their steadfast bipartisan focus on this issue. Michigan appreciates that.

My name is Carol Isaacs. I am the director of the Michigan PFAS Action Response Team, better known as MPART. I represent a single State, Michigan, this morning, but our experience is national and all States are experiencing some or all of what we are experiencing. Michigan is one of a growing number of states throughout the country dealing with a suite of chemicals collectively called PFAS.

To address this public health threat, on November the 13th, 2017, Governor Rick Snyder issued an executive directive forming MPART. This unique structure integrates ten State department agencies' departments work effectively to enhance cooperation and coordination among local, State, and Federal agencies. And all of those, all of those are our partners. The Response Team has been instrumental in creating investigation and response protocols to identify and protect regions of the state with known or possible PFAS contamination, threatens the drinking water of our residents.

The many proactive steps MPART has taken since the formation in November of '17 include the following: We established a new cleanup criteria of groundwater within a few weeks of the establishment of MPART. I have been present for 9 months in my State in this capacity.

MPART has identified 35 PFAS States, which include public water supplies and military bases and industrial sites and landfills. We have done more than 6,000 tests and overseen the delivery of alternate water to more than 1,600 households and overseen the installation of much larger than 700, it is 1,200 filtration systems for homes.

We have met with 200 wastewater treatment personnel in our landfill industry working cooperatively with them on this issue. MPART has created an independent science board advisory panel to provide information to us and we will expect results before the end of the year. We have engaged 70 external State and national groups on PFAS and continue to meet with our local residents and local communities. We will meet two to three times a month in some community from Michigan.

Our legislature appropriated an additional 23 million at the end of '17 to allow us to do our proactive investigation on PFAS. We are characterized by searching for this contamination. Importantly, MPART has undertaken the most comprehensive state drinking water survey in the nation. It far exceeds the survey of large cities over 10,000. It includes all public water systems that serve more than 25 people and that includes our mobile home parks, so it is

really, really extensive. We will have that completed before the year is out.

The wisdom of a comprehensive survey of drinking water is important because this survey has resulted in covering the drinking water for the vast majority of our residents. Through this survey we were able to find and mitigate high levels of PFAS exposure in our drinking water with one of our communities, Parchment. You heard about Parchment a little bit earlier. Those levels were 20 times higher than the EPA advisory level.

In a matter of hours, the State was able to have a very effective response. We worked diligently with our Federal and local partners. In that short period of time we were able to alert the community from our testing results, pay for bottled water to be distributed, and assist in helping to provide a new water source from a nearby community.

We want to focus on our proactive and aggressive approach from PFAS that resulted in preserving the public health of more than 3,000 of the people in this city. We also thank this community for their cooperation and willingness to respond to this situation in such a unified manner. It was really a very wonderful effort and worked very well. We continue in this community to test their private wells now that we are aware that they have some contamination.

I am going to close by indicating why this is a national issue. We looked to EPA for guidance for all the reasons you have already heard. We need that guidance because DOD follows that. We also need a uniform understanding of the relationship of these chemicals. When it comes to health care and cleanup standards, we need a cooperation between ATSDR and EPA and we need to look to the FAA to work with us because they work with the DOD. When we have regulation from these entities then the State matches the military and the airports and we are all doing the same thing, the most effective thing.

In closing, USDA is needed for our food chain analysis. And we are going to say that clean water is essential to all Americans and we appreciate everything that Congress is doing for us at this point and we wish to have you consider in your budget priorities the funding necessary to do this. This is a national issue. The States can't do it all. We need our Federal partners. We need our Congress. We need you to help us put this all together so that we can rapidly address this for the public health of the people in Michigan and across the country. Thank you very much.

[The prepared statement of Ms. Isaacs follows:]

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

BRIAN CALLEY
LT. GOVERNOR

Committee on Energy and Commerce

Subcommittee on Environment

Perfluorinated Chemicals in the Environment:

An Update on the Response to Contamination and Challenges Presented

Thursday, September 6, 2018

Good morning Chairman Shimkus and Ranking Member Tonko. Thank you for holding this hearing and for inviting me to testify before this subcommittee. Thanks also to Congressman Upton, Congressman Walberg, and Congresswoman Dingell from Michigan for your steadfast, bipartisan focus on this important issue. My name is Carol Isaacs, and I am Director of the Michigan PFAS Action Response Team, or MPART.

Michigan is one of a growing number of states throughout the country dealing with a suite of chemicals collectively called PFAS. Although there are thousands of different per and polyfluorinated chemicals, we have significant knowledge about only a few at this point. Certainly, the oldest PFAS compounds are no longer made but, unfortunately, they remain in our environment and the human body for a prolonged period of time. Current research is evolving but indicates these chemicals are known to be associated with negative health impacts.

To address this public health threat, on November 13, 2017 Governor Rick Snyder issued an Executive Directive forming the Michigan PFAS Action Response Team (MPART). This unique structure integrates ten State of Michigan agencies and departments and has worked effectively

to enhance cooperation and coordination among local, state and federal agencies charged with identifying, communicating and addressing the potential effects of PFAS. The response team has been instrumental in creating investigation and response protocols to identify and protect regions of the state with known or possible PFAS contamination that threatens the drinking water of our residents. MPART is charged with effectively implementing protocols to rapidly and comprehensively investigate the presence of significant PFAS contamination and to continue to mitigate against this contaminant in drinking water across Michigan.

The many proactive steps MPART has taken since its formation in November 2017 include the following.

- Michigan established new clean-up criteria for groundwater used for drinking water.
- MPART has taken legal action against responsible parties like Wolverine Worldwide.
- MPART has identified 35 PFAS state sites that are associated with historic and operating industrial/manufacturing operations, aqueous film-forming firefighting foam (AFFF) discharges, landfills, and military installations. For your convenience, I have included a map detailing these sites. Notably:
    - 4 sites are public water supplies
    - 5 sites are active or former military sits (Alpena CRTC, Escanaba DFSP, Camp Grayling, KI Sawyer, Wurtsmith AFB)
    - Nearly 6,000 test samples have been taken by MPART team members for PFAS throughout all 35 sites.
    - MPART has overseen the delivery of alternative water to more than 1,600 households with PFAS detections and overseen the installation of more than 700 household filtration systems. MPART has also overseen connections to municipal water for homes and impacted wells.
- MPART has funded $1.5 million in-state laboratory improvements to speed up PFAS testing.

- MPART has met with more than 200 wastewater treatment plant personnel across the state to identify and work cooperatively toward the elimination of PFAS being discharged into water resources, such as our rivers.
- MPART has partnered with the landfill industry to develop standard sampling protocols to evaluate PFAS in landfill leachate statewide by December 2018. This effort will also evaluate how landfill design and operating practices affect the concentration of PFAS in leachate.
- MPART is overseeing the sampling of fish and deer for PFAS contamination in areas near known AFFF releases.
- MPART has contacted 1,000 fire departments throughout the state to determine their use and storage of PFAS-containing firefighting foam.
- MPART is piloting a first-of-its-kind project for the removal of PFAS containing foam from the surface of Van Etten Lake near the Wurtsmith Air base.
- Plainfield Township, through a State $750,000 grant, has a granular activated carbon pilot project underway with 5 filters capable of filtering 9 million gallons/day.
- Ann Arbor will pilot a similar project in the near future.
- MPART has called upon federal agencies like the EPA to move forward with additional research and standard making for PFAS.
- MPART has created an independent Science Advisory Panel to review current research on PFAS and make recommendations regarding health effects, environmental pathways, remediation, and whether PFAS analytes, in addition to PFOA and PFOS should be regulated.
- MPART established a state level PFAS local public health advisory group.
- MPART has engaged approximately 70 external state and national groups on PFAS. See attached list.
- MPART has held many community forums for residents. Individual meetings with residents continue to be held to discuss drinking water testing results. Community leadership is regularly updated on the status of PFAS within communities.

- MPART holds regular legislative conference phone calls to update the State House and Senate. Michigan's legislature appropriated an additional $23 million at the end of 2017 to allow MPART to investigate PFAS and improve lab capabilities.
- MPART will test all 461 schools on a private well system by the end of year.
- Importantly, MPART has undertaken the most comprehensive state drinking water survey in the nation. All public water systems are being tested through a $1.7 million appropriation from the legislature. This survey is testing all drinking water systems with more than 25 people served. This will include mobile home parks and small communities.

The wisdom of a comprehensive survey of drinking water is important because this survey will test the drinking water of the vast majority of Michigan residents. Through this testing survey we were able to find and mitigate high levels of exposure to PFAS in the drinking water in one of our communities – Parchment, Michigan. PFAS levels were 20 times higher than the Lifetime Health Advisory level set by EPA. Within a matter of hours, the State was able to alert the community, pay for bottled water to be distributed by the community, and assist in helping to provide a new water source from a nearby community. Michigan's proactive and aggressive approach to PFAS resulted in more than 3,000 Michiganders being protected from a previously unknown contaminant. The community must also be thanked for their cooperation and willingness to respond to this situation in such a unified manner. Work continues with this community to test all private wells near potential contamination sources. I want to thank Congressman Upton for his participation and help. He was on the front-lines of this response from day one.

I will close with addressing a few reasons why PFAS is a national issue and why safeguarding the nation's drinking water requires the cooperation and help of our federal partners. Not only do states look to EPA for guidance and standards related to safe drinking water, but the Department of Defense (DoD) also bases its action on the EPA Lifetime Health Advisory level of

70 ppt. A national standard would allow uniform understanding of PFAS chemicals by all and would also assist in better understanding the use and disposal of the PFAS chemicals. Closer cooperation between The Agency for Toxic Substances and Disease Registry and EPA will further strengthen the interface between health advice and the application of clean-up standards. We also look to the Federal Aviation Agency to work with DoD on standards and practices for use of firefighting foam with the goal of uniformity between state and federally regulated entities, such as airports and military bases. Finally, the US Department of Agriculture should bolster its work with the states to better understand how this emerging class of contaminants interact with the food chain, including research related to PFAS uptake within plants.

In closing, clean drinking water is essential to all Americans and protecting the public from PFAS contamination is possible, but it takes substantial resources. Governor Snyder recognized this and has initiated one of the most comprehensive statewide responses to PFAS in the nation. In addition to what states like Michigan are providing from state budgets, federal funding will be required to ensure a comprehensive approach across all jurisdictional boundaries. This includes funding to allow DoD to fully remediate PFAS contamination from its current and former military bases as well as continued research into these emerging contaminants that can inform future regulations and standards. We, therefore, appreciate Congress's consideration of these issues as you determine future budget priorities.

Thank you for your attention to this important issue. I look forward to your questions.


Michigan Department of Environmental Quality
Confirmed PFAS Sites
KEWEENAW
HOUGHTON
ONTONAGON
BARAGA
GOGEBIC
MARQUETTE
ALGER
LUCE
CHIPPEWA
IRON
SCHOOLCRAFT
MACKINAC
DICKINSON
DELTA
MENOMINEE
CHARLEVOIX
EMMET
CHEBOYGAN
PRESQUE ISLE
LEELANAU
ANTRIM
OTSEGO
MONTMORENCY
ALPENA
GRAND TRAVERSE
BENZIE
KALKASKA
CRAWFORD
OSCODA
ALCONA
MANISTEE
WEXFORD
MISSAUKEE
ROSCOMMON
OGEMAW
IOSCO
ARENAC
MASON
LAKE
OSCEOLA
CLARE
GLADWIN
HURON
BAY
OCEANA
NEWAYGO
MECOSTA
ISABELLA
MIDLAND
TUSCOLA
SANILAC
MONTCALM
GRATIOT
SAGINAW
MUSKEGON
LAPEER
OTTAWA
KENT
IONIA
CLINTON
SHIAWASSEE
GENESEE
ST. CLAIR
OAKLAND
MACOMB
ALLEGAN
BARRY
EATON
INGHAM
LIVINGSTON
VAN BUREN
KALAMAZOO
CALHOUN
JACKSON
WASHTENAW
WAYNE
BERRIEN
CASS
ST. JOSEPH
BRANCH
HILLSDALE
LENAWEE
MONROE
Alpena
Alpena Combat Readiness Center (M)
Alpena Hide and Leather Co.
Ann Arbor
Ann Arbor Municipal Water Supply
Battle Creek
Helmer-Dickman Road Area
Escanaba
Escanaba Defense Fuel Supply Point (M)
Flint
Coldwater Road Landfill
Gilkey Creek
Grawn
Carl's Retreading
Grayling
Grayling Area PFAS (M)
Camp Grayling - Lake Margrethe (M)
Grayling Municipal Wells (M)
Gwinn
K.I. Sawyer AFB (M)
Howard Township
M-60 Tanker Spill
Lansing
Adams Plating
RACER - Lansing Plant 3
Lapeer
Lapeer Plating & Plastics
Lapeer WWTP
Mt. Clemens
Clinton River
Lake St. Clair
Mt. Pleasant
Roosevelt Refinery
Oscoda
Colbalt Road
McDonald Store Fire (aka F-41)
Oscoda Area Schools
Loud Drive (M)
Van Etten Lake (M)
Whispering Pines MHC (M)
Wurtsmith AFB (M)
Parchment
Crown Vantage
Pierson
Central Sanitary Landfill
Plainfield Township
Plainfield Township Municipal Supply
State Disposal Superfund
Richland
North 34th Street
Rockford
Belmont - House St.
Rockford Tannery
Tawas
Huron Shore Regional Utility Authority
(35 Sites)
(M) - PFAS sites on or impacted by active or former military facilities
0 25 50 100
Miles
September 4, 2018

External Groups Engaged on PFAS

The following groups have been engaged by DEQ, DHHS, MDARD, MDOT, LARA, and other MPART agencies on Michigan's PFAS response.

Agency for Toxic Substances and Disease Registry (ATSDR)
Airport Cooperative Research Program
American Association of Airport Executives - Great Lakes Chapter
American Institute of Professional Geologists (AIPG), MI Section
American Water Works Association (AWWA), MI Chapter
Association of State and Territorial Solid Waste Management Officials (ASWSWMO)
Association of State Drinking Water Administrators (ASDWA)
Concerned Citizens for Responsible Redevelopment/Remediation (CCRR)
Council of State and Territorial Epidemiologists (CSTE)
Environmental Council of States (ECOS)
Federal aviation administration
Food & Drug Administration-Detroit Office
Food & Drug Administration-Office of Regulatory Affairs
Interstate Technology Regulatory Council (ITRC)
Maine Department of Agriculture
Michigan Agri-Business Association (MABA)
Michigan Agricultural Commodity Executives quarterly meeting (includes a big cross-section of associations and entities, like Michigan Milk Producers, Michigan Allied Poultry, Michigan Pork Producers, Michigan Blueberry Commission, Michigan Wheat Commission, Michigan Soybean, and many more).
Michigan Association for Local Public Health (MALPH)
Michigan Association of Airport Executives
Michigan Association of Fire Chiefs
Michigan Chapter of the National Association of Surface Finishers
Michigan Chemistry Council (MCC)
Michigan Farm Bureau
Michigan Fire Inspector Society
Michigan Fire Service Instructors Association
Michigan Professional Firefighter Union
Michigan Fire Fighter Training Council
Michigan Manufacturers Association (MMA)
Michigan Rural Water Association
Michigan State Fireman's Association
Michigan State University Extension
Michigan Tribal Environmental Group
Michigan Waste and Recycling Association (MWRA)
Michigan Water Environment Association (MWEA)
Minnesota Department of Agriculture
Minnesota Pollution Control Agency
Multi-State Partnership for Security in Agriculture
National Groundwater Association
National Science Foundation (NSF) International
Northern Michigan Fire Chiefs

External Groups Engaged on PFAS

- Ohio Environmental Protection Agency
- Saginaw Chippewa Indian Tribe
- Saginaw-Midland Water Supply Corporation
- Southeast Michigan Council of Governments (SEMCOG)
- Southeast Michigan Fire Chiefs
- State Health Departments
    - Alaska Department of Health and Social Services
    - Colorado Department of Public Health and Environment
    - Minnesota Department of Health
    - New Hampshire Department of Health and Human Services
    - New York State Department of Health
    - Ohio Department of Health
    - Pennsylvania Department of Health
    - Texas Department of State Health Services
    - Wisconsin Department of Health Services
- US Environmental Protection Agency
- UP Fire Chiefs
- Washington Department of Agriculture
- Western Michigan Fire Chiefs

Mr. SHIMKUS. The gentlelady's time is expired.

The chair now recognizes Ms. Emily Donovan, co-founder of Clean Cape Fear. You are recognized for 5 minutes.

STATEMENT OF EMILY DONOVAN

Ms. DONOVAN. Thank you, Mr. Chairman and members of the subcommittee for elevating the issue of PFAS water contamination to the highest level possible. My name is Emily Donovan and I wear multiple hats. I am a Youth Director at a Presbyterian Church on Wrightsville Beach. I am a wife and a mother raising 9-year-old twins, and I am also co-founder of Clean Cape Fear.

We are a water advocacy group that formed after learning DuPont Chemours was dumping large quantities of highly toxic PFAS into our primary source of drinking water, the Cape Fear River. Today I would like to speak to you as a mother who has spent the last 15 months getting a crash course in biochemistry.

Imagine waking up to headlines that the same company who spent a historic $670 million to settle over 3,500 lawsuits in another State for poisoning their drinking water was doing the exact same thing to yours. That is exactly what DuPont's spinoff Chemours did with GenX, their C8 replacement for making Teflon, and GenX was only 12 percent of the total PFAS found in our finished tap water. I am largely here today because of a handful of dedicated scientists from North Carolina who stumbled upon something in the Cape Fear River at alarmingly high quantities and decided to investigate it.

Due to their tireless research, we know now at least 25 different PFAS have been discovered in our finished tap water and in private wells around DuPont Chemours' facility in Fayetteville. We learned early on through court documents that DuPont Chemours has mastered the art of deception and I believe this chronic polluter has no problem exposing millions of citizens to these toxic chemicals.

It has been a year since we learned about GenX and we still know nothing about the majority of chemicals in our finished water. Not a single health official, scientist, or policymaker can tell me if the 16 mystery PFAS I found in the tap water at my children's public school are safe to drink. There are no recommended dose levels. There are no toxic mixture studies to guide me on how these chemicals interact with each other or could potentially harm my children as they grow up.

It sickens me to think that I may have harmed my children by simply raising them to drink the tap water. I will forever wonder if that choice will one day cause them major medical harm. I now send my children to school with water bottles filled with reverse osmosis water because it seems to be the only reliable filtration method to remove these toxins and our RO filters are incredibly expensive. I pray daily it is enough to keep them hydrated the whole day. I worry constantly about the children drinking from the school tap water because their parents are either unaware or can't afford to access properly filtered water.

It is not just parents who are worried about their children. We as adults are also worried about our own health. These toxic chemicals do not act equally in our bodies. Some people may never de-

velop serious health problems while others aren't so lucky. Our State's leading PFAS toxicological researcher publicly stated the true impacts of GenX may take years to become known because cancer takes its time to reveal itself in humans.

I am here to testify that Wilmington and Fayetteville area residents are already showing signs of obscure and rare cancers, immune disorders, and diseases in populations far too young to pass off as normal. How many of your friends are battling cancer?

I am 41 and my friend Sarah is battling stage 3 colon cancer. My friend Tom has terminal brain and bone cancer. My friend Kara, an Operation Iraqi Freedom veteran, has stage 3 breast cancer and had her gallbladder stop working. My friend Margaret has a rare bone cancer and my friend Robert has leukemia and bladder cancer. And my own husband had a benign brain tumor and almost lost his eyesight. I am frightened. We already know testicular cancer is on the rise in our region. We know thyroid cancers are nearly double the State and national averages in Brunswick and Pender and New Hanover Counties.

We need you to act swiftly now. We want a nationwide PFAS human exposure study that includes all known PFAS, not just the already well documented PFOA and PFOS. We need to move beyond GenX, PFOA, PFOS, and PFBS and regulate all PFAS as a class of highly toxic chemicals, because I know and you know that you don't have time or money to individually regulate the estimated 10,000 PFAS in our water today or in use today.

We need to get these nasty toxins out of our drinking water now so no one else suffers the way we are in North Carolina. Look to the Madrid Statement for guidance that debunks the long-chain myth. Require all chemical makers provide standards for all PFAS produced including byproducts. Make the EPA begin rodent toxicology studies on all these chemicals. Mandate that public utilities nationwide conduct mandatory, comprehensive PFAS testing with the method detection limits set at 1 because the American people deserve to know every drop of these nasty chemicals that are in their drinking water.

Congress should deny all Federal contracts including defense contracts to chronic PFAS polluters like DuPont and Chemours. If they can't play by the rules, they don't deserve a single Federal taxpayer dollar. Set parameters for an adequate period of time and require these chronic polluters pay for remediation and cleanup. And we demand the maximum contaminant level for all PFAS be set to 1 part per trillion in light of the recent CDC study citing again the Madrid Statement.

Thank you so much for your time. It has been an honor to testify before your committee.

[The prepared statement of Ms. Donovan follows:]

- Chemours, a DuPont spinoff, contaminated the Cape Fear River in North Carolina with large quantities of PFOA replacement chemical, GenX, plus at least 25 other PFAS that state officials are struggling to identify and created test standards to analyze. DuPont is a known chronic polluter of PFAS due to their high profile case in the Ohio River Valley regarding PFOA/C8 used to make Teflon.

- 250,000 residents use the lower Cape Fear River as their primary source of drinking water, including residents in the Wilmington area.The impacted areas include large coastal communities that rely on tourism and fishing to support their local economies. The region also attracts a large retirement community. Brunswick county is the fastest growing county in the state and North Carolina is the 5th fastest growing state in the nation.

- The world's largest hog slaughterhouse is located eight miles from Chemours and draws their tap water from the Cape Fear River. Smithfield Foods uses this tap water to rinse and package their meat. Multiple PFAS have been found in their water including PFOA, PFOS and GenX.

- Chemours also polluted the air around their Fayetteville, NC facility with multiple PFAS contaminating approximately 763 groundwater wells. PFAS have been detected in rainwater as far as 80 miles from the factory.

- There are no federal or state drinking water standards for GenX or the 25 other PFAS detected by NCDEQ in our water.

- Multiple reports of health problems reported by area residents that are in some cases rare cancers and non-genetic.

- We demand a nationwide PFAS Human Exposure Study that includes all known PFAS--not just the already well documented PFOA and PFOS.

- PFAS should be regulated as a class of highly toxic chemicals because it is too time consuming and costly to individually regulate the 5,000 - 10,000 PFAS estimated in use today. Congress should look to the Madrid Statement for guidance.

- Manufacturers must provide standards for all PFAS produced, including byproducts. The EPA should begin rodent toxicology on all known PFAS.

- All public utilities should conduct mandatory comprehensive PFAS testing and the EPA should set the Method Detection Limit to 1 ppt.

- Congress should deny all federal contracts--including defense contracts--to chronic PFAS polluters for an adequate period of time and require them to pay for remediation and clean-up.

- Set the Maximum Contaminant Level (MCL) for all PFAS to 1 ppt in light of the recent CDC study, again citing the Madrid Statement.

Thank you for the honor and privilege to testify on behalf of the 250,000 residents in southeastern North Carolina suffering from PFAS contamination in our drinking water. My name is Emily Donovan. I am a founding member of Clean Cape Fear. We're educators, environmentalists, doctors, faith leaders, scientists, and concerned citizens all working together to hold Chemours/DuPont accountable for decades of pollution. We formed shortly after learning toxic chemicals linked to cancers and other serious health problems were detected in our finished tap water.

In June 2017, our local newspaper (StarNews) alerted the public to a recently published scientific study that found alarming quantities of PFAS chemicals in our finished tap water.[1] The Cape Fear River is the primary drinking source for Brunswick, New Hanover, and Pender counties. This river provides a quarter of a million residents with their tap water.

The source of the PFAS contamination was coming from Chemours' discharge pipes in Fayetteville, NC -- approximately 80 miles upstream from Wilmington, NC. Everything about our PFAS contamination story is eerily similar to DuPont's Teflon/C8 water crisis in the Ohio River Valley that played out nationally for the past 17 years. In NC, we are dealing with a DuPont spinoff--Chemours, and a C8 replacement--GenX.

GenX is the trade name given to the chemical DuPont used to replace C8/PFOA. PFOA was voluntarily phased out of production in 2013 due to the growing body of research linking human exposure with PFOA to serious health problems including ulcerative colitis, high cholesterol, pregnancy induced hypertension, thyroid disease, testicular cancer, and kidney cancer.[2]

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[1] http://www.starnewsonline.com/news/20170607/toxin-taints-cfpua-drinking-water/1
[2] http://www.c8sciencepanel.org/

In February 2017, Chemours/DuPont settled 3,550 lawsuits worth $670.7 million with residents in Ohio and West Virginia.[3] Numerous court documents later revealed DuPont knew PFOA caused serious harm to humans as early as the 1950s and 60s. DuPont even dumped barrels of PFOA waste into the ocean--weighing them down with rocks so they'd sink to the bottom of the ocean floor.[4] It is clear to the public eye that companies like DuPont were more focused on greed and profits rather than corporate responsibility and environmental stewardship.

We were a community in shock. Our region is known for its pristine beaches, and beautiful waterways. We have the fastest growing county in North Carolina and our state is one of the top five fastest growing states in the nation. When we learned Chemours was threatening our drinking water mass protests erupted all over the city of Wilmington.

Four months later, we would discover the Wilmington area was not the only victims of Chemours/DuPont chronic corporate irresponsibility. Chemours habitually contaminated the groundwater surrounding their facility through air emissions. To date, over 763 private wells surrounding the Chemours facility are contaminated with dangerous PFAS from the known--PFOA, GenX, to the unknown--Nafion byproduct 2 and multiple others. Scientists from the University of North Carolina Wilmington (UNCW) have detected GenX in the rainwater on their Wilmington campus--approx. 80 miles from the Chemours' facility.[5] GenX was also discovered in local honey.[6]

North Carolina created a provisional health goal for GenX of 140 ppt based on numerous animal studies which showed signs of cancer, benign tumors, kidney disease, liver problems, thyroid dysfunction, and reproductive

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[3] https://www.delawareonline.com/story/news/2017/02/13/dupont-and-chemours-pay-670m-settle-pfoa-litigation/97842870/
[4] https://theintercept.com/2015/08/11/dupont-chemistry-deception/
[5] https://www.wral.com/genx-found-in-rain/17360557/
[6] http://www.whqr.org/post/genx-compound-makes-way-honey#stream/0

issues.[7] There is an alarming lack of scientific data available for PFAS chemicals--considering how many are allowed to be made and consumed.

The EPA estimates there are between 5,000 - 10,000 PFAS chemicals in existence, yet there are only federal drinking water standards for two PFAS: PFOA and PFOS. There are no federal or state drinking water standards for GenX -- or the 25 other PFAS North Carolina's Department of Environmental Quality (NCDEQ) is currently analysing in our drinking water.[8]

PFAS, as a class of chemicals, are persistent--meaning they live forever in our environment, resurfacing and recycling themselves through our bodies, our food chain, and our ecosystems. PFAS bioaccumulate in our blood and body tissue--causing serious problems for those with chronic exposure.[9] These chemicals also disrupt the endocrine system--altering cellular development and putting our most vulnerable populations at risk for immediate and later life health problems.

This lack of information became the motivation to form Clean Cape Fear. Two weeks after the public learned about GenX in our drinking water, we began hosting public forums called Water Wednesdays. We invited leading scientists, public officials, medical professionals, and water specialists to participate in panel discussions. We created a comprehensive website to help the general public access highly technical information and easily follow our evolving water crisis.

Emerging PFAS, like GenX, are not easily filtered out using conventional water treatment methods. Wilmington's Cape Fear Public Utility Authority (CFPUA) is one of the most advanced water treatment facilities in the region and they were unable to remove these PFAS from our finished tap water. GenX sticks to the

[7] https://theintercept.com/2016/03/03/new-teflon-toxin-causes-cancer-in-lab-animals/
[8] https://www.epa.gov/sites/production/files/2018-08/documents/r4_combined_presentations_.pdf
[9] http://greensciencepolicy.org/madrid-statement/

filters and clogs them prematurally rendering these filters useless way before their intended expiration dates. This allowed dangerous toxins like PFOA and PFOS to easily pass through into our finished tap water--along with all the mystery PFAS that lack test standards or toxicological health advisories. Upgrading the multiple regional water utilities has become an expensive burden for ratepayers in our region. We are expected to see increased water bills for a problem we did not create.[10]

In July 2017, Clean Cape Fear pressured local utilities to provide emergency alternative sources of clean, toxic chemical free, water to members of our community that could not afford expensive under sink filters or bottled water. This is important to remember because without test standards for the mystery PFAS in our water, our community lacked a clear path to demand Chemours provide clean water alternatives to Brunswick, New Hanover and Pender county residents. Scientists could tell us how many PFAS were in our water, but they could not tell us their levels of toxicity, our margins of exposure, or the acceptable dose for these toxic mixtures. State and local public officials continued to tell residents the water was safe to drink--solely based on a lack of information.

This lack of information caused a lot of public outrage. In August 2017, Clean Cape Fear secured a $200,000 donation to put temporary reverse osmosis filling stations in all the public schools in Leland, NC. Parents at Belville Elementary School tested their school's tap water and found 19 different PFAS totalling 167 ppt. There were no health advisories for 16 of the 19 PFAS detected. There were no recommended dose levels. There were no toxic mixture studies to explain how these 19 different mystery PFAS interact with each other or impact the health of human cellular development.

Many of these school children were raised on chronic exposures, at alarmingly high doses, to these mystery PFAS since birth. Respected medical professionals were concerned with the impact these mystery PFAS

[10] http://www.starnewsonline.com/news/20180411/cleaner-water-could-cost-brunswick-cfpua-water-customers

would have on this vulnerable part of our community's population. Unfortunately, parents were continually told by Brunswick county officials the water was safe to drink--disregarding an abundance of caution--and seemingly basing their decision on local political motivations rather than the public health and wellbeing of the children they served . The Brunswick County Manager refused to allow the water donations within their county public schools, ultimately denying approximately 3,500 public school students access to toxic chemical free water for cooking and drinking during the school day.

The EPA allowed Chemours to manufacture GenX under a 2009 consent order requiring the company capture 99% of their GenX discharge. Chemours claimed they did not discharge and manufacture GenX into the Cape Fear River. Instead, they told local officials during a closed door meeting the source of the GenX contamination was an accidental chemical reaction coming from their vinyl ether production process--commonly referred to as a "byproduct."[11] Apparently, when water molecules react with certain chemicals in the vinyl ether process line, a byproduct is created that was 100% GenX. Unfortunately, federal permit requirements do not regulate PFAS byproducts and this permit loophole left our community vulnerable to corporate malpractice.

Dr. Detlef Knappe is a Professor of Civil, Construction, and Environmental Engineering at NC State University. His research lab published the 2016 water study detecting GenX in our drinking water. GenX was found at levels as high as 4,500 ppt with the average level detected at 631 ppt.[12] This means Wilmington, and surrounding area, residents were chronically consuming a daily dose of 631 ppt of GenX--just one of seven PFAS detected from the NC State study.

Also, GenX was only 12% of the PFAS detected in our finished tap water from the NC State study. However, due to a lack of test standards, the remaining 88% of the PFAS detected in our finished tap water--and

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[11] http://www.wect.com/story/35673089/2017/06/Thursday/chemours-not-committed-to-zero-percent-genx-discharge
[12] https://shared-assets.adobe.com/link/610df538-febe-4035-5fa2-db4af5378a57

regularly consumed by our community, still remain a mystery regarding their long-term impact on our communities' public health.

Dr. Jamie DeWitt, an East Carolina University professor and North Carolina's leading toxicological researcher on PFAS chemicals, has stated publicly "the true impacts of GenX may take years to become known because cancer takes time to reveal itself in humans."[13] I am here to testify that Wilmington area residents, like the residents of Parkersburg, WV nearly 20 years ago, are already experiencing alarming signs of obscure and rare cancers, immune disorders, and diseases in populations too young to pass off as normal.

Multiple children are suffering from rare kidney cancers that are not genetic. A Wilmington photographer documented their stories shortly after our water crisis became public.[14] I, personally, did not have to look far to find loved ones suffering from serious health problems. My own inner circle is filled with loved ones suffering from the trauma of cancer treatments, benign tumors, and terminal diagnoses.

Tom Kennedy lives in Wilmington, NC. He was diagnosed in December 2016 with stage 2b non-genetic breast cancer. By August 2017, he learned the cancer had metastasized to his brain and bones into stage 4 terminal cancer. He does chemotherapy every three weeks to stop the growth of his cancer. Unfortunately, this treatment is poison and eventually will cause its own kind of complications. Tom is in his early 40s. He has a wife and two daughters. He is the primary source of income for his family. His eldest daughter attends my weekly faith-based youth program. This cancer is robbing the Kennedy family from the best years of their lives.

Sarah McLaughlin also lives in Wilmington, NC. She was diagnosed with stage 3 colon cancer earlier this year. She is currently undergoing chemotherapy. Sarah is married and has one teenage daughter who is also in my

[13] http://www.starnewsonline.com/news/20170629/nc-study-no-cancer-spike-in-lower-cape-fear
[14] https://www.facebook.com/virginiagatesphotography/

youth program. Sarah is a middle school history teacher in her early 40s. Chemotherapy and the worry of an uncertain future is robbing her and her family from enjoy the best years of their lives.

Kara Kenan lives in Leland, NC. She was diagnosed, three years after moving to the Wilmington area, with Invasive Ductal Carcinoma, Stage 3b--a form of breast cancer that feeds on estrogen hormones. Her tumor was approximately the size of a large lime, which was alarming considering she completed a breast exam a few months prior that showed no signs of cancer. Her lymph nodes were impacted as well. After moderately aggressive chemotherapy she is halfway through a 10-year treatment of estrogen suppressing drug therapy. Kara has also undergone a cholecystectomy to remove her failing gallbladder that simply stopped working--it was non-fatty with no stones. Kara was in her mid 30s when she was diagnosed with breast cancer. She is a decorated veteran who served in 9/11 and Operation Iraqi Freedom with the US Air Force, Air National Guard. She served her country for six years. Kara is married and has a school aged daughter who is best friends with my own child. Continuous medical procedures and the threat of recurring cancer is robbing her and her family from the best years of their lives.

Kara's mother, Margaret Musacchio, is in her early 60s and has a rare blood cancer with no previous family history, no diet risk factors or genetic makeup. She was diagnosed in 2016 with Thrombocythemia after completing multiple lab tests and undergoing a bone marrow biopsy. This blood cancer causes her bone marrow to produce too many platelets. She has been on oral chemotherapy for over two years and must remain on it for the rest of her life. This disease puts Margaret at increased risk for stroke, anemias, and potentially could transform into an acute leukemia which would prove fatal. She has lived in the Wilmington area for the last fifteen years.

Margaret's husband, Robert Musacchio, is in his early 70s. He is Kara's stepfather. He was diagnosed with a blood cancer about a month before Margaret received her diagnoses back in 2016. Robert has Stage 0 Chronic Lymphocytic Leukemia which could transform into a much more serious leukemia. In June 2017,

Robert was also diagnosed with a very aggressive bladder cancer, high grade invasive papillary urothelial carcinoma Stage pT1. He had a cystoscopy procedure to diagnose, then a Turb T procedure to scrape the inside of his bladder to remove the small cancer seen during the diagnostic procedure and a chemotherapy solution was applied in his bladder. More cancers were found at that time and he underwent a radical cystoprostatectomy in July 2017 and also had his appendix removed during the surgery. Robert now lives with a urostomy appliance to enable him to void urine as he no longer has a bladder. He lived a healthy lifestyle and was a nonsmoker. Robert, his wife, and his stepdaughter are all being robbed from the best years of their lives and wonder on a daily basis if the PFAS contaminated water they cooked with, bathed in, cleaned their clothes with, and regularly drank is to blame for their rare and bizzare medical conditions.

David Donovan lives in Leland, NC. He is my husband and father to our beautiful boy/girl twins. He was diagnosed with a meningioma in June 2012 after living in Leland for three years. He was in his early 40s at the time. This was a benign brain tumor that grew to the size of a golf ball located behind his nose and eyes compressing his optic nerves, olfactory bulb, central nervous system, and pituitary gland. The tumor was successfully removed and he never needed chemotherapy. He must get routine MRIs to ensure the tumor does not grow back and regularly visit an endocrine specialist for additional monitoring. He has no previous family history of brain tumors. He is also an identical twin--his brother never developed any of David's medical conditions leading us to believe David's tumor was caused by environmental exposures.

I did not have to search far to find painful stories of medical suffering and should give us all pause. In fact, after conducting a quick search for cancer spikes in our region, North Carolina's Department of Health and Human Services discovered that testicular cancer is on the rise in our region.[15] Brunswick, Pender and New Hanover counties also have almost double the rate of thyroid cancers than the state and national average.[16]

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[15] http://www.starnewsonline.com/news/20170629/nc-study-no-cancer-spike-in-lower-cape-fear
[16] https://statecancerprofiles.cancer.gov/

PFAS have three defining qualities that make them extremely dangerous. They bioaccumulate in our blood and body tissue. They are persistent--meaning they live forever in the environment, never breaking down, always recycling themselves into our ecosystem and food chain. They are endocrine disrupting chemicals that even at the smallest doses can alter our cellular and hormonal development. Exposure to these toxic chemicals present themselves differently in each human. We need a nationwide PFAS human exposure study that searches for more than just PFOA and PFOS. The families in southeastern NC that have been chronically exposed to these toxic PFAS deserve to know what was in their water and how deadly these mystery PFAS are when combined together.

Our story of GenX and the other mystery PFAS being detected in our water should prove that banning 1 or 2 PFAS is no longer a viable option. Contrary to what the EPA claims on its website,[17] replacing longer chain PFAS with shorter chain PFAS is not deemed a safe or responsible solution to PFAS management, per current international scientific consensus Multiple world renowned scientists and scholars created the Madrid Statement in 2015 outlining exactly how nations can prevent further harm from these toxic chemicals.[18]

Immediately, we need all PFAS--and their byproducts, regulated as a class of highly toxic chemicals--regardless of their chain length. We need PFAS manufacturers to provide standards for all PFAS--including byproducts. Doing this will allow states, like North Carolina, to respond quickly to these emerging threats.

Sixty days after Chemours was asked to stop dumping PFAS into the Cape Fear River, the EPA detected two new PFAS from the Chemorus outfall--Nafion byproduct 1 and 2.[19] Nafion byproduct 2 has nine fluorinated carbons, making it longer than PFOA--which has eight fluorinated carbons. Nafion byproduct 2 is also a sulfonate--like PFOS--which tend to be more toxic than carboxylic acids like PFOA.

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[17] https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-management-and-polyfluoroalkyl-substances-pfass

[18] http://greensciencepolicy.org/madrid-statement/

[19] https://www.ncdhhs.gov/news/press-releases/state-seeks-stop-additional-chemical-discharges-cape-fear-river

These byproducts were detected in August 2017 and we still do not have public knowledge on if test standards have been completed. Over a year has passed and our community is still left wondering how much Nafion byproduct 2 were we drinking, how much lingers in our water supply today, or what is a safe dose to consume of these mystery PFAS.

There are acceptable ways for PFAS standards to be maintained in a secure manner at the federal level to protect manufacturers' confidential business information. The EPA should immediately begin rodent toxicology studies on all know PFAS. Additionally, the EPA 537 method should be updated to include new PFAS as standards become available. Mandatory comprehensive PFAS testing should be required of all public utilities to identify nationally, where contanimations are occurring. The Method Detection Limit (MDL) for PFAS testing should be set to 1 ppt. The public has a right to know how many drops of PFAS are in our drinking water due to these chemicals persistence and bioaccumulative effects.

Chemours/DuPont has proven they are chronic polluters with little to no regard to public health and corporate environmental stewardship. We urge Congress to deny federal contracts to chronic PFAS polluters--like DuPont/Chemours. These company should not be rewarded for their poor stewardship. Not a single defense contract or taxpayer dollar should be given to these corporations until they can show an adequate period of restraint and control. Additionally, PFAS polluters should be legally bound to pay for all cleanup of impacted communities. We also urge the federal government to set the Maximum Contaminant Level (MCL) for all PFAS to 1 ppt in light of the recent CDC study.[20]

Lastly, it's important to remind everyone that Chemours' Fayetteville Works Site is also located a short eight miles away from the world's largest hog slaughterhouse owned by Smithfield Foods. Smithfield Foods was

[20] https://www.propublica.org/article/suppressed-study-the-epa-underestimated-dangers-of-widespread-chemicals

purchased by a Chinese conglomerate in 2013 making it, at that time, the largest Chinese buyout of a US company in history.[21]

The slaughterhouse is located downstream of Chemours and draws its processing and drinking water from the Cape Fear River using the Bladen Bluffs Water Treatment Plant.[22] This water is used to rinse and package Smithfield Foods' pork products for worldwide distribution. To date, no scientific studies have been done to determine if the PFAS contaminated water used in the pork packaging process is cross contaminating the meat--further exposing millions of pork consumers worldwide to these toxic chemicals.

Thank you for the opportunity to testify before the House Environmental Subcommittee and raise awareness at a national level to the mounting dangers of PFAS exposures. I pray you all find the moral courage to protect our most valuable economic resource--human life--from the continued exposure to these dangerous chemicals.

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[21] https://www.pbs.org/newshour/show/whos-behind-chinese-takeover-worlds-biggest-pork-producer
[22] http://www.starnewsonline.com/news/20170807/news-update-dealing-with-toxic-genx

Mr. SHIMKUS. Thank you very much. We are happy to have you.

Last is Mr. Eric Olson, senior director of Health and Food, Healthy People & Thriving Communities Program from the Natural Resources Defense Council. You are recognized for 5 minutes.

STATEMENT OF ERIC OLSON

Mr. OLSON. Thank you Mr. Shimkus and thank you Ranking Member Tonko and members of the committee. You just heard about the real-world impacts of these chemicals in our water supplies across the country. In fact, probably every person in this room, every member of this committee has these chemicals in their body. Over 98 percent of the public has these chemicals in their body. I view these as the new PCBs.

Members may remember many years ago that it took an act of Congress, literally, to ban PCBs. We are very concerned that this is a very broad class of thousands of chemicals that have not, frankly, been meaningfully regulated. We have a little bit of action on a couple of them, but the vast majority there has been virtually nothing done at the Federal level in most States.

I also want to say that we know that there are six million people from a Harvard study that are drinking two of the PFASs in their water at levels above EPA's action level. Six million people. When those numbers come down as a previous questioner suggested, there are going to be a lot more people that are shown to have excessive levels of these chemicals in their water supplies. It is going to happen, I guarantee you, in every single State, probably in most congressional districts.

As we get the new data coming in we are going to see this across the country. These impacts we heard about a variety of them. They include cancers of the kidney, cancer of the testicles, other adverse effects including immune system impacts, impacts on the thyroid, impacts on fetal development.

And I just want to share a story that I—I just got a phone call yesterday from a citizen who is in Cape Fear, very similar to the story that you just heard, and she had actually lost her baby. She found out afterwards that she had been drinking excessive levels of these chemicals in her water. She was a marathon runner. She routinely drank a lot of the water.

She wants to know, what are the impacts of the people in her community? What does she tell her kids? What does she tell the rest of the community? There are 11,000 people in her organization and I know Ms. Donovan's group has a lot of members really trying to fix this problem. It is across the country. We need action. And I ask that a letter that has about 50 groups signed on to it asking for action be entered into the record which addresses some of the needs.

There are obviously concerns about setting an EPA drinking water standard. We would like to see EPA move forward. Unfortunately the Agency has known about this problem for more than a decade and hasn't even made a determination that a standard is necessary. And I didn't hear EPA commit to making a determination in the earlier testimony today.

I don't think we got a commitment from the Agency to even determine that a standard needs to be made. And as we heard ear-

lier, even where EPA makes such a determination which they did for perchlorate, the only chemical in 22 years under the Safe Drinking Water Act 1996 amendments that EPA made a determination, EPA still a decade later has not even proposed a standard.

In addition, obviously in addition to a standard, we need States to be taking action because EPA isn't going to be doing anything very quickly. States need to be stepping into the void. Some States are doing it, New Jersey, Vermont, New York, California, other states are looking at action. We need to stop the further contamination.

We need to have cleanup standards. We need to have a phase-out of the uses that are causing all this contamination. We need polluter pays requirements so that the polluters are paying to clean up, not citizens who have contaminated drinking water. Why should they have to pay for the cleanup? It really ought to be the polluters paying for it. We need an authority for citizen action, for medical monitoring and enforced cleanup.

We also need, clearly, action on food uses of these chemicals. Your pizza boxes, a lot of your other food packaging contains these chemicals in them. You are being exposed through your food and we need to take action to address those. And, in addition, we clearly need EPA to take action under the Clean Water Act and the Toxic Substances Control Act to address new uses and new PFASs.

And, finally, we certainly need action under the Safe Drinking Water Act to ensure that we have more funding through the State Revolving Fund and through a cleanup fund to start cleaning these problems up before they just causing nationwide disaster from the public health perspective. Thank you very much.

[The prepared statement of Mr. Olson follows:]

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

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

Hearing Entitled:
"Perfluorinated Chemicals in the Environment:
An Update on the Response to Contamination and Challenges Presented."

September 6, 2018

BRIEF SUMMARY OF TESTIMONY OF ERIK D. OLSON

PFAS are the new PCBs—but they may be more widespread and dangerous. They are toxic at extremely low, parts per trillion levels. They don't break down and have become ubiquitous in the environment. Just two of them (PFOA and PFOS) are present in more than 6 million Americans' tap water at unsafe levels, according to a Harvard study. Considering recent data showing that extremely low levels of these compounds and an array of other PFAS are harmful, it is likely that tens of millions of U.S. residents may have unsafe PFAS levels in their tap water. Indeed, PFAS are now found in the bodies of more than 98% of Americans—probably in every one of you, your families, and your constituents.

PFAS have been linked to a wide array of effects ranging from kidney and testicular cancer to impacts on the immune system and thyroid, adverse effects on fetal development, and many other harms. The impacts on everyday lives are very real in communities across the country. Contamination is known or suspected at hundreds of sites, from Hoosick Falls, NY to Chanute Air Force Base in Champaign County, Illinois, to Parkersburg, WV, and the Cape Fear River in NC. There are many people whose agonizing health problems and legitimate worries about their families' health hang like a cloud over their futures.

Unfortunately, EPA has fallen down on the job. It worked with the White House to block release of a critical report by the Centers for Disease Control and Prevention showing adverse effects of PFAS at far lower levels than EPA had admitted, out of fear of a "public relations nightmare." While the report finally was released after a public uproar, EPA has failed to meaningfully regulate PFAS manufacture and use. The agency has failed to issue standards to protect our drinking water and failed to protect our health and the environment from PFAS contamination. It has failed to ensure that PFAS-contaminated sites are cleaned up. The agency must step up to fix these problems and cannot be subjected to political interference from the White House or DOD. States must immediately step into the vacuum by issuing strong, health-protective drinking water and cleanup standards, and by phasing out PFAS firefighting foam and PFAS in key consumer and food packaging products, because regrettably we cannot trust this EPA to do its job.

Introduction

Chairman Shimkus, Ranking Member Tonko, 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 30 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.

These "forever chemicals" are extremely long-lived in the environment, and concentrate and last a long time in our bodies and in those of animals. Scientists are finding that certain PFAS likely have adverse effects on our health at vanishingly low levels of exposure—*at parts per trillion* levels.[2] As my colleague Dr. Anna Reade has noted,[3] PFAS

are a class of chemicals estimated to contain between 3,000[4] to 5,000[5] industrial chemicals, and new subclasses of PFASs are still being discovered in products and in the environment.[6]

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 such PFAS) in the drinking water of more than 6 million Americans.[7] 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.[8] These blanket the landscape from potentially hundreds of sites in Michigan,[9] to the former Chanute Air Force Base in Champaign County, Illinois,[10] Hoosick Falls, NY,[11] Parkersburg, WV,[12] and the Cape Fear River in NC.[13] 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.[14] These uses result in multiple 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,[15] and many other epidemiological and animal studies,[16] 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.[17] Studies of people exposed in West Virginia also found that PFOA exposure is probably linked to kidney cancer and testicular cancer.[18] Additional evidence has shown links between early life exposures to PFOA and altered mammary gland development.[19] 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.[20] A series of in-depth investigative articles by journalist Sharon Lerner[21] 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[22] and 2015 Madrid[23] 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.[24]

We 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 even made a determination that a drinking water standard is necessary for any PFAS. Moreover, recently EPA teamed up with the White House to block the Centers for Disease Control and Prevention (CDC) from issuing a report finding that certain PFAS have adverse effects at far lower levels than EPA had previously stated.[25] An internal email from the White House said the report would present a "public relations nightmare."[26] While the report was released after a public outcry, it highlights how EPA is failing to use its power to protect people from this hazard. Many important steps are necessary, for example:

- We need immediate, strong, health-protective drinking water health advisories and drinking water standards for PFOA and PFOS, and for other key PFAS for which there are data in hand (including PFNA and PFHxS, for which ATSDR has developed Minimal Risk Levels, or MRLs, as well as other perfluoroalkyls for which ATSDR has cited data linking its exposure to health hazards, including PFDeA, PFBA, PFHxA, PFBuS, PFDoA, and PFUA). Soon thereafter, we need a total PFAS standard, potentially based on subclasses of PFAS.
- States need to move forward with issuing strong drinking water and cleanup standards now, since EPA has shown it cannot be trusted to do so.
- EPA's delays and lack of meaningful action are shameful. The Safe Drinking Water Act should be fixed so EPA is forced to set a strong, health-protective

standard under strengthened standard setting authority that will ensure full protection for vulnerable subpopulations as soon as possible; the Office of Management and Budget (OMB) and other agencies should be prohibited from interfering. The National Academy of Sciences and ATSDR should review the health data without political interference.

- EPA and states must ensure that "polluters pay." Specifically, EPA should list PFOA, PFOS, and other PFAS as hazardous substances under Superfund and hazardous wastes under the Resource Conservation and Recovery Act (RCRA).
- A trust fund, paid for through user fees on manufacturers of PFAS, should be generated to pay for cleanups.
- The Department of Defense (DOD) specifically should be held accountable for identifying and cleaning up its PFAS messes (a bipartisan Senate bill[27] would start this process.)
- Citizens put at risk by PFAS contamination, as well as EPA and states, should be authorized to take legal action to force cleanup and medical monitoring.
- EPA should regulate PFOA, PFOS, and all other hazardous PFAS as toxic water pollutants and hazardous substances under sections 304 and 311 of the Clean Water Act to ensure that we control future pollution.
- EPA should ban new uses of existing PFAS, and new PFAS under the Toxic Substances Control Act, and order a complete data call-in and comprehensive toxicity testing for PFAS.

- Existing PFAS uses should be phased out, with extremely narrow exceptions for true national defense needs, emergencies, or similar urgent needs where there are no alternatives.
- States should take the lead in these phaseouts where EPA is failing to act—such as in the case of firefighting foam, carpets, and other consumer PFAS uses.
- Manufacturers of PFOA, PFOS, and all other hazardous PFAS should be required to take back products that used their PFAS from customers and properly dispose of them.
- Facilities manufacturing and using substantial quantities of PFAS should be required under the Community Right to Know Act to publicly report.
- EPA, the U.S. Geological Survey, and Food and Drug Administration (FDA) should be charged with conducting ongoing, comprehensive testing of tap water, ground/surface water (a bipartisan Senate bill[28] would start this process), and food for PFAS.
- FDA should ban all PFAS from use as a food additive, and in food packaging and food contact substances.
- Use of PFAS in firefighting foam should be phased out and replaced with safer alternatives. Washington State and other researchers are identifying safer alternatives. In the meantime, training exercises should not use PFAS.
- Substantial additional funding through the State Revolving Funds (SRFs) and other authorities should be provided, especially to help disadvantaged

communities clean up their water (Mr. Tonko and colleagues' Assistance, Quality, and Affordability Act[29] would help with this).

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.[30] 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.

Hoosick Falls – Social Media Effort PFOA Project

Lauren Jacket photo of

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*:[31]

> 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 are possibly more widespread and dangerous. They are 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. I regret to say that EPA has fallen down on the job. It has failed to meaningfully regulate PFAS manufacture and use, failed to issue standards to protect our drinking water, and 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.

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 30 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, 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 is a member of the National Academy of Medicine's Food Forum and 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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Mr. SHIMKUS. The chair thanks the gentleman. And now I will recognize myself for the opening of the round of questions and I will recognize myself for 5 minutes.

I want to go to Ms. Daniels. Your testimony calls for "a holistic national approach keying off a unified message." Why don't you think that the Federal Government is doing that right now and are there technical barriers to it being done that way?

Ms. DANIELS. So yes, thank you for that question. So I think the Federal Government is doing a better job of it now but I would argue that I don't think there was much of that going on for the last 10 years. So I think possibly since signaling through the summit, action moving forward, I think they have been doing a better job.

But, for example, I still see the silo effect that we have between EPA and ATSDR. So why do we have two different agencies doing essentially the same amount of work or the same type of work which is risk assessment work, why aren't those two agencies working together on that very important topic?

And I think when I see things that EPA is doing, I think they are probably doing a better job talking to their counterparts in wastewater and in drinking water, but I haven't seen FDA necessarily pull to the table. So I think that is a partner that has sort of been missing at least from my perspective. So I think they are doing a better job since May that I don't think that was happening much before that.

And I think so there has been a lot of conversation about the UCMR rule, to me if a chemical reaches the level where it is going to be part of the UCMR rule, way back in those phases folks should already be looking at how to reach out to the other groups that have a part in this. So why didn't we have standards from wastewater and waste back then, because it is natural for states to want to try to find where those things are coming from and we still don't have standards in those areas.

Mr. SHIMKUS. So just for correction, I use the word technical for a reason, but you explained more administration and legal hurdles. Just leadership, I am a big leadership guy and someone has to be in charge and someone has to keep people, so that is really your response is more legal and administrative.

Ms. DANIELS. Well, there are some technical challenges too. So in drinking water we can take action with an MCL. We can take action with a HAL. In Pennsylvania, our wastewater folks are having a challenge addressing PFAS and discharges because some of them can represent, recognize a HAL but others need an MCL or a water quality standard in order to take action. And in our waste program we have the luxury that they can recognize a HAL as well but not all states can do that.

So there are different trigger levels for these different agencies in terms of when they have authority to take an action and that is where we have some inconsistency.

Mr. SHIMKUS. Let me go to Mr. Burman. What technical or economic barriers do States face with respect to responding to PFAS contamination?

Mr. BURMAN. Thank you, Mr. Chairman. For the States from the cleanup perspective, the biggest challenge, really, is the uncer-

tainty about which of these compounds do we really go after. They do not occur as just PFOS and PFOA in isolation. It is a mixture and States are rapidly finding more and more of these.

The question is, in the absence of established and formal health standards, which ones should the State focus on, how do you sample for them, and how do you clean them up. So there is a lot of uncertainty about the nature and occurrence, standards, and just the basic fundamental nuts and bolts of how do you sample for them, how do you detect them, and what technologies can really get them out of water and soil.

Mr. SHIMKUS. So what are States and territories doing to address the uncertainties that you just mentioned?

Mr. BURMAN. Thank you, Mr. Chair, for that question. And as in my previous testimony, what is happening is States are driven by what they are finding and they are evolving their own risk assessments and they are coming up with, in some cases, promulgated standards and in some cases values for additional PFAS.

A lot of States now, I shouldn't say a lot, but a handful of States have another six to eight PFAS that commonly have standards now and States are finding another dozen or two dozen commonly in soil and water. So that has been the biggest, the ability to detect these contaminants and to find them has outstripped our ability to actually offer health advice to people. So that is the biggest conundrum that States have that they have sort of created for themselves by the drivers that they have to go out and find these because we know they occur.

States are also trying to do the best they can with remediation technologies. It is a lot of, frankly, old school technologies that are coming back. It is your basic excavation and putting them in landfill, capping them, incinerating them, and for groundwater, really, activated carbon, solid old and tried technology. These are all that is really available to the States.

But there are efforts to try and find some more cost-effective methods that are happening at the States, again driven by the need that they have.

Mr. SHIMKUS. Thank you much. I am going to end there in lieu of time, but it was just a point that I was going to follow up with Ms. Isaacs is that I am wondering with the czar aspect, czarina aspect, do you have—I am not going to give you time to answer because of my limited time, but is that working better than, because you have got all the agencies of Michigan together and you are like, I can tell, the marching them in a certain direction.

So we will talk later or we will add that to a question for the record. I now yield 5 minutes to the ranking member, Mr. Tonko, for 5 minutes.

Mr. TONKO. Thank you, Mr. Chair. And thank you to our witnesses for what are very powerful testimonies that you shared, so much appreciated.

A lot of discussion with the previous panel about designating a hazardous substance with the PFOAs and PFOS. What in your determination, and I will address this to Ms. Daniels, Mr. Burman, and Ms. Isaacs because of your relationship with the respective States, what would the impact on States be if EPA were to determine PFOA or PFOS as a hazardous substance under CERCLA?

And I heard some of Mr. Burman's comments about that but in a more direct way what would States be enabled to do?

Mr. BURMAN. Thank you, Mr. Tonko. For States that would probably be the single biggest impact because it would bring the full weight and power and formality of CERCLA to bear on this contaminant. We have heard Ms. Sullivan talk about DOD using the CERCLA process. We commend yDoD in doing that but it is essentially almost a voluntary process and very few responsible parties are voluntarily going to choose to apply a CERCLA-like process to this contaminant. So having CERCLA formally being introduced to the playing field would take care of that. It would provide a consistent framework that has been perfected for almost 40 years.

Now having said that, this subcommittee has held hearings on modernizing Superfund and there is always room for improvement, but the baseline that CERCLA would provide would enormously contribute to stripping of the lot of the uncertainty both in terms of the technical aspects and the policy aspects that currently states face.

Mr. TONKO. Anyone else want to add to that?

Ms. ISAACS. Yes. Michigan, in full partnership with EPA, it would provide an additional tool that we could use together in looking at holding responsible parties responsible. We currently are working with the EPA on enforcement actions. If we had this new tool it would be more effective, I think, and might not need to go to court often if we have established processes that everyone knows about.

Mr. OLSON. Mr. Tonko, may I speak to that just briefly? Quickly, without having these chemicals listed under Superfund, CERCLA, there is a real problem that an obstreperous defendant will simply refuse to clean up. And, just listing two of them may help at some sites, but as you just heard there are actually dozens of these showing up. So there needs to be a broader designation that would cover a broader array of PFASs.

Mr. TONKO. And, Ms. Daniels, quickly, if you could just share a little more.

Ms. DANIELS. Sure. So in Pennsylvania we can use a health advisory for our cleanup folks to take action, but I think in other States that determination would be very helpful. The only other thing I wanted to mention is we don't always find a responsible party for all of these sites. We have two right now working in Pennsylvania that we have no idea where it is coming from. So right now the cost of that cleanup is certainly being borne by the state, so just keep that in mind.

Mr. TONKO. Thank you.

And, Ms. Donovan, if I could go to you, I know we spent a lot of time focusing on PFOA and PFOS. Those are the contaminants that I am most familiar with in my home State of New York. But we know that there are thousands of similar and toxic variants like GenX. How important is it for EPA to evaluate and provide meaningful risk information to take regulatory action on PFAS more broadly?

Ms. DONOVAN. Well, I think North Carolina is the perfect example where there is nothing. There is still no information. There is no risk assessment for GenX. And GenX again was just 12 percent

of the total of PFAS that were detected. Right now, North Carolina is looking at, I believe DEQ said 25 different PFAS.

These chemicals are also byproducts as well and I think that is important to understand. When we don't have any information, we don't know how to assess them and address them so they don't get talked about. And I think that has been a big letdown to the community and to the American people is that we know they are there, the scientists can see them. But the scientists don't have test standards for them so the scientists can't come back to public officials and tell them accurately this is how much is in the water.

And then EPA with test standards could begin rodent toxicology studies and give us those risk assessments on the PFAS that we are looking for. So I think it is really important for us to consider requesting that the EPA begin doing rodent studies on all of the PFAS, but they can't do it until they get test standards. And those test standards come from the manufacturers because they know exactly what they are making. They know what chemical byproducts are coming out too.

So if we had all of that information and could start the process there that would have really helped North Carolina move along a lot further than we are right now, because we have wasted a lot of time.

Mr. TONKO. Thank you. With that I yield back. I have exhausted my time so.

Mr. HUDSON [presiding]. I thank the gentleman. At this time the chair will recognize himself for 5 minutes for a question.

I would like to first again to thank Ms. Donovan for being here, very compelling testimony. Appreciate you sharing your personal story and the story of our neighbors.

And, Ms. Isaacs, I was encouraged reading your testimony and hearing from you today. I think one of the underscores I would like to make is the bipartisanship that we have seen in Michigan that I believe we see in North Carolina that I think is very important here. This is not a Republican or Democrat issue. It needs to be bipartisan. We need a bipartisan approach and that is something that in North Carolina we have certainly tried to do.

You state that your State is one of many that has adopted guidelines or guidance values or standards for PFOS and PFOA chemicals based on the EPA's toxicity value and the EPA-issued 2016 health advisory level. Was there any information that was missing from the toxicity value for health advisory level that hindered your ability to develop your own standards in Michigan?

Ms. ISAACS. We developed our standard at the beginning of 2018. We did not receive, we requested as everyone else did, information from ATSDR. The 852-page report did come out and that is another source of information that informs us. When you are a State and you are looking to set a standard of course you are having your own scientists review the information. You are looking at the toxicology report from ATSDR. You are looking at the lifetime health advisory. You are putting it all together and you are trying to determine the most protective standard for your people.

We know it has changed. We know it changed in '09, we know it changed in '16, and now we have new information. So this evolving contaminant and the research evolves, clearly we would like

more research. And we are actively engaged at looking at the correct standard for Michigan. So did we need more information? We did, and we did get more information and we think still yet there is more to come.

And we realize that there are many analytes, but I think we are focused on the ones that would produce the most risk to our public health, sir. Thank you very much.

Mr. HUDSON. Thank you. Ms. Daniels and Mr. Burman——

Ms. DONOVAN. I am sorry, can I interject?

Mr. HUDSON. Briefly, a little bit of time here.

Ms. DONOVAN. OK. I think there is a misconception and if you look at the statement you will see that we have no idea what is considered high risk and not at risk. Short-chain, I think EPA is working under the assumption that short-chain chemicals, PFAS, are not as toxic as long-chain. However, you have to use more short-chain.

So we have no idea at higher levels, higher quantities, they are still acting the same way in the body it just takes more of them and we are finding more of them in our water in North Carolina. So I don't think we can decide to catalog that a couple are more toxic than others, we simply don't know. There is zero scientific information to prove that some are less toxic than others at the moment. Thank you.

Mr. HUDSON. OK, appreciate that. Ms. Daniels and Mr. Burman, you are both responsible for cleanup and remediation of these chemicals and I appreciate your testimony. Based on your experiences, once the toxicity value is released does that give States enough information to develop a cleanup plan?

Ms. DANIELS. So I can tell you in Pennsylvania we need a health advisory level, so we need that number and we need EPA to establish that number for us to be able to take action. A tox value doesn't give us what we need from our legal authority.

Mr. HUDSON. Mr. Burman?

Mr. BURMAN. Thank you, Mr. Chair. What I can tell you is from the perspective of the States it varies. Some States have robust public health agencies who can take that tox value and come up with a state number for it, but then the problem even for those States is in the absence of that being a federal number can they really apply it.

A lot of States simply do not have the resources to take the EPA baseline information and create their own values so they are reliant entirely on a federal value.

Mr. HUDSON. Got you, I appreciate that.

Ms. Daniels, during the first panel today, Dr. Grevatt from EPA mentioned the states could use their SRFs if they choose to address PFAS contamination. Do you know how many States already do this?

Ms. DANIELS. So, thank you for the question. Absolutely States can use it, but there is tremendous, I guess, work that needs to be done in lots of different areas. So you are also competing with projects for lead, projects for aging infrastructure. I think folks will be moving forward with new treatment for hazards. There is a whole list of things that that money needs to address.

So yes, PFAS is just one more of those things that could be used for projects. In Pennsylvania we have one application in-house right now for somebody that wants to install treatment for PFAS.

Mr. HUDSON. But you are not for sure how many other States are actually——

Ms. DANIELS. No, but we would be glad to do a survey and get back to you on that one.

Mr. HUDSON. That would be great.

Ms. DANIELS. Absolutely.

Mr. HUDSON. If you could report that back for the record I think that would be important for us to know. I really appreciate that.

As my time has expired, I will now recognize the gentlelady from Michigan, Ms. Dingell, for 5 minutes for her questions.

Mrs. DINGELL. Thank you, Mr. Chairman. I have a lot of questions so I am going to ask you to be concise. As we have discussed, Michigan has 35 sites that have already been identified. I know that you are really leading the effort with the State of Michigan as one of the States that is doing more than anybody does but we need to be doing a lot more.

In your testimony you state that Michigan supports establishing a national standard for PFAS. Briefly, can you state the benefits of setting that standard and is there a specific standard that the State of Michigan would like to see set for PFAS chemicals and do you think that where the national standard is now is where it should be?

Ms. ISAACS. I think that I have seen the movement by EPA to change this. If we look into '09 it was 400 and 200. We look in '16 it came down to 70 parts per trillion combined for those two long-chain PFAS. And again we see now ATSDR having a new focus on research that now brings children into this issue and we are looking at the effect on children. Minimally, we need to take into consideration a standard that addresses children.

So yes, we have asked EPA to set that standard and more than that we have asked them to work with ATSDR so that we can coordinate the health assessment along with EPA's enforceable clean-up standards for the States.

Mrs. DINGELL. Thank you. I want to go to the most recent, Parchment, in Fred's district, or Mr. Upton's district, and the Huron Valley watershed. One of my concerns is that there have been three announcements now in the last 6 weeks about not eating fish and it has gradually gone down river to Lake Erie. But my understanding is that the first fish was actually caught in May of 2017, put in a freezer and was not tested until very recently and so it was 16, 18 months later that the do not eat fish announcement was put out.

Why did that happen, do you have the resources you need, and how do we make sure that we are responding in a more timely way?

Ms. ISAACS. Thank you so much for that question. Let me say that as we moved as rapidly as humanly possible to do and search out sites of contamination in Michigan we started to look at doing surface water testing in our rivers that to inform us if we have sites of contamination bleeding into the river. And when we look

at fish testing, we added PFAS to our testing a few years ago. We have been testing fish since 1970.

I actually called the lab director at the Health Department and asked him about the issue that you just asked me about and he said it is not unusual that we take fish and freeze them. And he also said we have done more than 700 samples this year. They are moving incredibly rapidly. They have been given money from the legislature to expand their ability to test and they are searching diligently for staff to be able to handle more testing of water, fish, deer.

And as we have looked at these industrial pretreatment processes in our water treatment plants and our disposal plants that affect our waters, we use those areas of investigation to go back, look at make sure we tested the fish, make sure we know where the contamination is coming from. And I will address Huron if you want.

Mrs. DINGELL. Well, I think you will acknowledge that one took too long and you are trying to make it quicker. I only have a minute and I have so many questions, but I think it is really important that people know it did take that long and you are trying to cut that time now.

Ms. ISAACS. Yes, ma'am.

Mrs. DINGELL. Is Michigan testing for what we have been talking about today, the GenX?

Ms. ISAACS. We are not testing for GenX. There is very little known.

Mrs. DINGELL. Why?

Ms. ISAACS. We are using two testing methodologies, 537 and an analyte test and that brings us to 24 different chemicals that we are searching for. You heard that we have a suite of about 3,000-plus and those two water tests are the acknowledged tests, 537 requested and required by the EPA. And the additional test that we run with more analytes, we run because we get more PFOS.

Mrs. DINGELL. I am out of time. I yield back no time.

Mr. HUDSON. I thank the gentlelady. I just want to recognize the gentleman from Michigan, Mr. Walberg, for 5 minutes.

Mr. WALBERG. Thank you, Mr. Chairman.

And I would like to start off by adding my welcome to Ms. Isaacs, who is the director of Michigan PFAS Action Response Team. And possibly as our chairman had indicated, the czar setting that has taken a more comprehensive look at what is going on, certainly not with perfection but moving that direction as much as possible, I am glad that you are here to talk about the issues facing Michigan and the comprehensive response Michigan is putting forward.

Mr. Chairman, I would also like to take the opportunity to thank you and this committee for placing a priority on the issue by holding this hearing today. Safe drinking water should never be a worry for any person. I am glad this committee takes this issue seriously, as has real live people here too that have had to address it in their families and communities also.

Unfortunately, Michigan is no stranger to a water crisis. The current PFAS situation impacting Michiganders is one that most certainly should be taken very seriously and be handled with all hands on the deck approach. I want you to know, Ms. Isaacs that

I will continue to work with you and the State of Michigan and my colleagues to tackle this issue in any way possible. Safe drinking water is critical and the current PFAS issue facing Michigan ought to wake us up across the Nation and still further.

Let me ask this question, Ms. Isaacs. Can you explain how the State of Michigan is addressing and approaching the current issue in Michigan and specifically what do you consider to be the most important features of the way our State is addressing this situation including maybe talking about the so-called czar status approach.

Ms. ISAACS. Yes. The structure of combining ten state departments, you know this from your own Federal level of government that bringing those departments together is sometimes different, sometimes difficult, different cultures. When you bring them together under an umbrella it is placed out of the Governor's Office and you have this intense communication. It makes everything quicker, everybody understands the issue.

Ten state departments that talk multiple times a week is a structure that is so unique that we have been able to accomplish amazing things in 9 months. And what characterizes this as different isn't just the organizational structure put in place by Governor Snyder. That is unique and effective, but when we strategize to look at everything at once.

If you are looking at landfills and you are looking at wastewater treatment plants and you are doing surface water testing and you are testing every single public water supply in addition to private wells, and we have almost a million of those, you are so comprehensively reviewing your entire State knowing what your situation is, mitigating against the public health risk, and then addressing the remediation of how we actually fix this.

It is characterized by being a comprehensive, very quick heavy lift of what is the situation in our State, again cannot be done without the support of our legislature and our Congress. I am grateful for all of the work that all of you have done.

Mr. WALBERG. Almost a Marshall Plan approach, isn't it? Not reinventing the wheel but all working toward the same outcome and hitting all the bases. Is it replicable in other States?

Ms. ISAACS. It is. It is. And our Governor wants us to do protocols, best practice, and he wants us to share that with the rest of the nation. And we would like to help any other State. We will provide any information. And we are working with our sister states and they are all doing good work.

Mr. WALBERG. Have you had any issue in coordinating a response with the EPA? What might that be if there were?

Ms. ISAACS. We engaged in this in full partnership with ATSDR and with EPA. We maintain that. We continue that. And we do appreciate that partnership because they are very much needed. Again national issue, states can't do it alone and they certainly can't control everything so we need our Federal partners.

Mr. WALBERG. But they are coordinating with you well?

Ms. ISAACS. Yes.

Mr. WALBERG. How would you characterize your cooperation with affected communities? What can we learn?

Ms. ISAACS. I would assume you mean our cooperation in communication. Part of what makes this effort successful is the trans-

parency and the intense communication. We will communicate with any community that is really being tested. We want them to understand what this means. We want to address their concerns because they have them and they are really legitimate. We will do two to three community meetings. They will range from 15 people, I think the largest one we have had is 1,200 people. We will stay and we will answer individual questions and we will allow people to come to the microphone for as long as they want. We think that is absolutely essential.

I want to say that Michigan has always wanted the EPA to come in and we want them to hear what we have been hearing from our communities. We want them to hear the process of what the people think. So I am not involved in that negotiation, I am understanding that it is logistical and that is still certainly going forward. So Michigan has always wanted EPA to come in and we look forward to that.

Mr. WALBERG. Thank you. I yield back.

Mr. HUDSON. The gentleman's time is expired. I want to recognize the other gentleman from Michigan, Mr. Upton, for 5 minutes.

Mr. UPTON. Thank you, Mr. Chairman, and again I appreciate all the witnesses here on the panel as well as obviously the first panel. And I particularly want to thank my Michigan colleagues here, Debbie Dingell and Tim Walberg, Chairman Shimkus and Walden for allowing this hearing to go forward. You can tell that there is quite a bit of interest to try and fix this problem not only in Michigan but around the country.

And I guess as I reflect back on the last 5 or 6 weeks there was a term that our local sheriff used, Rick Fuller, that this is Team Kalamazoo. We got a problem and we have got to deal with it and let's take all the barriers down, partisan barriers, governmental barriers and let's work together.

And as Governor Snyder said when he has been there on a couple of occasions—remember, this is a very small town, Parchment—this is a textbook example of about how we ought to work together. And as I talked to many of the residents delivering the water as they came to not only the high school but the church, people appreciated that. I didn't see a single disgruntled person. They recognize that there was an issue, on the short term we are going to roll up our sleeves and deal with it.

And we have got a long-term problem as well, but again I am convinced that we are going to work on this as well. And frankly that was a big lesson that we learned from Flint. A finger could have and was pointed at all units of government and it was Dan Kildee, the congressman from there, myself, Debbie Dingell, Tim Walberg, and others, our senators that worked together to change the standard that forced EPA to acknowledge that they have got to be involved from the get-go from day one, and again that was my first question when we learned about Parchment.

Votes are starting here on the House floor.

A question I guess that I have for you, Ms. Isaacs, and again thanks for your work. You have been there a good number of times over the last couple of weeks. We have chatted on the phone. We have met in my office. You helped as we talked about my letter

that we had sent back on August 1st. We want to help the citizens everywhere where this can be identified.

And how frustrating was it for you to sit in the first row knowing that now we have these draft numbers, this draft report indicating that the numbers could be as high as 53,000 per trillion versus the 70 in terms of the standard? What do we have to do, where is Michigan on this standard at 70, and do you support EPA reviewing it to come down perhaps using the evidence there? How do you deal with an issue like this in terms of the State?

And I guess my last part of my question is I just want to announce to folks that I have been working with staff and with again my able colleagues, Dingell and Walberg, to introduce legislation that I hope to be able to introduce next week to include Federal facilities dealing with PFAS so that everybody is on the same page.

I have talked to the chairman, Mr. Walden. I would like to see this legislation move in this Congress to get to the President's desk. Again I think we could see some strong bipartisan support to certainly move it out of this committee and onto the floor and talk to the leadership. So look for that as a long-term issue.

But back to my question before my time expires. How frustrating is it to you to see these results that we frankly feared? We suspected when the numbers didn't come out right away that we suspected that they may be way above the 70 parts per trillion. What is the State's response to this?

Ms. ISAACS. Well, we would characterize our response to that is that we are very disappointed in the pace of the DOD and bases to respond to testing. I know they have been asked and that was the right thing that they were asked by the DOD to test, but the response rate is slow. And that means to me, if I don't have results on a base then I am going to initiate testing around the base because I don't want to risk and wait for results, and I have done that multiple times already.

What I mean as testing, I am looking at exposure in private drinking wells and I wish that the pace was faster. I know they are obligated to use CERCLA, but there are no timeframes for those eight steps and you can remain in the investigation stage of CERCLA for a very long time. And so I would encourage them as I do, I do encourage them personally on the phone, we really need your results. I often hear that the bureaucracy is large and it takes a long time to get things through the system. I actually understand that. They don't have an MPART process.

And so we are still in partnership because we need to be. We need to get the bases unified in the State to understand where water flows, geology, output. Those results help us determine if we need to test a river, we need to test for public health issues. So it is important to us that we get the results in a timely manner.

Mr. SHIMKUS. The gentleman's time is expired. There are votes on the floor. I would like to turn to the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman. I will be very quick because I know we also have markups sometime scheduled at 1:00.

Mr. SHIMKUS. Well, then just don't ask any questions and we can move forward.

Mr. GREEN. Well, Mr. Olson, in your testimony you state that data shows that PFAS chemicals can have adverse health effects at low per trillion levels. At what level specifically is there evidence of health effects and how does that compare to the EPA's non-binding 70 parts per trillion level?

Mr. OLSON. Briefly, I was relying primarily on the ATSDR report, which is part of the Centers for Disease Control and Prevention, which would suggest that levels down in the single digit parts per trillion can have adverse effects. And I think the more we learn, the more we are finding that these effects occur at very vanishingly low levels.

Mr. GREEN. I think we have some commitment from some legislation, but should the Safe Drinking Water Act be amended to require the EPA to act within a certain timeframe? In fact, I will ask everybody on the panel. Just say yes or no.

Mr. OLSON. Yes. And we would like to see the standard setting strengthened so that it can be done quickly rather than take 10 years.

Mr. GREEN. Yes.

Ms. DONOVAN. Yes, agree.

Ms. ISAACS. Yes, agree.

Mr. BURMAN. Yes.

Ms. DANIELS. Yes, and it has to be less than 10 years. So I agree with that.

Mr. GREEN. OK. Ms. Donovan, could you tell me how the residual PFAS contamination has affected your community?

Ms. DONOVAN. It has left us with uncertainty and distrust. The issue that is happening in North Carolina is it has been very difficult to get the States to rein in the Chemours. They have spilled many times and we have issued notice of violations many times. If there had been stronger guidelines from the Federal level I think we would have been able to act quicker and we could have had swifter justice.

I think we also in our situation have no information whatsoever. Everything that we are dealing with are chemicals that the Federal Government has not given any guidance on. So we are going it alone and we are figuring it out on our own and it has been incredibly time consuming in a State that is actually incredibly divided politically which has also mired us in some of this issue.

So I am really grateful that you are taking the bipartisan approach and I would love for our state legislatures to follow suit.

Mr. GREEN. Thank you. Well, I am from Texas and I understand. Mr. Chairman, I yield back my time.

Mr. SHIMKUS. The gentleman yields back his time.

Seeing no other members present, we would like to thank our second panel. We know this is a challenging issue but we are trying to figure it out as much as many of us are.

Before I conclude I would like and ask unanimous consent to submit the following documents for the record: A letter from the National Groundwater Association; a letter from Culligan International Company; a letter from several groups including Safer Chemicals, Healthy Families; a letter from Purolite; a letter from the Water Quality Association.

I also have a letter from a guy named Fred Upton from Michigan; another letter from, well, by numerous members to the Acting Administrator of the EPA Mr. Wheeler from Kildee, Boyle, Dingell, Lawrence, Upton, Bergman, and Fitzpatrick; a letter from the State of Michigan Executive Office to the Acting Administrator of the EPA from the Governor of Michigan; and finally, also from the Governor of Michigan to, it looks like the Secretary of Defense from the Governor of Michigan.

Without objection, so ordered.

[The information appears at the conclusion of the hearing.]

The hearing is now adjourned.

[Whereupon, at 1:07 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

Congress of the United States
Washington, DC 20515

June 6, 2018

The Honorable Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20004

Dear Administrator Pruitt:

We write to request additional information regarding actions by the U.S. Environmental Protection Agency (EPA) on per- and polyfluoroalkyl substances (PFAS). PFAS are a chemical class used in firefighting and by industry in the production of products including Teflon and Scotchguard.[1] Associated human health risks include cancer, immune effects, birth defects, and liver effects.[2] According to the Environmental Working Group, PFAS may be present in drinking water systems across the country that serve up to 110 million Americans.[3]

EPA continues to withhold critical public health information on PFAS from Congress and the public. Last month, members of the Committee wrote to you regarding EPA political appointees engaging with staff at the White House to impede plans by the Agency for Toxic Substances and Disease Registry (ATSDR) to release an assessment of PFAS. To date, the study has still not been released. Last month's National Leadership Summit on PFAS excluded members of the public, the press, and others. At one point, a reporter was physically removed from the building. Taken together, these actions serve to undermine public awareness and continue the troubling pattern of secrecy by the Trump EPA.

We are deeply concerned that these ongoing EPA regulatory and policy failures will undermine the ability of the Agency to effectively address human health risks, including those related to PFAS and other toxic chemicals. EPA recently proposed a rule to severely restrict the use of certain public health data and related research findings, while also giving the Administrator discretion to exempt some studies from the proposal's requirements on a case-by-

[1] U.S. Environmental Protection Agency, Understanding PFAS in the Environment (Feb. 26, 2018) (www.epa.gov/sciencematters/understanding-pfas-environment).

[2] U.S. Environmental Protection Agency, *FACT SHEET: PFOA & PFOS Drinking Water Health Advisories* (Nov. 2016) (www.epa.gov/sites/production/files/2016-06/documents/drinkingwaterhealthadvisories_pfoa_pfos_updated_5.31.16.pdf).

[3] Environmental Working Group, *Report: Up to 110 Million Americans Could Have PFAS-Contaminated Drinking Water* (May 22, 2018).

case basis.[4] If finalized, this proposal could limit the type of information used to develop toxicity values for PFAS by preventing EPA from considering studies that include confidential medical records. Furthermore, we are troubled that, in a recent interview, a senior EPA official was unable to explain how this proposal could impact the Agency's efforts to protect the public from PFAS.[5]

In order to more fully understand how the EPA proposal to restrict the Agency's use of certain public health data will impact its ability to address human health risks associated with PFAS, we request that you respond to the following no later than June 20, 2018:

1. Please provide a list of all members of the Action Development Workgroup for the proposed "Strengthening Transparency in Regulatory Science" rulemaking, including name, title, and EPA office.

2. Provide copies of all comments or feedback provided by EPA staff, including but not limited to members of the Action Development Workgroup and staff of the Office of Ground and Drinking Water, on the proposed "Strengthening Transparency in Regulatory Science" rulemaking.

3. Provide a list of all upcoming EPA plans to visit communities impacted by PFAS including the event date, location, list of invitees, and whether the event is open to the press.

Thank you for your immediate attention to this matter. Should you have any questions, please contact Teresa Frison in Rep. Jerry McNerney's office at 202-225-1947.

Sincerely,

Jerry McNerney
Member of Congress

Paul Tonko
Member of Congress

Frank Pallone Jr.
Member of Congress

[4] U.S. Environmental Protection Agency, *Strengthening Transparency in Regulatory Science*, 83 Fed. Reg. 18768 (Apr. 30, 2018) (proposed rule).

[5] *Science Proposal Muddies Reviews of Toxic Nonstick Chemicals,* E&E News (May 24, 2018).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 14 2018

OFFICE OF
RESEARCH AND DEVELOPMENT

The Honorable Jerry McNerney
House of Representatives
Washington, D.C. 20515

Dear Congressman McNerney:

Thank you for your June 6, 2018, letter to the U.S. Environmental Protection Agency regarding the agency's actions to address per- and polyfluoroalkyl substances (PFAS) and the EPA's proposed rule to strengthen transparency in regulatory science.

The EPA recognizes the challenges that states, tribes, and communities with PFAS contamination are facing, and is committed to working side by side with our federal, state, local, and tribal partners to address these concerns. On May 22-23 of this year, the agency hosted a two-day National Leadership Summit (Summit) on PFAS in Washington, D.C. The Summit included representatives from over 40 states, tribes, and territories; 13 federal agencies; congressional staff; associations; industry groups; and non-governmental organizations. As part of the Summit, the EPA announced four key actions the agency will take in the near term on PFAS. Details on these four key actions and more information on PFAS is available at https://www.epa.gov/pfas.

Following up from the Summit, the EPA has been visiting and engaging with communities impacted by PFAS contamination in order to hear directly from the public. The EPA has held three community engagement sessions thus far, in Exeter, New Hampshire; Horsham, Pennsylvania; and Colorado Springs, Colorado; and plans to hold additional engagement sessions in the coming weeks. The agency will post details on these events as they come together at https://www.epa.gov/pfas/pfas-community-engagement. Each community engagement event will be fully open to the public and the press. Using information from the Summit, community engagements, and public input sent to the EPA's Docket No. OW-2018-0270 at http://www.regulations.gov, the Agency plans to develop a PFAS Management Plan for release later this year. Taken together, these actions will enable EPA to better assist states, tribes, and local communities to ensure the safety of their citizens.

On June 20, 2018, the Agency for Toxic Substances and Disease Registry (ATSDR) released a draft toxicological profile of four PFAS chemicals for public comment. ATSDR released the draft toxicological profile after coordinating with the EPA, the Food and Drug Administration, the National Institutes of Health, the National Institute of Environmental Health Sciences, the U.S. Geological Survey, and the Department of Defense. The draft ATSDR toxicological profile is currently available for public comment until August 20, 2018 and comments may be submitted at http://www.regulations.gov/Document?D=ATSDR-2015-0004-0008.

On April 24, 2018, the EPA signed a proposed rule to strengthen the science used in EPA regulations. The public comment period on this proposed rule, "Strengthening Transparency in Regulatory Science," ends on August 16, 2018. All comments on this proposed rule can be entered in the docket at https://www.regulations.gov/document?D=EPA-HQ-OA-2018-0259-0001. The EPA also held a public hearing for the proposed rule on July 17, 2018, in Washington, D.C. The agency has formed an Action Development workgroup for developing the proposed rule, which includes representatives from EPA's Offices of Air and Radiation, General Counsel, Land and Emergency Management, Policy, Water, Chemical Safety and Pollution Prevention, and Region 5.

The EPA has a centralized search underway that we expect to yield documents responsive to your requests. We anticipate delivering responsive documents to your office as they become available.

Again, thank you for your letter. If you have further questions, please contact me or your staff may contact Christina Moody in EPA's Office of Congressional and Intergovernmental Relations at moody.christina@epa.gov or (202) 564-0260.

Sincerely,

Jennifer Orme-Zavaleta, Ph.D.
Principal Deputy Assistant Administrator for
Science

September 6, 2018

The Honorable John Shimkus
Chairman, Subcommittee on
Environment
Committee on Energy & Commerce
U. S. House of Representatives
Washington, DC 20515

The Honorable Paul Tonko
Ranking Member, Subcommittee on
Environment
Committee on Energy & Commerce
U. S. House of Representatives
Washington, DC 20515

Re: September 6 hearing on Perfluorinated Compound in the Environment

Dear Chairman Shimkus and Ranking Member Tonko:

The National Ground Water Association (NGWA) applauds the Subcommittee's holding of the hearing on "Perfluorinated Compounds in the Environment." Contamination from per- and poly-fluoroalkyl substances (PFAS) is nearly ubiquitous across the country, and more resources--technical and financial--are needed to accurately identify and address the scale of the problem.

NGWA is a trade association and professional society with over 10,000 members committed to the management, protection and use of groundwater resources. Our members are contractors, scientists, engineers, manufacturers and suppliers, who are actively working to address PFAS contamination on a daily basis--whether working on contaminated sites to devise remediation plans or assisting individuals directly with the testing and treatment of drinking water supplies.

NGWA offers the following recommendations and observations:

- To most effectively manage PFAS contamination, regulatory certainty that is enforceable must be established at the federal level, as soon as possible. Absent of this certainty, states are enacting their own limits, creating additional challenges for the detection and remediation of contamination across states.
- Sound science is an integral part of any regulatory determination. Therefore, chemicals must be assessed individually, and limits must not be set until toxicology values are determined for each chemical.

- Resources must be provided to increase the number of labs capable of testing for PFAS via EPA's method 537. Many states have no labs that use method 537, and the limited number of labs make testing for PFAS cost-prohibitive, particularly for private well owners.
- Private wells pose unique challenges in detecting contamination because there are no requirements for well owners to routinely test their water. Funding for technical assistance programs to conduct well owner outreach and financial support for water testing must be prioritized, particularly in rural areas.
- While PFAS in drinking water is a challenge, it is not a challenge without a solution. Like all contaminants in drinking water, treatment options are available to ensure drinking water remains safe and reliable. Funding should be made available for point-of-use devices to treat contaminated drinking water.

NGWA and its members look forward to continuing to serve as a resource for the committee. Our members stand ready to volunteer their expertise, as solutions and assistance are developed. NGWA also produced a comprehensive guidance document on the state of knowledge and practice surrounding groundwater and PFAS. Please contact Lauren Schapker, NGWA government affairs director, if you would like a copy of this resource or with any questions at lschapker@ngwa.org or 202.888.9151.

We look forward to working with the committee on this important issue.

Sincerely,

Terry S. Morse, CIC
Chief Executive Officer
National Ground Water Association

Culligan

9399 W. HIGGINS ROAD
SUITE 1100
ROSEMONT, ILLINOIS 60018

TELEPHONE 847-430-2800
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September 6, 2018

Committee on Energy and Commerce
Subcommittee on Environment
United States House of Representatives
2125 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Shimkus and Ranking Member Tonko:

Thank you for holding a hearing on the important matter of "Perfluorinated Chemicals in the Environment." Culligan International Company ("Culligan") is a U.S. company, founded in 1936, that specializes in the manufacture and distribution of water filtration and treatment systems. I write to emphasize the critical role that our water filtration and treatment products play in protecting public health and reducing the presence of harmful chemicals in drinking water. I also want to highlight the risks of recent government policies that have reduced the affordability of these products.

Culligan products reach more than 2 million homes and small businesses across the United States. Our consumer water filtration and treatment products help ensure access to clean, healthy drinking water in homes, and serve a vital public health purpose, particularly as issues with the local municipal water supply arise with greater frequency as U.S. infrastructure ages. Today, individuals and whole communities depend on point-of-use and/or point-of-entry water filtration and purifying treatment technologies to protect public health. Our products substantially reduce the presence of contaminants in the water like lead, chromium-6, per- and polyfluoroalkyl substances, nitrate, perchlorate, and arsenic.

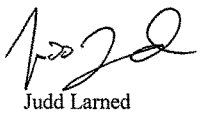
Our products can help address significant public health crises like that faced by Flint, Michigan in recent years. For example, last year, pollutants were found in the water supply in Plainfield Charter Township, a community outside of Grand Rapids, Michigan.[1] For decades, a local shoemaking company, Wolverine Worldwide, the maker of popular footwear brands like Hush Puppies and Merrell, had been dumping waste from its tannery into the woods and surrounding area, causing the water crisis. Following the discovery of pollutants in the local water supply, contractors showed up to test nearby residents' wells, many of which were also tainted. Culligan water filtration and treatment products were installed in thousands of homes in the area in order to address the problem and ensure that residents had access to clean, healthy drinking water.

[1] Mitch Smith, *Miles from Flint, Residents Turn Off Taps in New Water Crisis*, NY Times (Nov. 24, 2017), https://www.nytimes.com/2017/11/24/us/michigan-water-wolverine-contamination.html.

We are concerned, however, that recent government policies may result in price increases that will put essential water filtration and treatment systems out of reach for many consumers, and thus raise water contamination risks for families and small businesses across the country. In particular, the Office of the United States Trade Representative recently imposed Section 301 tariffs on imports of water filtration products and ion exchange resin from China. These tariffs may increase the price of our water softeners and water filtration products by hundreds of dollars per unit. If USTR does not exclude these products from the Section 301 tariffs, it will be putting our communities at risk. We ask the Subcommittee's support in urging USTR to exclude our products from the tariffs.

Thank you for your attention to this matter.

Respectfully,



Judd Larned
President, North America
Culligan International Company

September 6, 2018

The Honorable John Shimkus, Chairman
The Honorable Paul Tonko, Ranking Member
Energy and Commerce Committee, Subcommittee on Environment
U.S. House of Representatives

Dear Chairman Shimkus and Ranking Member Tonko,

Thank you for holding this important hearing. We are writing to you on behalf of the millions of people across the United States facing drinking water contamination due to the use of PFAS chemicals in our products, in firefighting foam and in manufacturing processes around the country.

PFAS is a family of more than four thousand chemicals that are used as grease proof and water proofing agents. They are used in class B firefighting foam, food packaging, clothing, building materials and manufacturing processes. While the most notorious PFAS, PFOA and PFOS, have been phased out of manufacturing in this country, their legacy of contamination lives on.

But PFAS aren't merely a problem of the past. Communities face ongoing pollution from the next generation of PFAS that have been introduced as replacements for PFOA and PFOS, trading one problem for another and creating a whack-a-mole approach to regulation.

We are encouraged that this committee is investigating this issue. States have been on the forefront of confronting this issue for many years. Several states have taken action in the past three years to address PFAS including setting their own reference levels, suing manufacturers and banning products containing these chemicals.

While we agree that drinking water standards are necessary, the process for setting these standards is complex and takes many years to complete. In the meantime, there are specific actions that Congress, the Administration and states can take to protect public health and prevent ongoing contamination of drinking water. Specifically:

1. **Phase out the use of fluorinated firefighting foams and identify safer alternatives.** Fluorinated (PFAS) firefighting foams have been widely adopted by airports, ferry systems, transportation departments, oil refineries, railroads, chemical plants, as well as by local fire departments and fire training facilities for decades. The PFAS-containing foams used at military bases and other locations is responsible for contaminating drinking water and creating many contaminated sites across the country at great cost to states and federal taxpayers. The Department of Defense has estimated it will cost more than $2 billion to address PFAS contamination. Washington state just adopted a ban on the sale of PFAS foams to fire departments and to other users where it is not required by federal law or specifically exempted. There is also a ban on training with PFAS foams at any facility in the state, including airports. As long as PFAS chemicals continue to be used in firefighting foams, further contamination of drinking water, exposure to firefighters and environmental contamination is inevitable. Congress should phase out PFAS chemicals in firefighting foam and require safer effective alternatives that protect life, property and fire fighters.

2. **Stop further contamination by banning PFAS.** States are already stepping up to eliminate PFAS from key product sectors including food packaging, firefighting foam and textiles. Congress should phase out the use of these chemicals to avoid further contamination.
3. **Information on where and how PFAS are used in the United States.** States and communities across the country need more information about where and how all PFAS are used to better understand the sources of the contamination. EPA should fully collect and make use data available to the public for all PFAS both in all products and manufacturing processes.
4. **EPA should provide states with analytical methods for identifying all PFAS in water and soil.** States rely on the EPA for scientific expertise and need the agency's guidance as they move forward with state drinking water standards and other health protections. Current testing methods can identify only a handful of these chemicals in the environment, but the more states look for these chemicals, the more they find. States need the EPA to quickly develop analytical methods for all PFAS in water and soil so that states can better understand the scope of the problem and find solutions to mitigate this crisis.
5. **EPA should provide states with technical assistance on how to clean up PFAS in water and soil.** While current technology will remove some of these chemicals from water, huge gaps exist in technology to remove many PFASs from environmental media. EPA must provide assistance to states on how to clean up these chemicals.
6. **Congress, EPA, FDA, other federal agencies should ensure that:** polluters pay for cleanup; DOD is held accountable; citizens have the ability to take action against PFAS polluters; water and food is comprehensively tested for PFAS; PFAS are listed for regulation under the Clean Water Act, Superfund, the Toxic Release Inventory, and the Resource Conservation and Recovery Act; new uses and new PFAS are banned; PFAS are not allowed as food additives or in food packaging; and funds are provided for water treatment.

Pollution of drinking water impacts everyone in a community. We need solutions now to protect this precious resource and ensure clean and safe drinking water for all. We need Congress's help to make sure our states can adequately address PFAS pollution and prevent future contamination.

Sincerely,

Pamela Miller
Executive Director
Alaska Community Action on Toxics

Barbara Warren
Executive Director
Citizens' Environmental Coalition

Linda Reinstein
President
Asbestos Disease Awareness Organization

Kathleen Curtis, RPN
Executive Director
Clean and Healthy New York

Janet Nudelman
Director of Program and Policy, Breast Cancer Prevention Partners

Lynn Thorpe
National Campaigns Director
Clean Water Action

Ansje Miller
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Rebecca Meunick
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Elizabeth Moran
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Healthy Babies Bright Futures

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Founder
Huntington Breast Cancer Coalition

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Madeleine Foote
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Bev Johns
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Learning Disabilities Assn. Illinois

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Martha Moriarty
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Dr. Annalisa Smith
President
Learning Disabilities Assn. South Carolina

Dr. Joy Marsh
State President
Learning Disabilities Assn. Tennessee

Louis Allen, MD
FAAP
Learning Disabilities Assn. Utah

Laurene Allen
Merrimack Citizens for Clean Water

Diana Zuckerman, PhD
President
National Center for Health Research

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Natural Resources Defense Council

Marcia Bystryn
President
New York League of Conservation Voters

Grady McCallie
Policy Director
North Carolina Conservation Network

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Director of Policy Advocacy and External Relations
NYS Academy of Pediatrics, Chapters 1,2 and 3

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#pfoaprojectny

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Martin Wolf
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Susan Kowaleski
Coordinator
Southern Adirondack Child Care Council

Laurie Valeriano
Executive Director
Toxic Free Future

Shaina Kasper
VT and NH State Director
Toxics Action Center

Miriam Gordon
Program Director
Upstream Solutions

Lauren Heirl
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Vermont Conservation Voters

Jon Groveman
Policy and Water Program Director
Vermont Natural Resources Council

Paul Burns
Executive Director
Vermont Public Interest Research Group

Jamie McConnell
Director of Programs and Policy
Women's Voices for the Earth

Heather Trim
Executive Director
Zero Waste Washington

Water Quality Association

Statement for the Record

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

Re: Hearing entitled "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented"

September 6, 2018

I am writing to the Committee on behalf of the Water Quality Association (WQA) – a not-for-profit association for the residential, commercial and industrial water treatment industry – to communicate our continued support for implementing measures to understand the impact of per- and polyfluoroalkyl substances (PFASs) on human health and to urge support of point-of-use (POU) and point-of-entry (POE) – at the tap or whole house – water treatment technologies to battle these contaminants.

I would also like to thank the subcommittee for holding this hearing and for its focus on PFASs contamination. Our association was encouraged by the FY18 National Defense Authorization Act's (NDAA) inclusion of a national study through the Department of Defense on human health implications of PFASs in drinking water, ground water, and any other sources of water and relevant exposure pathways. This will be the first ever nationwide study on the human health impacts of PFASs which will help Federal agencies and states communicate the risks of PFAS contamination.

When looking at preventing and treating unhealthy PFAS exposure, it would be extremely expensive to remove PFASs from our drinking water using centralized treatment. This would require upgrading drinking water treatment plants not currently designed to remove these chemicals. Many economically challenged communities already struggle to fund necessary maintenance and upgrades to their existing infrastructure for roads, bridges and drinking water pipes. Asking these communities to pay for additional upgrades to their drinking water treatment plant would only increase that burden.

Research shows POU and POE technologies can be used to successfully treat for these contaminants at the home or in a building.[1] They cost only a fraction of the price our society would need to bear to upgrade our drinking water treatment plants for PFAS removal.

These POU and POE technologies include Reverse Osmosis, Carbon Filtration and Anion Exchange. Reverse Osmosis products have been independently tested through WQA in collaboration with the Minnesota Department of Public Health[2]. Carbon Filters have been independently tested by NSF International. And Anion Exchange products have been independently tested through the Water Research Foundation. The testing has shown each of these technologies, with the right design parameters and configuration, can be used as a successful final barrier in the home to protect people from the harmful effects caused by the presence of these chemicals in our drinking water. These tests help the Federal agencies, states, and the public learn how to prevent unhealthy exposures.

[1] http://www.health.state.mn.us/divs/eh/hazardous/topics/pfcs/
[2] http://www.health.state.mn.us/divs/eh/wells/waterquality/poudevicefinalsummary.pdf

In May 2016, The Federal EPA published a lifetime Health Advisory of 70 parts per trillion for the sum of PFOS and PFOA in drinking water. PFOS and PFOA are two of the more than 3,000-4,000 PFAS chemicals. Manufacturers voluntarily phased out use of PFOS in 2000-2002 and PFOA in 2010-2015. This health advisory is not legally enforceable under EPA regulations or the Safe Drinking Water Act but may be given weight in state regulation.

So far, twenty states have established their own health advisory levels, action levels, drinking water criteria, or state standards for PFASs in ground water, surface water, or drinking water. Attached with this letter is a summary of state actions to address PFASs. Through legislation and agency activities, states are continuing to look for crucial information on the identification, characterization, and monitoring of PFASs and the impacts to human health. There remain gaps in research on PFASs.

WQA staff participated in the Federal EPA summit on per- and polyfluoroalkyl substances (PFASs), in May 2018, and continue to be a resource on PFAS treatment options as communities and legislators try to learn more about the widespread occurrence of PFASs from many sources and how POU and POE treatment can serve as an inexpensive and immediate solution to protect public health.

WQA represents more than 2,500-member companies, including equipment manufacturers, supplier, dealers and distributors of water quality improvement products and services. WQA also operates a product certification program attesting to the safety and efficacy of a variety of water treatment products; and provides training to water treatment specialists through its professional certification programs.

We appreciate the subcommittee's continued focus on issues of water contamination, and WQA stands ready to serve as a resource as Congress works to find sensible, cost-effective solutions to these nationwide problems. If you need any additional information, please contact David Loveday, WQA's Director of Government Affairs, at [redacted] or by phone at (630) 505-0609.

Sincerely,

Pauli Undesser
Water Quality Association
Executive Director
pundesser@wqa.org
630-929-2514

FRED UPTON
6TH DISTRICT, MICHIGAN

COMMITTEE ON
ENERGY AND COMMERCE

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CHAIRMAN

HEALTH

DIGITAL COMMERCE AND
CONSUMER PROTECTION

Congress of the United States
House of Representatives

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http://upton.house.gov

August 1, 2018

General Joseph Lengyel
Chief, National Guard Bureau
1636 Defense Pentagon (1E169)
Washington, DC 20301

Lieutenant General Scott Rice
Director, Air National Guard
1000 Air Force Pentagon, (4E126)
Washington, DC 20330

Dear General Lengyel and Lieutenant General Rice,

I write to urge the swift release of data related to per- and polyfluoroalkyl substances (PFAS) contamination testing at the W.K. Kellogg Air National Guard Base in Battle Creek, Michigan, as well as any plans to remediate possible contamination.

It is utterly unacceptable and irresponsible that any information on PFAS levels could be withheld from individuals who are possibly affected.

I understand the testing data, which was collected close to three months ago, is currently under review at the National Guard Bureau in Washington, D.C. With PFAS exposure linked to certain cancers as well as other serious health problems, it is critical that on-base testing results are expeditiously shared with state officials working on PFAS testing and remediation as well as local residents that might be impacted. This information was not made available at a public meeting on July 30.

As you know, the Michigan Department of Environmental Quality (MDEQ) is in the process of testing PFAS contamination in drinking water wells surrounding the base. The agency recently released a round of testing, which found two private wells testing well-above the Environmental Protection Agency (EPA) health advisory, and state standard, of 70 parts per trillion (ppt). Additionally, in June, MDEQ received results of split samples from on-base monitoring wells that had levels as high as 21,000 ppt PFOA and 55,500 ppt PFOS, two types of PFAS.

With tests showing on-base and off-base PFAS levels this high, the National Guard should move swiftly to share critical on-base contamination data that may be impacting off-base communities. Furthermore, every effort should be made to quickly implement necessary remediation plans to protect the health of service members, their families, and area residents.

The Battle Creek and Kalamazoo communities have a long and successful partnership with the Air National Guard at Battle Creek, proudly hosting the guard's critical national security mission. With this partnership in mind, I ask the National Guard leadership to make every effort to expedite the release of on-base PFAS testing data as well as any plan for contamination remediation. Thank you for your attention to this matter, and I look forward to your response.

Sincerely,

Fred Upton
Member of Congress

Congress of the United States
Washington, DC 20515

July 17, 2018

The Honorable Andrew Wheeler
Acting Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460

Acting Administrator Wheeler:

We write to you about drinking water contamination from per- and polyfluorinated chemicals (PFAS) and the existing health advisory levels for PFOA and PFOS.

We are glad that after what seemed like a long delay, on June 20, 2018, a draft Toxicological Profile for PFAS written by the Agency for Toxic Substances and Disease Registry (ATSDR) was released to obtain public comment on its contents. Now that it has been released, we have heard suggestions that this draft study shows the U.S. Environmental Protection Agency's (EPA's) current health advisory levels for PFOA and PFOS in drinking water - set at 70 parts per trillion (ppt) - could be 7 to ten times higher than what ATSDR has preliminarily identified as the minimal risk level (MRL) for these chemicals.

According to the draft Toxicological Profile, exposure to PFOS and PFOA above the MRL might be associated with: pregnancy-induced hypertension/pre-eclampsia, liver damage, increases in total cholesterol and LDL cholesterol, increased risk of thyroid disease, decreased antibody response to vaccines, increased risk of decreased fertility; and decreases in birth weight.

In light of the potential serious health issues that could result from exposure to PFOS and PFOA above this draft MRL, we urge the U.S. Environmental Protection Agency (EPA) to review the final toxicological profile and, as appropriate, act immediately to adjust the health advisory levels for PFOS and PFOA.

In addition, the draft Toxicological Profile identified PFHxS and PFNA, additional types of PFAS, that are also potentially associated with health issues. Currently, there is no health advisory level for these chemicals. If warranted, the EPA should move to create health advisories for these additional chemicals.

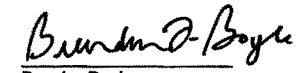
We urge you to work with ATSDR as you develop toxicity values, analytical methods, and treatment options on PFAS for states, tribes, local governments, and health professionals.

While critical scientific inputs on PFAS are missing, the information that is currently out there is raising many public questions. The EPA should move quickly to make appropriate changes to the existing drinking water health advisories that effectively communicate and explain risks to the public, as well as provide tools for adequate protection from exposure to these chemicals.

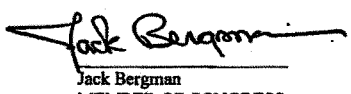
Sincerely,

Daniel T. Kildee
MEMBER OF CONGRESS

Fred Upton
MEMBER OF CONGRESS



Brendan Boyle
MEMBER OF CONGRESS



Jack Bergman
MEMBER OF CONGRESS

Debbie Dingell
MEMBER OF CONGRESS

Brian Fitzpatrick
MEMBER OF CONGRESS

Brenda L. Lawrence
MEMBER OF CONGRESS

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

RICK SNYDER
GOVERNOR

BRIAN CALLEY
LT. GOVERNOR

July 24, 2018

The Honorable Andrew Wheeler
Acting Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, D.C. 20460

Acting Administrator Wheeler:

As Governor of the State of Michigan I write to you concerning a significant national issue threatening the health of our residents. As you are aware, per and poly-fluoroalkyl substances (PFAS) chemicals have been used for decades in this country. Unfortunately, their durability and persistence in our environment has created a significant challenge for the nation as we seek to discover the nature and extent of contamination as well as the best protective mechanisms to safeguard our environment and insure safe drinking water for our people.

Your newly accepted role as the Acting U.S. Environmental Protection Agency (EPA) Administrator is significant for the nation because you have the opportunity and responsibility to fulfill the mission of EPA to "protect human health and the environment". Part of that mission is to demonstrate national leadership related to PFAS contamination of drinking water. The State of Michigan has partnered with all aspects of government, including the EPA, to address PFAS concerns and we have assumed a leadership role in advocating for action related to this contaminate. We offer to continue to assist the EPA and other entities with moving forward under cooperative federalism to address all aspects of PFAS contamination and remediation.

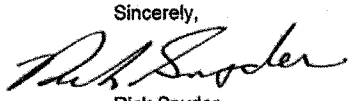
I urge you to continue with the work initiated under your predecessor. Many promises have been made regarding PFAS, including acknowledgment that this issue is a national priority. During the first national EPA Conference on PFAS, then-Administrator Pruitt promised more than just increasing awareness of the issues. He indicated, with more than 35 states in attendance, that EPA would do the following:

1. Provide critical national leadership on PFAS.
2. Work with state partners to achieve good outcomes.
3. Evaluate, under the Safe Drinking Water Act, the need for a Maximum Contaminant Level (MCL) for PFAS and its related contaminants.
4. Develop clean up criteria for ground water by the fall of 2018.

5. Address liability for PFAS under section 107 of the Comprehensive Environmental Response, Compensation and Liability Act of 1990, by addressing PFAS as a hazardous substance.
6. Act to review toxicity for Gen X and other PFAS by the end of the year.

I would further urge you to work with all federal departments and agencies to comprehensively address the solutions needed, including setting national standards and funding clean up activities. If we are to achieve appropriate solutions for our citizens the cooperation of the Department of Defense (DOD), The Agency for Toxic Substances and Disease Registry (ATSDR) and Congress are essential in moving forward. We look forward to working with you as you fulfill your mission to achieve protection of human health and the environment.

Sincerely,



Rick Snyder
Governor

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

RICK SNYDER
GOVERNOR

BRIAN CALLEY
LT. GOVERNOR

July 24, 2018

The Honorable James N. Mattis
Secretary of Defense
1000 Defense Pentagon
Washington, D.C. 20301-1000

Dear Secretary Mattis:

As Governor of the State of Michigan I have committed to a proactive approach to identifying and defining the extent of per and poly-fluoroalkyl substances (PFAS) contamination in our state. When that contamination is discovered, the State, along with our partners in local government, have acted immediately to protect public health. That partnership, along with work with the federal government, academia, and other stakeholders, has made the State of Michigan a national leader in addressing PFAS contamination.

The PFAS contamination on our nation's military bases and their surrounding communities, along with the associated health risks, is an unfortunate legacy for us all. I appreciate the comprehensive approach the Department of Defense (DOD) has utilized to identify military installations where firefighting foam was stored and extensively used in Michigan. I also recognize that the DOD has hundreds of active and Base Realignment and Closure (BRAC) installations throughout the country with suspected contamination of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), contaminants within the PFAS family. The State of Michigan has every intention to work cooperatively with the DOD to remediate the contamination at these installations to protect the surrounding communities. Unfortunately, this has proved difficult at certain DOD locations because of an apparent unwillingness by DOD to commit to a full remediation of the contamination.

The difficulty in working with DOD stems from an apparent policy to rely on the Comprehensive Environmental Response, Compensation and Liability Act of 1990 (CERCLA) to address PFAS contamination. The CERCLA process entails multiple steps to identify the nature and extent of contamination, and to reduce immediate public exposure. In practical terms, this results in the DOD providing water to affected homeowners, and in rare circumstances providing municipal water hook-ups. While helpful in the short term, the resulting effect is a failure to remediate the contaminant in the environment, leaving the situation to perpetuate.

Based on our experience in Michigan, along with the situation in other states that I am aware of, we have identified the following shortcomings of DOD policy:

1. The CERCLA approach has resulted in years of study and delay in remediation.

   A reasonable limit on investigation is essential, as evidenced by the history at Wurtsmith BRAC Air Force Base (Wurtsmith) in Oscoda, Michigan, which closed in 1993 as part of the military's response to "changing force structure needs." (GOA 17-151). The investigation of PFAS contamination at the base and surrounding community has been ongoing for many

years under the CERCLA investigation process. During that time the contamination has spread through the groundwater and surface water and now poses a threat to Lake Huron. The base contamination has affected the drinking water of citizens and prevented them from consuming the fish in nearby Clark Marsh. Further, the contamination has precluded the stated DOD goal of transferring unneeded federal base property to other federal and nonfederal parties to effectuate redevelopment in communities impacted by the BRAC process. The time has come for the DOD to commit to a full and effective remediation effort at Wurtsmith to protect the public health of our citizens.

2. The DOD has failed to acknowledge that it is the source of contamination by pointing to relatively insignificant use of AFFF foam by other entities.

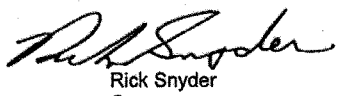
Again, Wurtsmith is an example of how this approach stymies an effective response to PFAS contamination. Despite the evidence of prolonged and significant use of AFFF at the base, the DOD refuses to acknowledge its responsibility for the significant off-site contamination. This, in turn, results in needless cost for the State of Michigan to address the source of contamination, and an unwarranted delay in remediation efforts.

3. The DOD states that individual bases are placed on a national list and only priority properties are addressed because of the unavailability of full funding to undertake effective remediation at all bases.

The DOD has not sought to obtain the full funding necessary to undertake remediation at its properties in Michigan and throughout the country. Concomitantly, the DOD has used its funding for investigating, and not remediating, contamination. As noted in the January 2017 Government Accountability Office Report to Congressional Committees: "DOD has not reported to Congress that the cleanup of emerging contaminants could significantly increase the total cost of environmental cleanup at installations closed by the BRAC process." (GAO 17-151). This same report lists the remaining cost of the complete cleanup of Wurtsmith at $72M. While that amount is too low for full remediation of PFAS contamination at Wurtsmith, the DOD has not sought an appropriation for that process, which, in turn, disadvantages the affected communities in Michigan.

Our nation has always, and will always, respect the military as it carries out its duty to protect us. That reliance extends to the military's obligation to assure the safety of our drinking water and environment, in particular in the communities that are so proudly home for those military installments. I urge you, on behalf of the residents of Michigan, to establish a sense of urgency in the DOD to expediate the investigation and remediation process for PFAS contamination, thereby ensuring the safety of our communities. The State of Michigan stands ready to fully cooperate with the DOD in that effort, and I urge you to begin that process by seeking the funding necessary to effectively address PFAS contamination.

Sincerely,



Rick Snyder
Governor

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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Majority (202) 225-2927
Minority (202) 225-3641

October 16, 2018

Dr. Peter Grevatt
Director
Office of Groundwater and Drinking Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Dr. Grevatt:

Thank you for appearing before the Subcommittee on Environment on September 6, 2018, to testify at the hearing entitled "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. Also attached are Member requests made during the hearing. To facilitate the printing of the hearing record, please respond to these questions and requests with a transmittal letter by the close of business on Tuesday, October 30, 2018. Your responses should be mailed to Kelly Collins, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to kelly.collins@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachments

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

December 7, 2018

OFFICE OF CONGRESSIONAL
AND INTERGOVERNMENTAL RELATIONS

The Honorable John Shimkus
Chairman
Subcommittee on Environment
Committee on Energy and Commerce
House of Representatives
Washington, D.C. 20515

Dear Chairman Shimkus:

Enclosed please find the U.S. Environmental Protection Agency's responses to the Subcommittee's Questions for the Record following the September 6, 2018, hearing on "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented."

If you have further questions, please contact me or your staff may contact Matt Klasen in the EPA's Office of Congressional and Intergovernmental Relations at klasen.matthew@epa.gov or (202) 566-0780.

Sincerely,

[redacted]

Deputy Associate Administrator

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

December 7, 2018

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The Honorable Paul Tonko
Ranking Member
Subcommittee on Environment
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Dear Ranking Member Tonko:

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Sincerely,

[redacted]
Deputy Associate Administrator

Enclosure

Post-Hearing Questions for the Record
Submitted to Peter C. Grevatt, Ph.D.
Office of Ground Water and Drinking Water
Office of Water
U.S. Environmental Protection Agency
House Committee on Energy and Commerce Subcommittee on Environment
Hearing on "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented"
September 6, 2018

The Honorable John Shimkus

1. Your testimony states that there are "many PFAS chemicals."

   a. What is the correct number?

   Approximately 1,220 PFAS are on the Toxic Substances Control Act (TSCA) Inventory, which is a list of chemical substances that are manufactured, processed, or imported in the United States for uses under TSCA. Of these, approximately 550 have been reported as having been in US commerce in the past 10 years. The OECD estimates that 4,730 PFAS-related compounds have been identified globally.

   b. Of the chemicals in the PFAS class -
      i. How many of them are well-understood?

      Few if any of the PFAS are "well understood." Data on human health effects are not available on the majority of PFAS. Even for those compounds for which some animal studies have been done, the studies do not cover all health effects. As such, many questions remain unanswered.

      Our scientific understanding of PFAS compounds stems almost entirely from studies on a select few. Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) have been manufactured the longest, are the most widespread in the environment, and are the most well-studied. The EPA has established health advisories for PFOA and PFOS, in drinking water and released two draft toxicity assessments (perfluorobutane sulfonate, PFBS and hexafluoropropylene oxide dimer acid and ammonium salt, GenX chemicals) in November 2018 for public review. The EPA is working to develop computational toxicity screening tools to better understand the many PFAS in commerce and the environment.

      ii. For how many is the Agency missing health effects data?

      Although the EPA does not have health information for the majority of PFAS, the Agency is working to move research forward to better understand how available epidemiological and toxicological data on PFAS (such as PFOA and PFOS) can be applied to inform our knowledge of other PFAS. For those PFAS that have been reviewed by the EPA's new chemicals program, the EPA has relied on available data on PFAS for which data already exist and/or have requested additional data be generated.

2. EPA has very robust authority under the reforms made to title I of the Toxic Substances Control Act to require the production of new information on a chemical substance. If there is so little known about PFAS health effects data, why isn't EPA using this authority to quickly fill these information gaps?

   The EPA has made it a priority to identify what data needs to be generated on what types of PFAS to better understand the impacts of PFAS. Once we know this, we will be better positioned to identify the appropriate TSCA authorities to obtain this data. Under Section 4 of TSCA, the EPA may require testing or development of information if such information is needed to evaluate a chemical. In addition, the EPA may, as appropriate and consistent with the requirements of TSCA, require testing under section 4 or reporting of information under Section 8 to prioritize and evaluate existing chemicals.

3. How similar are the chemicals in the PFAS class to each other - in other words, do they all act the same in the environment, do they all have the same effect on the human body?

   Based on differences in structure, not all PFAS will act the same in the environment or have the same effect on the human body, but some may have similar impacts. Due to their strong carbon-fluorine bonds, PFAS are very stable in the environment. Differences associated with chain length, chemical structure, and functional groups incorporated into individual PFAS have important implications for mobility within the environment and uptake, metabolism, clearance, and toxicity in the human body.

4. Your testimony mentions that "there is evidence that exposure to certain PFAS may lead to adverse health effects." This sounds scary, but you just mentioned that the majority of PFAS chemicals are not well understood.

   a. Is there a difference in certainty between "there is evidence" and "science demonstrates"?

      Evidence suggesting adverse health effects may happen is more speculative and less conclusive than "science demonstrates."

   b. What are the "certain PFAS" that "may"?

      The majority of research on the potential health risks associated with PFAS exposure is based on laboratory animal and human epidemiological studies of long-chain PFAS, such as PFOA and PFOS. Exposure to certain PFAS, such as PFOA and PFOS, above certain levels are suspected to cause adverse effects on human health based on results from animal studies and epidemiological studies of human populations. As NIH testified on September 26 before the Senate Committee on Homeland Security and Governmental Affairs' Subcommittee on Federal Spending Oversight and Emergency Management, our understanding of the health effects associated with PFAS and our ability to draw conclusions regarding the contribution of any specific PFAS to human disease is based on combined data from multiple studies investigating epidemiologic associations in human cohort studies, biological plausibility and pathways in animal studies, mechanistic effects seen in human tissues and cell culture systems, and rapid high-throughput screening. It is important to note that epidemiologic association studies cannot definitively find causation, and while animal studies are an important marker of scientific discovery, they are not perfect predictors of human effect. However, by combining and carefully

considering data from independent studies, we can begin to build an understanding of how PFAS chemicals impact human health.

Depending on the PFAS, potential adverse effects may include developmental effects to fetuses during pregnancy and to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations), cancer (e.g., testicular, kidney), liver and kidney effects (e.g., tissue damage), immune effects (e.g., changes in antibody production and acquired immunity), thyroid effects, neurotoxicity, and other effects (e.g., in total serum cholesterol).

c. Are all PFAS toxic?

The EPA is working to gain an understanding of potential human health impacts of PFAS. Due to the similarities in the compounds to well-studied PFAS, such as PFOA and PFOS, it is anticipated that additional PFAS may be of concern to human health. Not all of the approximately 550 PFAS reported as having been in U.S. commerce in the past 10 years have been studied. The toxicity of PFAS is dependent on a number of factors which likely depend on existing body burden, the number of PFAS individuals are exposed to, the chemical identity of PFAS, the life stage and gender of the receptor, along with the duration of exposure. Toxicity alone is not sufficient to determine whether PFAS present risk: potential for exposure to people also needs to be estimated.

5. Your testimony talked about the health advisory level of 70 parts per trillion (ppt), individually or combined, for PFOA and PFOS. How low of a reading can existing monitors detect these contaminants?

The EPA laboratory that developed Method 537 (published September 2009) identified quantitation limits ("Lowest Concentration Minimum Reporting Levels" [LCMRL]) for PFOA and PFOS of 5.1 ppt (ng/L) and 6.5 ppt (ng/L), respectively. Laboratories have developed experience with PFAS analyses since Method 537 was published and some are now able to quantify at lower levels. In November 2018, the EPA updated Method 537 (537.1) to include an additional 4 PFAS and lowered the quantification limit for PFOA and PFOS to 0.82 ppt (ng/L) and 2.7 ppt (ng/L) respectively.

6. Today's hearing has raised questions about EPA being able to protect vulnerable subpopulations from adverse health effects.

   a. To do that, wouldn't the Agency necessarily have to do aggregate and cumulative exposure analyses?

   No, not necessarily. There are things that can be done to protect vulnerable subpopulations from adverse health effects without conducting aggregate and cumulative exposure analyses. Some examples include encouraging or requiring substitution of hazardous chemicals with safer alternatives or developing risk management guidance and exposure limits based on a toxicological reference value.

   b. Does the Agency have an agreed upon protocol for doing aggregate exposure assessments?

   The EPA does not have a single protocol for doing aggregate exposure assessments. Different program offices within the EPA are charged with implementing different environmental laws.

Each law has its own regulations and requirements in terms of the kind of assessments needed, which may require protocols to differ.

c. Does the Agency have an agreed upon protocol for doing cumulative exposure assessments?

The EPA does not have a single protocol for doing cumulative exposure assessments. Different program offices within the EPA are charged with implementing different environmental laws. Each law has its own regulations and requirements in terms of the kind of assessments needed, which may require protocols to differ.

7. For site remediation of PFAS,
   a. What are the available methods that may be deployed?

The following methods have been tested and shown to be effective at removing certain PFAS from groundwater:

- *Granular activated carbon*
- *Powdered activated carbon*
- *Anion exchange resin*
- *Reverse osmosis*
- *Nanofiltration*

In addition to contaminated groundwater, remediation of contaminated soil and other solids may be feasible through:

- *Incineration*
- *Land disposal in a lined, permitted landfill*
- *Solidification/stabilization*

Additional remediation technologies for soil and groundwater are under development and assessments by researchers may provide additional cleanup alternatives for PFAS contamination. Remediation effectiveness can vary based on the specific PFAS.

b. What is the Federal government doing to ensure communities have sufficient information to assess the public health benefits against the cost for deploying these systems?

At EPA-led sites, the EPA provides information to communicate the hazards, exposures, risks and uncertainties associated with PFAS as information becomes available. At sites where the EPA is a support agency, the EPA collaborates with the lead organization to promote appropriate communication regarding PFAS. Further, the EPA provides information to communities through its PFAS website and social media. On a national level, the EPA is working to develop a PFAS Management Plan using information from the EPA's May 2018 PFAS National Leadership Summit, community engagements, and public comments submitted to the agency. The management plan will provide the EPA's approach on identifying and understanding PFAS, the agency's actions to address PFAS, and effective strategies for communicating with the public on PFAS.

8. For drinking water systems,

   a. What are the available remediation methods that communities may deploy to address PFAS contamination?

      Treatment options which have been tested and are known to address certain PFAS in drinking water include activated carbon (granular or powdered), ion exchange, and membrane separation (reverse osmosis, and nanofiltration). These remediation options may generate waste containing PFAS, which will need to be disposed of properly. More information can be found in the EPA's Drinking Water Treatability Database:
      https://oaspub.epa.gov/tdb/pages/general/home.do

   b. How effective are these?

      The effectiveness of these drinking water treatment methods will depend on multiple aspects of the treatment process including the properties of the specific PFAS compounds being remediated, properties of source water, treatment capabilities and operation of the system, as well as competing treatment priorities for other regulated contaminants. The following processes were found to be effective for the removal of certain PFAS:
      - *granular activated carbon (GAC) (up to > 98 percent)*
      - *membrane separation (up to > 99 percent)*
      - *ion exchange (up to > 99 percent).*

      These results cover the removal of specific PFAS including perfluorodecanoate (PFDA), perfluorononanoic acid (PFNA), perfluoroheptanoic acid (PFHxA), perfluorohexane sulfonic acid (PFHxS), perfluorobutanoic acid (PFBA), and PFBS.

      The following drinking water treatment techniques and the effectiveness of each are presented for PFOS:
      - *Granular activated carbon: highly effective for drinking water (at least 99% removal);*
      - *Powdered activated carbon: effective for drinking water (between 75% and 99% removal);*
      - *Anion exchange resin: effective for drinking water (between 75% and 99% removal);*
      - *Reverse osmosis: highly effective for drinking water (at least 99% removal);*
      - *Nanofiltration: highly effective for drinking water (at least 99% removal).*

      More information can be found in the EPA's Drinking Water Treatability Database:
      https://oaspub.epa.gov/tdb/pages/general/home.do

   c. Are there other technologies being examined to address potential drinking water contamination?

      Treatment using chlorine and advanced oxidation processes have been evaluated for their effectiveness at treating PFOS in drinking water but have not been found to be effective. The effectiveness of each treatment method will depend on the properties of the specific PFAS being remediated. The EPA continues to conduct research on additional technologies for addressing PFAS, working in collaboration with water utilities, universities, water treatment companies, and other federal agencies. As new information becomes available about effective technologies,

it will be added to the EPA's Drinking Water Treatability Database (https://oaspub.epa.gov/tdb/pages/general/home.do)

9. Please explain how EPA is addressing emerging contaminants, such as PFAS, with respect to environmental cleanups?

   The EPA is currently developing groundwater cleanup recommendations for PFOA and PFOS at contaminated sites.

10. When does EPA intend to have resolution on whether PFOA and PFOS are hazardous substances under Superfund?

    The EPA is beginning the necessary steps to evaluate the designation of PFOA and PFOS as "hazardous substances" through one of the available statutory mechanisms, including potentially the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Section 102.

The Honorable Paul Tonko

1. National Management Plan

   a. What specific EPA actions are being considered as part of the National Management Plan?

      The EPA is using the information gained from the National Leadership Summit, community engagements and public input to develop its PFAS Management Plan. The EPA may include short-term implementation actions, and long-term regulatory and research approaches that the EPA designed to reduce the health risks associated with certain PFAS in the environment. Taken together, the plan is being designed to help the EPA to better assist states, tribes, and local communities to protect public health.

   b. Will the Plan include a decision on whether or not to designate PFOA and/or PFOS as a hazardous substance under CERCLA?

      Following the PFAS Summit in May, the EPA began an intensive effort to examine the statutory options that could be used if it determines it is appropriate to designate PFOA and PFOS as hazardous substances. Available statutes, including the Resource Conservation and Recovery Act (RCRA), TSCA, the Clean Water Act (CWA), the Clean Air Act (CAA), and CERCLA Section 102 are being considered, as well as the timing, benefits and challenges to pursue each option. The EPA has not used its authority under CERCLA Section 102(a) to designate a chemical as a hazardous substance directly under CERCLA. The EPA has concluded that any option to designate PFAS as a hazardous substance would require notice and comment rulemaking.

2. Dr. Grevatt, you mentioned building out capacity for labs to test for PFAS.

   a. How many labs in the United States are now capable of using Method 537 (or an EPA-approved method for testing for PFAS)?

States generally certify/accredit laboratories that support drinking water compliance monitoring for regulated contaminants. The EPA is aware that some states also offer (and others plan to offer) programs for laboratories that wish to be certified/accredited to analyze drinking water for unregulated contaminants such as PFAS using Method 537. For example, the New Hampshire Department of Environmental Services lists 20 analytical labs capable of analyzing PFAS (https://www.des.nh.gov/organization/commissioner/documents/pfoa-testing-labs.pdf.) The EPA is also aware that the Department of Defense (DOD) manages a PFAS laboratory accreditation program that lists DOD accredited labs (https://www.denix.osd.mil/edqw/accreditation/accreditedlabs/).

Any published list, however, is likely not inclusive of every laboratory in the U.S. capable of analyzing PFAS. Other federal or state agencies may have compiled their own lists of laboratories capable of providing analytical services for PFAS.

b. What is the approximate cost of testing for PFAS at one of these labs?

Using EPA method 537, typically, the fee is approximately $300 ± $50 per sample. The analytical cost will depend on multiple factors: current demand for the analysis (high demand and low lab capacity = higher quoted fee), how many PFAS targets are requested for monitoring, and how many samples a specific client will be sending to the lab (volume discounts typically apply).

c. While EPA is considering whether a regulatory determination should be made for PFOA and PFOS, are you also considering what financial or technical assistance options may be available for testing and treating the water of citizens relying upon private wells, which would not be bound by a MCL?

The EPA is currently investigating efficacy of commercially available point-of-use or point-of-entry applications. This work would inform private well owners of their risk management options. The EPA also provides technical assistance to laboratories analyzing drinking water samples on an as-needed basis.

The Honorable Scott H. Peters

1. Studies tracking PFOS in marine organisms and ocean waters, PFOS was added to the Stockholm Convention on Persistent Organic Pollutants in 2009, and we are not party to that Convention but is EPA doing anything to monitor coastal waters for these compounds and are you working with other countries to control the spread of these contaminants?

While it is true that the United States is not a Party to the Stockholm Convention on Persistent Organic Pollutants (POPs), it is a signatory to that Convention and is an active participant in its operation. To that end, the EPA does work with our international partners on emerging contaminant issues, including PFAS, through our observer status under the POPs Convention. The EPA's work on addressing such contaminants, however, is not limited to that forum. For example, the EPA monitors PFAS in fish in coastal waters via the Great Lakes Human Health Fish Fillet Tissue Study (fillet tissue only) and the Great Lakes Fish Monitoring and Surveillance Program (whole fish). Great Lakes work, in particular, is coordinated with Environment and Climate Change Canada, whenever possible.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
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Minority (202) 225-3641

October 16, 2018

Ms. Maureen Sullivan
Deputy Assistant Secretary
Defense, Environment, Safety and Occupational Health
U.S. Department of Defense
Washington, DC 20301

Dear Ms. Sullivan:

Thank you for appearing before the Subcommittee on Environment on September 6, 2018, to testify at the hearing entitled "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. Also attached are Members requests made during the hearing. To facilitate the printing of the hearing record, please respond to these questions and requests with a transmittal letter by the close of business on Tuesday, October 30, 2018. Your responses should be mailed to Kelly Collins, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to kelly.collins@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachments

Hearing Number: HECC-01-2018
Hearing Date: September 6, 2018
Committee: House Energy and Commerce Committee
Sub-committee: House Energy and Commerce Subcommittee on Environment and the Economy

QFR Title: Aqueous Film Forming Foam (AFFF)
Requestors: Rep John Shimkus
Witness: Sullivan, Maureen
QFR ID: HECC-01-001 QFR
Question Number: 1
Question: Your written testimony states that the Department of Defense's (DoD's) use of Aqueous Film Forming Foam (AFFF), one of the PFAS compounds is "limited" - could you estimate for us what percentage of AFFF's usage was by DoD?
Answer: Only approximately 3-6% of PFOS production in calendar year 2000 was used for firefighting foam. DoD is one of seven sectors the Fire Fighting Coalition analyzed in their July 11, 2011 document – "Estimated Inventory of PFOS-based Aqueous Film Forming Foam (AFFF)". The original inventory was conducted in 2004 and updated in 2011. Based on the Coalition's analysis, it is estimated that DoD purchased approximately 45% of the PFOS-based AFFF in the United States and consumes or uses approximately 5-10% of our AFFF per year. The inventory includes AFFF maintained in firefighting equipment, hanger suppression systems, reserve supplies, and Navy ships.

QFR Title: Drinking Water
Requestors: Rep John Shimkus
Witness: Sullivan, Maureen
QFR ID: HECC-01-002 QFR
Question Number: 2
Question: Your written testimony indicates that DoD began testing drinking water in drinking water systems on military installations in June 2016 to determine whether there were exceedances of EPA' s Lifetime Health Advisory. Your testimony provides some facts regarding the number of installations that had exceedances ofEPA's Lifetime Health Advisory, but the numbers are a bit confusing. Your testimony states that there were 24 instal1ations that exceeded EPA' s Lifetime Health Advisory and that DoD was providing bottled water or "additional water treatment" - a. What is the "additional water treatment"? b. Your written testimony also states that there were 12 drinking water systems where the results were above EPA's Lifetime Health Advisory-is it 12 or 24? Or what is the difference between the 24 identified that are receiving bottled water and the 12 where DoD is "working with the drinking water supplier(s) to entourage appropriate actions"?
Answer: a. For drinking water systems that test above the EPA LHA level, DoD is following EPA' s health advisory recommended actions to ensure no one is drinking water with elevated levels of PFOS and/or PFOA. These actions include, but are not limited to: • Publicly notifying water consumers; • Shutting down a well(s); • Retesting; • Providing alternative drinking water; and • Adding a granular activated carbon filter to the well. b. DoD owns and operates 524 drinking water systems worldwide on its installations. Of the 524 DoD-owned drinking water systems, DoD identified 24 that tested above the EPA LHA levels and has taken appropriate action to reduce PFOS/PFOA below the EPA LHA levels. Where DoD is not the drinking water supplier for its installations, 12 systems tested above the LHA level. DoD

worked with the drinking water supplier to determine appropriate actions consistent with the EPA recommended actions.

QFR Title: PFAS Contamination
Requestors: Rep John Shimkus
Witness: Sullivan, Maureen
QFR ID: HECC-01-003 QFR
Question Number: 3
Question: Your testimony is that DoD is prioritizing sites that have PFAS releases to drinking water according to "worse first." Can you walk us through what that means and what is included in the analysis? a. Would you also walk us through how PFAS contamination in other media is incorporated into that analysis?
Answer: The Department follows a comprehensive approach to identify installations where DoD used AFFF containing PFOS or PFOA. The Department's first priority is to determine if anyone is drinking water above the Environmental Protection Agency's Lifetime Health Advisory and if the source is from the Department's activities. The Department will work quickly with the local water authority or the home owner to stop high risk exposures. The Department prioritizes sites with a known or suspected release of PFOS or PFOA for investigation and cleanup, if necessary, using a risk-based approach. Site prioritization of "worst first," means the DoD Components will address sites that pose a greater potential risk to human health or the environment before sites posing a lesser risk. To determine a site's risk, DoD uses the relative risk site evaluation to prioritize sites with known or suspected releases of hazardous substances or pollutants and contaminants, such as PFOS or PFOA. There are three categories of risk: high, medium, or low relative risk. This process evaluates each environmental medium (e.g., drinking water, dermal contact with soil) based on the nature and extent of the site's contamination, the likelihood that contaminants will migrate, and potential impacts on populations and ecosystems. At the end of the risk evaluation process, each medium (soil, water, etc.) will have an assigned category of risk. The site is then prioritized based on the medium with the highest risk site evaluation rating.

QFR Title: EPA's Lifetime Health Advisory
Requestors: Rep John Shimkus
Witness: Sullivan, Maureen
QFR ID: HECC-01-004 QFR
Question Number: 4
Question: Your testimony states that DoD uses EPA's Lifetime Health Advisory to determine site--specific, risk-based cleanup levels and that sometimes the levels may be higher than EPA's Lifetime Health Advisory. a. I understand that EPA's Lifetime Health Advisory is not an enforceable limit, but it would justify a higher cleanup level?
Answer: Because a drinking water Lifetime Health Advisory (LHA) is unenforceable guidance, it cannot qualify as a cleanup standard under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Instead, DoD incorporates the toxicity data from the PFOS and PFOA LHAs when conducting the CERCLA risk assessment process. DoD uses the toxicity data from the PFOS and PFOA LHAs in the standard CERCLA site-specific risk assessment process for drinking water exposures, to determine if there is an unacceptable risk to human health and cleanup actions are required. Once the need for cleanup is determined, CERCLA requires response actions to protect human health and the environment (i.e., address the unacceptable risks identified in the CERCLA risk assessment process). DoD will still take action based on unacceptable risks identified in the risk assessment, even if a federal cleanup standard, such as a drinking water Maximum Contaminant Leve (MCL), does not exist.

QFR Title: Budgeting for PFAS Cleanup
Requestors: Rep John Shimkus
Witness: Sullivan, Maureen
QFR ID: HECC-01-005 QFR
Question Number: 5
Question: Your written testimony makes note of the fact that DoD included PFAS cleanup in the President's Budget in FY2018 and that now that DoD has created an initial inventory, the Agency can begin determining potential cleanup costs. a. Does this inventory only contain sites that have drinking water impacts? b. Does DoD plan to do a similar inventory for sites that may have contaminated soil, sediment, or groundwater?
Answer: a. DoD's inventory does not only contain sites that have drinking water impacts. b. DoD's inventory includes sites that may have contaminated soil, sediment, and groundwater.

QFR Title: Cooperative Agreements
Requestors: Rep John Shimkus
Witness: Sullivan, Maureen
QFR ID: HECC-01-006 QFR
Question Number: 6
Question: Can you walk through how the process of Cooperative Agreements with States work and why Cooperative Agreements are important to the cleanup process? a. Does DOD feel like the necessary legal authority is in place regarding Cooperative Agreements? b. What is the States' role in the process under a Cooperative Agreement?
Answer: Under the Defense Environmental Restoration Program statute, DoD has the authority to enter into agreements with State Agencies to reimburse the agency for that agency's activities related to DoD's cleanup program. These activities include, but are not limited to, reviewing documents and assessing cleanup progress. The program is titled: the DoD and State Memorandum of Agreement (DSMOA) program and the goal is to support and expedite DoD cleanup. After signing a DSMOA with DoD, a State must apply for and be awarded a cooperative agreement in order to obtain financial reimbursement for its eligible activities.

QFR Title: Defense and State Memorandum of Agreement (DSMOA) Program
Requestors: Rep John Shimkus
Witness: Sullivan, Maureen
QFR ID: HECC-01-007 QFR
Question Number: 7
Question: How does the Defense and State Memorandum of Agreement (DSMOA) program fit into_ DoD's process with respect to addressing PFAS contamination? a. Does DoD feel that there are any legal impediments for reimbursing States for their work on PF AS under the DSMOA program?
Answer: DoD does not see any legal impediments to reimbursing States for their work on PFAS under the DoD and State Memorandum of Agreement (DSMOA) program. Under the Defense Environmental Restoration Program statute, DoD has the authority to enter into agreements with State Agencies to reimburse the agency for that agency's activities related to DoD's cleanup program, regardless of contaminant. These activities include, but are not limited to, reviewing documents and assessing cleanup progress.

QFR Title: Coordination with EPA and Local Governments
Requestors: Rep John Shimkus

Witness: Sullivan, Maureen
QFR ID: HECC-01-008 QFR
Question Number: 8
Question: What has DOD done to coordinate the Department's efforts with EPA and local governments regarding the issues associated with the PFAS chemicals?
Answer: Throughout the cleanup process, DoD works in concert with regulatory agencies and communities, and shares information in an open and transparent manner. When elevated levels of PFOS and PFOA are detected that may pose an unacceptable risk to human health, DoD uses a proactive outreach strategy to promptly notify potentially affected community members. Outreach efforts may include: • Communicating information (e.g. status of investigations, cleanup progress) and partnering with local regulatory and governmental organizations to reach stakeholders; • Hosting public meetings; • Alerting and engaging with the media; • Messaging through community social media; and • Updating community leaders.

QFR Title: Assessment Technologies
Requestors: Rep John Shimkus
Witness: Sullivan, Maureen
QFR ID: HECC-01-009 QFR
Question Number: 9
Question: How does the Department ensure it is using the most appropriate assessment technologies? a. Given the increased sensitivity of detection methods, what is your experience with increased detection at military bases? b. How does DOD communicate risk to the families and area communities?
Answer: To ensure the appropriate assessment technologies are utilized, the DoD requires drinking water sampling and analysis meet the requirements of EPA Method 537. For matrices other than drinking water, there currently are no EPA sampling and/or analysis methods for PFAS. In lieu of published EPA sampling methods, the DoD developed guidance ("Bottle Selection and other Sampling Considerations When Sampling for Per- and Poly- Fluoroalkyl Substances (PFAS)", https://www.denix.osd.mil/edqw/home/what-s-new/unassigned/edqw-pfas-sampling-factsheetrev-1-2-july-2017/) and has followed industry best practices. To ensure the data collected is consistent and meets program requirements, DoD established method requirements for analysis of PFAS in matrices other than drinking water in the DoD Quality Systems Manual for Environmental Laboratories (DoD QSM): https://www.denix.osd.mil/edqw/documents/documents/qsm-version-5-1-1-final/. Laboratories performing PFAS analysis for the DoD in these matrices are accredited under the DoD Environmental Laboratory Program (DoD ELAP): https://www.denix.osd.mil/edqw/accreditation/home/). a. DoD has consistently used EPA Method 537 for drinking water and the requirements stated in the DoD QSM for all other matrices, there has not been an increased sensitivity of detection methods. b. Throughout the cleanup process, DoD works in concert with regulatory agencies and communities, and shares information in an open and transparent manner. When elevated levels of PFOS and PFOA are detected that may pose an unacceptable risk to human health, DoD uses a proactive outreach strategy to promptly notify potentially affected community members. Outreach efforts may include: • Communicating to potentially affected communities (e.g., notifying the resident of his or her personal drinking water results, fact sheets on installation web sites); • Partnering with local regulatory and governmental organizations to reach stakeholders; • Hosting public meetings (e.g., Restoration Advisory Board meetings); • Alerting and engaging with the media; • Messaging through community social media; and • Updating community leaders.

QFR Title: Emerging Contaminants
Requestors: Rep John Shimkus

Witness: Sullivan, Maureen
QFR ID: HECC-01-010 QFR
Question Number: 10
Question: Please explain how the Department is addressing emerging contaminants, such as PFAS, with respect to environmental cleanups?
Answer: The Department addresses emerging contaminants like any other contaminant under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

IFR Title: Studies on Chemical Safety
Requestors: Rep Frank Pallone
Witness: Sullivan, Maureen
IFR ID: HECC-01-001 IFR
Insert #: 1
Insert: Can you provide the committee with any and all studies that the Department of Defense has regarding the safety of these substitute chemicals?
Answer: To date, the Department has not conducted studies regarding the safety of substitute chemicals. As part of our research and development proposals, we are requiring the investigators to include an assessment of the human health and environmental impacts of proposed substitutes and byproducts.

IFR Title: Partnerships in Texas
Requestors: Rep Gene Green
Witness: Sullivan, Maureen
IFR ID: HECC-01-002 IFR
Insert #: 2
Insert: Has there been a partnership with the military bases in Texas and the Department of Defense?
Answer: Yes, DoD partners with communities around military bases in Texas throughout the cleanup process. Generally, DoD does this as part of a Restoration Advisory Board (RAB). RABs are a stakeholder group that meet on a regular basis to discuss cleanup at a DoD installations and are established and maintained when there is sufficient and sustained community interest. RABs provide a forum for local community input and ensure interested individuals from the community have an opportunity to thoughtfully participate in the decision making process of cleanup in a timely manner.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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Minority (202) 225-3641

October 16, 2018

Ms. Lisa Daniels
Director
Bureau of Safe Drinking Water
Pennsylvania Department of Environmental Protection
400 Market Street
Harrisburg, PA 17101

Dear Ms. Daniels:

Thank you for appearing before the Subcommittee on Environment on September 6, 2018, to testify at the hearing entitled "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. Also attached are Member requests made during the hearing. To facilitate the printing of the hearing record, please respond to these questions and requests with a transmittal letter by the close of business on Tuesday, October 30, 2018. Your responses should be mailed to Kelly Collins, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to kelly.collins@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachments

Association of State Drinking
Water Administrators

October 30, 2018

Kelly Collins
Legislative Clerk
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Ms. Collins:

As requested, as President of the Association of State Drinking Water Administrators (ASDWA) and Director of the Bureau of Safe Drinking Water for Pennsylvania's Department of Environmental Protection, attached are my responses to the questions posed by Chairman Shimkus and the Honorable Richard Hudson in your letter of October 16, 2018. The questions resulted from my testimony before the Subcommittee on Environment during the September 6, 2018 hearing titled "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented." Our thanks to Chairman Shimkus and the Subcommittee for the opportunity to testify and provide additional information.

Thank you again for inviting us to provide additional information on these important drinking water issues. If you have additional questions, or need any additional information, please feel free to contact me at [redacted], or Alan Roberson, ASDWA's Executive Director at [redacted].

Sincerely,

[redacted]

Lisa Daniels, ASDWA President and
Director, Bureau of Safe Drinking Water, Pennsylvania Department of Environmental Protection

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

1401 WILSON BLVD · SUITE 1225 · ARLINGTON, VA 22209
PHONE (703) 812-9505 · FAX (703) 812-9506 · info@asdwa.org · www.asdwa.or

Attachment-Additional Questions for the Record

The Honorable John Shimkus

1. Your testimony mentions obtaining toxicity values for newly manufactured PFAS chemicals. I understand we don't have those kinds of values on the majority of existing PFAS compounds.

a. If true, how should we treat them?

Answer: The information requested during EPA's approval process for newly manufactured chemicals is inadequate for PFAS compounds. ASDWA recommends that manufacturers be required to develop toxicity values and provide public health and environmental data before any new chemicals are approved by EPA and start production and distribution. Toxicity values are only a starting point for evaluating the environmental safety of a chemical and the public health risks. EPA should also develop analytical methods for drinking water and other media (e.g., ambient water, wastewater, and solid waste) as well as assuring adequate laboratory capacity, as part of the new chemical approval process.

Once new chemicals are approved, the information used by EPA for evaluation must be available to state primacy agencies upon request. This is especially critical for chemicals that are highly water soluble, mobile, persistent and bioaccumulative. As an example, the replacement chemicals for PFOA and PFOS, such as GenX, demonstrate where the new chemical approval process has failed.

For existing PFAS compounds, EPA should share data provided by industry on toxicity, environmental fate and transport, public health effects, bioaccumulation, and testing methods with state primacy agencies. Consideration should also be given for assessing toxicity values for groups of chemicals (long-chain vs. short-chain, etc.) where possible. The applied scientific processes for risk assessment of groups is still evolving, and that research needs to be a high priority.

2. Your testimony talks about the ATSDR's draft minimal risk level. Dr. Grevatt tried to differentiate between the lifetime level set with the EPA health advisory and the daily intake amount being suggested by ATSDR.

a. How does your State or other drinking water officials use that level in terms of setting its standards?

Answer: Most states do not set their own standards for contaminants. However, the ATSDR minimal risk levels (MRLs) that are used for screening purposes from all media could be used as one of several considerations for developing action levels or standards if states have the authority and desire to do so. In Pennsylvania, the drinking water program does not use ATSDR's draft minimal risk levels for its own standard-setting. Our authority is limited to using EPA's health advisory levels (HALs), which are expressed as a concentration over a lifetime.

3. How many states are prevented from being more stringent than the Federal government?

Answer: Pennsylvania has authority to be more stringent than federal standards and can set state MCLs, if warranted. According to a 2002 ASDWA State Regulatory Stringency Survey, only two (2) states that said they could not be more stringent than the federal government and were also restricted from developing their own standards. However, even if states are not restricted from developing their own standards, many states do not have the breadth and depth of scientific and technical knowledge for their own research and development programs, laboratory accreditation programs, or the ability to develop analytical testing methods. The standards development process is under EPA's purview and states have not developed the capacity to institutionalize this process on their own as part of the traditional state drinking water program responsibilities. It would be duplicative for states to develop these capabilities in lieu of EPA, as that's why the U.S. has National Primary Drinking Water Regulations (NPDWRs) and a defined SDWA regulatory development process.

a. Do they have other ways to try and tackle this issue'?

Answer: Pennsylvania and many other states are currently enforcing EPA's HAL of 70 parts per trillion (ppt) for PFOS and PFOA.

b. Is this- issue serious enough that they should ask EPA to issue an imminent hazard action under section 1431 of the Safe Drinking Water Act?

Answer: ASDWA does not recommend that EPA use a SDWA Section 1431 hazard action for PFAS, except for federal facilities. We do not believe Section 1431 hazard action is appropriate in this case because many states are acting based on best available science that they have, to meet the needs of their residents.

4. Your testimony argues that EPA should at sometime soon make a determination to regulate PFAS.

a. Are you suggesting this about PFOA and PFOS, or all 3,500 plus PFAS chemicals?

Answer: Currently, ASDWA recommends that EPA move forward with a regulatory determination for PFOS and PFOA, or possibly the group of similar long-chain PFAS. ASDWA recommends that more health effects, occurrence, and treatment data be collected prior to considering a regulatory determination for any of the remaining 3,500 plus PFAS compounds.

b. If you were asked to make an argument in view of the unregulated contaminant monitoring data that regulating PFAS should be done because it represents a meaningful opportunity for health risk reduction," what would your argument be?

Answer: From a survey by the Environmental Council of States (ECOS), PFAS have been found in 38 of 50 states. Historically, EPA has interpreted the SDWA terminology "meaningful opportunity for health risk reduction" to equate to a specific percentage of

impacted water systems. ASDWA recommends that, as an additional factor in its decision-making, EPA consider the number of states in which a contaminant occurs as a potential basis for such risk reduction – other numerical options besides a percentage of systems impacted need to be considered as part of EPA's regulatory development process. Because there are locations throughout the country that do not have drinking water impacts from PFAS, it may not be appropriate to require universal monitoring and sampling as part of a national regulation. Monitoring waivers will likely need to be a component of any national PFAS regulation.

5. How would you design the coordinated Federal framework of which you speak?

a. Does Dr. Grevatt's explanation of the PFAS Framework meet the needs of your concerns?

Answer: ASDWA cannot answer this question because EPA has not released their PFAS management plan. ASDWA recommends that EPA streamline the current process to expedite decision making or develop an alternative mechanism to address emerging and unregulated contaminants. The SDWA is designed for regulating contaminants that are found across the country, and 38 out of 50 states is certainly a high percentage (76%) of states that are impacted, and that percentage is likely to increase over time.

ASDWA recommends that EPA coordinate analytical method development to ensure methods are available for all media and coordinate treatment development and deployment to ensure removal and disposal from all media. All federal agencies should coordinate control measures to limit the public's exposure to these chemicals before they enter the environment. ASDWA welcomes the opportunity to work with EPA on these recommendations.

6. What do you mean when you testify that EPA should "take other steps to control and limit PFAS contamination of the environment and the public's drinking water"?

Answer: ASDWA recommends federal agencies take appropriate steps to control and limit the ongoing use of PFAS in commerce. ASDWA recommends reviewing the authorities under TSCA, FDCA, FIFRA, RCRA, CERCLA, CWA, CAA and other statutes to limit the public's exposure to PFAS and other potentially harmful chemicals. ASDWA believes EPA should be the lead agency on coordinating with the other federal programs, both regulatory and non-regulatory.

b. From a legislative perspective, how would you expand EPA's PFAS focus across all EPA programs?

Answer: EPA should work internally to share information across all relevant programs for potentially toxic chemicals that set off red flags – those that are highly mobile, persistent, and bioaccumulative. Legislatively, we would appreciate increase research funding to answer the myriad of questions on health effects, occurrence and treatment for the 3,500 plus PFAS chemicals.

7. Scientifically speaking, is PFAS the most significant drinking water concern facing state regulators?

Answer: In the context of emerging contaminants, yes, PFAS is the most significant issue based on both use and occurrence. The chemicals are still widely used and should be expected to be found everywhere. The science remains incomplete on human health effects. More studies and data are needed on both health effects and occurrence to inform regulation. However, the biggest health risks are from other more acute threats such as bacteria and viruses, as well as other chemicals such as lead. From a scientific standpoint, we know PFAS compounds are a problem, but we don't have enough information to elevate their priority above known risks.

Attachment 2-Member Requests for the Record

During the hearing, Members asked you to provide additional information for the record, and you indicated that you would provide that information. For your convenience, descriptions of the requested information are provided below.

The Honorable Richard Hudson

1. **During the first panel today, Dr. Grevatt from EPA mentioned the states could use their SRFs if they choose to address PFAS contamination. Do you know how many states already do this?**

Answer: ASDWA does not have data on the number of states using their SRFs to address PFAS concerns. Pennsylvania used SRF state-only revolving funds to provide a grant (principal forgiveness) to Horsham Water & Sewer Authority to install GAC treatment.

We believe that federal SRF funds can be used for treatment, provided the levels are above EPA's HAL of 70 ppt. ASDWA does not believe that federal funds should be used to fund water system treatment for PFAS levels below 70 ppt. Any treatment costs to reach a target level below 70 ppt should be paid for by the customers who are making the choice to reach that target level.

Because there is no federal PFAS MCL, the SRF applications for PFAS treatment may not rank high enough to be funded. Use of the SRF is directed at water system needs that may be of greater concern than PFAS treatment. However, state SRF funds can be used to monitor for PFAS. Most states have already maximized the use of their SRFs that don't take PFAS into account. Use of the SRF for PFAS would constrain its use for other purposes.

GREG WALDEN, OREGON
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY
RANKING MEMBER

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House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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October 16, 2018

Mr. Sandeep Burman
Manager
Site Remediation and Redevelopment
Minnesota Pollution Control Agency
1101 17th Street, N.W.; Suite 700
Washington, DC 20036

Dear Mr. Burman:

Thank you for appearing before the Subcommittee on Environment on September 6, 2018, to testify at the hearing entitled "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Tuesday, October 30, 2018. Your responses should be mailed to Kelly Collins, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to kelly.collins@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachment

Attachment

Sandeep Burman
On Behalf Of The
Association of State and Territorial Solid Waste Management Officials (ASTSWMO)
Responses to Questions for the Record
House Committee on Energy and Commerce
Subcommittee on Environment
Hearing on "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented"
September 6, 2018

1. **Your written testimony discusses the emerging nature of the PFAS chemicals and you point out that until the mid-2000s these chemicals could not be detected in the environment. Can you walk us through why that was and what changed?**
   a. **As the science continues to develop, what will we discover about PFAS contamination and its prevalence?**
   b. **Do States and Territories have a plan to address the more pervasive PFAS contamination?**

   a. Although PFAS have been manufactured for more than 50 years, they were not widely documented in environmental samples until the early 2000s. Prior to that, research investigating the environmental fate of halogenated compounds had focused largely on chlorinated and brominated compounds. Fluorinated organic compounds, which include PFAS, had received less attention because their measurement was more difficult. Because they have surface-active properties, fluorinated compounds were more difficult to separate out from the media they were contained in. In addition, because they are nonvolatile and have relatively high molecular weights, they require specialized liquid chromatography/mass spectrometry methods for analysis. Because much of the fluorinated compounds such as PFAS were incorporated into polymers, they were perceived as more biologically inert and therefore, less likely to have an impact on human health or the environment.

   However, studies that found some PFAS in the blood of occupationally exposed workers in the 1970s and reported detections in the blood of the general human population in the 1990s led to increased awareness of PFAS in the environment, associated human exposure, and the potential for health effects. This led to the need to sample and analyze for these compounds as well. However, early detection at low reporting limits was hindered due to analytical capability challenges arising from the unique surface-active properties of PFAS. Procedures for detecting and identifying PFAS in the environment required a very high level of technical expertise. Most previously available general analytical methods did not provide enough sensitivity or selectivity. The complex mixture of possible components in a product, the multiple matrices in which they could reside (e.g., the atmosphere, soils, surface water, groundwater, wastewater, different animal tissues, different animal species, plant species, foods, etc.), and trace level detection required selective extraction and diverse analytical techniques. Reliable quantitative methods for compound-specific extraction, separation and identification were developed only during the late 1990s to early 2000s. Prior to that, only relatively insensitive and non-specific analytical methods such as total organic fluoride were

available. This lack of a practical PFAS compound-specific method of analysis that could be applied to a wide range of sample types with sufficient sensitivity to measure ecologically relevant concentrations of specific compounds was not overcome until the early 2000s. This was when development of compound-specific methods for the analysis of some PFAS using high-performance liquid chromatography finally took place.

b. As States conduct additional sampling in response to the continually evolving understanding of PFAS sources and transport pathways, and as methods for sampling and testing get better, more releases and impacts will be discovered. For example, recent investigations by a number of States have found PFAS contamination at landfills, metal plating facilities, schools and car washes. These releases will be from both historical and current sources. More PFAS compounds will therefore be discovered at new locations, and in new media that will pose added human health and ecological exposure pathways. The extent and magnitude of known releases will grow larger as more compounds are detected in the release 'mixture' and the resultant contamination will be found to extend to even greater distances from the source. The problem is therefore likely going to assume even greater magnitude and even more serious implications for public health and the environment. If a cohesive national strategy is not in place, public concerns about a multitude of exposure sources including drinking water, fish, agricultural products, and consumer goods to name just a few will reach a level that will be difficult to address. The risk communication challenge in regards to PFAS are therefore bound to assume very serious proportions.

   The Interstate Technology Regulatory Council (ITRC) estimates there are over three thousand compounds belonging to the PFAS family, while other sources such as the U.S. Environmental Protection Agency (EPA) place this number higher, with estimates ranging from five thousand to ten thousand. The single analytical method currently approved by EPA only detects fourteen of these compounds. Some States have developed analytical methods to detect an additional ten to twelve PFAS in the environment. There are federal drinking water guidance values for just two of these compounds, and various forms of State standards for an additional six to eight compounds. Given the prevailing uncertainties and variability across the country, and the absence of a unified comprehensive national strategy, State resources are stretched thin just dealing with this relatively small sub-set of PFAS that are currently driving response actions. States will likely be overwhelmed as additional PFAS compounds from this vast group are established as being confirmed risk drivers. The plans, tactics and strategies that the States are employing to respond to the current set of PFAS of concern and the resources at their disposal will not be able to cope with an influx of a large number of additional compounds that will need to sampled, analyzed and treated for in various media. There is urgent need for the development and deployment of a unified national plan to address the imminent increase in the pervasiveness of PFAS contamination.

2. **What steps has the Association of State and Territorial Solid Waste Management Officials taken to coordinate efforts among the States and Territories and coordinate efforts with EPA and local governments regarding the issues associated with the PFAS chemicals?**

   ASTSWMO has designated supporting the efforts of the members and providing resources for them in responding to PFAS a top priority. ASTSWMO has therefore been expending significant effort since the emergence of PFAS as an issue. The major activities undertaken by ASTSWMO include:

   a. Advocating for State and Territorial input and participation in federal efforts pertaining to PFAS.
   b. Participating in multiple national policy and technical efforts related to PFAS on behalf of the States and Territories.
   c. Maintaining a digital platform for rapid sharing of all PFAS related national news with the States and Territories.
   d. Providing a forum through which the States and Territories can request PFAS information and assistance from each other.
   e. Including PFAS as a standing topic at all ASTSWMO meetings for the past few years, providing the membership information, and training on PFAS from national experts.
   f. Collaborating on PFAS work with other national level State media (water, air, drinking water, public health, etc.) organizations to ensure multidisciplinary and multi-jurisdiction knowledge sharing and joint policy and technology development.
   g. Other steps to promote education and information sharing amongst the ASTSWMO members on PFAS.

3. **Is EPA doing enough to coordinate with States and Territories on the PFAS issue?**
   a. **Is EPA providing sufficient support to the States and Territories with respect to the PFAS issue?**

   EPA provides updates on its PFAS efforts, principally aligned along the four-pronged approach announced at the National PFAS Summit of May 2018, through a dedicated website. EPA also participates in various State meetings to provide updates. EPA has also conducted several community meetings across the country. However, completion of the four action items announced at the National Summit are still pending and the States have had varying degrees of opportunity to provide input on them, ranging from periodic to very limited. There are multiple EPA offices involved in the various aspects of PFAS work and the interrelationships and collaboration are not always apparent. The implications of the draft Agency for Toxic Substances and Disease Registry (ATSDR) toxicological report on certain PFAS (including PFOA and PFOS) that were released under somewhat controversial circumstances are also not clear. The ATSDR draft report suggests that stricter guidelines for human exposure to PFAS should be considered. The ATSDR's report also suggests that human health risks may occur at levels significantly lower than the current federal recommendations. Some of the report's findings therefore appear to contrast to those of the 2016 EPA health advisory for PFOA and PFOS of 70 ppt. There has not been much discussion offered by EPA on this issue, which remains a source of confusion and concern to the States and communities seeking to establish credible protective standards for PFAS.

   a. EPA has provided limited on-the-ground assistance to actual PFAS responses in a few States. This appears to vary amongst the EPA regions, and there has been no clear definition of what

role EPA can play and what assistance it can provide at actual PFAS response actions. At present there do not appear to be any clear rules for engagement for EPA to provide assistance at PFAS response actions in States, or a defined process for States to request assistance. PFAS issues brought to EPA's attention appear to be handled on a case-by-case basis, which does pose some challenges for the States for planning and communication purposes.

4. **Your written testimony notes that "States are also unclear on how responsible parties can be required to remediate PFAS contamination."**
   a. **Why is that?**
   b. **Are the parties responsible for PFAS contamination meaningfully addressing the cleanup of the contamination?**

      a. PFAS are not listed as Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substances. PFAS are also not currently regulated under the Resource Conservation and Recovery Act (RCRA), the Clean Water Act (CWA), nor the Clean Air Act (CAA). States rely on the clear and unambiguous statutory characterization of contaminants of concern as hazardous substances or hazardous wastes in order to identify potential responsible parties (PRPs), and then be able to require complete and timely response actions. Many States have their own 'Superfund' laws and programs to supplement CERCLA, but those are based on, and in many cases derive their authority from, the same legal foundations and operational steps as the federal statute and program. The lack of inclusion of PFAS in the federal program thereby also hampers their coverage under the state programs when it comes to the implementation of PRP processes including cost recovery. At the National PFAS Summit of May 2018, States stressed how critical it was for EPA to move forward with listing PFAS as hazardous substances under CERCLA.
      b. In the absence of a clear regulatory framework, responsible parties for PFAS contamination are sometimes unwilling to take the necessary steps or protracted negotiations are needed to reach an agreement under which response actions can even start. The subsequent progress and outcomes of response actions conducted under such case-specific agreements reached outside of CERCLA can be incremental and not as consistent and comprehensive as those that are conducted under a statutory requirement, which can provide for standardized and transparent cleanup goals and paths to accomplish those. Site progress and cleanup goals under site-specific agreements often have to be renegotiated as the PRPs obtain additional information and the site conceptual model becomes clear. This is in contrast to remedial actions conducted under CERCLA authority. The CERCLA statute requires that Superfund response actions ensure protectiveness of human health and the environment, and comply with both state and federal laws and regulations that constitute "applicable or relevant and appropriate requirements" (ARARs).

5. **Your written testimony points out that EPA should treat the multiple PFAS chemicals as a class or mixture of chemicals in order to designate them as hazardous substances under CERCLA and hazardous waste under RCRA.**
   a. **Why is this important?**
   b. **Can you walk us through what this means?**

a. We now know there may be several thousand chemicals in the class known as PFAS. However, most of the investigative and regulatory attention is still focused on the veritable tip of the iceberg – primarily PFOA and PFOS, and more recently a few other PFAS. It is clear, though, that in most cases, PFAS are present as complex mixtures and therefore States have to try to address an ever-increasing list of PFAS. There are federal standards for only two compounds and States have developed standards for about six to eight additional PFAS. Meanwhile, site investigations typically employ target analyte lists of over twenty PFAS. Advances in analytical chemistry are allowing the detection of even more of the precursor compounds that may degrade to form PFAS of concern. Therefore, it is clear that our understanding of the ecological and human health risks associated with these chemicals lags far behind our ability to detect them. Debates continue over the health-based values for PFOS and PFOA; there is no national agreement on standards for even these two best known, and most studied PFAS. This prevailing situation of slow progress on setting standards, and the uncertainty and variability that exists even when standards are set, appears to be how things will be for the near future. Therefore, developing standards for individual PFAS one at a time will do nothing to alleviate this situation. For instance, it will not be possible to develop a credible cleanup goal for impacted drinking water supplies based on standards for just one or two of the several PFAS compounds that are being detected in the water.

b. It is therefore necessary that alternate and innovative approaches be taken to achieve some meaningful progress in public health protection and risk communication. Individual States are beginning to take steps to address the issue of drinking water being contaminated by a mixture of PFAS. States are trying to close this gap between the number of PFAS being detected and those with standards established, but this is leading to questions about consistency as well. For instance, Massachusetts requires that public drinking water cannot have more than 70 ppt total either individually or in combination for a combination of five PFAS compounds: PFOA, PFOS, PFHxS, PFNA, and PFHpA. Vermont recommends that the sum of the same five compounds under the Massachusetts guidance values (PFOA, PFOS, PFHxS, PFHpA and PFNA) not exceed 20 ppt individually or in combination in drinking water. Minnesota uses a hazard index rating based on five PFAS (PFOA, PFOS, PFBA, PFBS, and PFHxS) to regulate drinking water safety. States are therefore doing their best to deal with the occurrence of PFAS as mixtures but the ultimate solution probably lies with EPA dealing with PFAS as a class as opposed to focusing on them individually as has been the approach so far. There may be scientific challenges to doing so but the issue merits serious consideration from EPA. Variants of the concept such as grouping PFAS into sub-classes of compounds that have similar structures, properties and toxicity may also be possible upon closer study. Bringing PFAS as a class, or a group of related sub-classes, under CERCLA and RCRA coverage would eliminate much of the technical and regulatory uncertainties caused by the fact that these compounds are detected as complex mixtures and not as individual chemicals. CERCLA does not contain any chemical-specific cleanup standards. However, the CERCLA statute requires, among other things, that Superfund response actions ensure protectiveness of human health and the environment, and comply with federal laws and regulations that constitute ARARs.

CERCLA provides for the timely identification by the States of potential ARARs and to-be-considered values (TBCs). Risk-based goals may be calculated and used to determine cleanup levels when chemical-specific ARARs are not available or are determined not to be sufficiently protective. All of these provisions would be available to States and EPA for dealing with various combinations of PFAS mixtures if these compounds could be broadly listed as CERCLA hazardous substances. Even if universal national standards – such as Maximum Contaminant Levels (MCLs) for drinking water – take some time to develop, the ability to treat PFAS as a class under a unified regulatory framework such as CERCLA will place a variety of tools at the disposal of the States that they lack now. This will lead to significant optimization of both PFAS response action and effectiveness of the attendant risk communications.

6. **Your written testimony states that national collaboration on the issue of PFAS contamination is critically needed.**
   a. **What are the biggest challenges facing the State and Territories with respect to the PFAS issue?**
   b. **Can you walk us through what ASTSWMO is doing currently and what you think needs to be done in the future?**

a. ASTSWMO members have repeatedly expressed their greatest needs in terms of addressing PFAS as being:
   i. A consistent national regulatory framework for addressing the investigation and cleanup of PFAS contamination. This could for instance be accomplished by listing PFAS as hazardous substances under CERCLA. Listing as a hazardous waste under RCRA in addition to as hazardous substances under CERCLA would also offer the added benefits of (a) PFAS remediation wastes being managed appropriately, and (b) opening up more cleanup authorities.
   ii. Clear and consistent regulatory standards for protecting public health and ecological receptors. Standards are needed in particular for drinking water and groundwater, soils and surface waters. Promulgating MCLS for PFAS would be one critical example of such a universal national standard.
   iii. Developing analytical methods/sampling protocols for PFAS in various media and promoting the attendant certified laboratory capacity.
   iv. Risk communication assistance with impacted communities and citizens in general as awareness and concern about PFAS increases. The uncertainties and variabilities when it comes to how PFAS is being addressed across the country pose unique risk communication challenges.
   v. Developing and pilot testing innovative and cost effective remedial technologies for soil and water contaminated by PFAS.
   vi. Research on toxicity of PFAS as well as fate and transport of these compounds in the environment.

b. ASTSWMO's ongoing efforts to assist the members with all of the above were listed previously in response to Question 2. In addition to those actions, ASTSWMO feels additional activities that would be of great value to the members include conducting additional trainings through webinars and conducting peer matches between members. While the status of the Association's resources has not permitted significant activity under each of these initiatives, ASTSWMO continues to seek opportunities to conduct both webinars and peer matches. Both

efforts would help members learn from each other and from other experts and help them optimize and enhance PFAS responses.

7. What do you think the Department of Defense should be doing to address PFAS contamination?

The Department of Defense's (DoD's) military departments should continue to investigate the full extent and magnitude of PFAS contamination associated with their current and former installations. PFAS should be investigated in all media, and done so with the purpose of ensuring that public health and environmental risks are addressed both on and outside the present or former facility. DoD should be nimble and flexible in their process and proceed at a pace that is commensurate with the risks posed by PFAS and the concerns and needs of the community. DoD should take into consideration any State and local standards that exist for various PFAS, beyond just the EPA advisories for PFOS and PFOA. DoD should actively participate with State and local authorities to conduct timely and transparent risk communication with impacted communities.

At present, it appears that DoD will provide treatment or alternative water only when PFOA/PFOS is detected above a health advisory limit. DoD does not appear to be taking any proactive steps to prevent water systems from becoming impacted by existing contamination, including preventing contamination that is migrating towards a production well from impacting that well. DoD's rationale appears to be that no action is needed, as there are no PFAS cleanup standards for ground water and surface water. This ends up placing a lot of burden on the water systems to test and manage their water for contaminants when the water system is not responsible for the contamination. In essence, the water systems have to act as potential responsible parties. DoD therefore needs to reimburse States for costs incurred to respond in any way to PFAS contamination coming from their installations.

DoD also should proactively take steps to implement best management practices for existing stocks of PFAS containing firefighting foams to eliminate releases to the environment. DoD should also be aggressively pursuing the development and deployment of PFAS-free firefighting foams.

8. It appears that detection applies to plumes of contamination spreading from sites, and has led to concerns that problem is getting worse? Is it getting worse or are we just now seeing what we did not see before?

PFAS releases are still occurring into the environment from active sources such as industrial sites, landfills, wastewater treatment plants, and firefighting foam applications. As our knowledge of PFAS fate and transport increases and our sampling and analysis capabilities improve, we will detect these ongoing releases and be able to better define their full extent and magnitude. This will undoubtedly add to the growing inventory of known and documented PFAS releases that pose risks to public health and the environment.

The progression of known risks from historic PFAS releases is somewhat different as compared to the situation stated above for ongoing releases. Many historic release source areas and offsite extents – such as contaminated groundwater plumes – have only been sampled for and therefore defined using the handful of PFAS, about six to eight compounds that have federal or state standards of some type assigned to them. At best, they may be defined by the fourteen compounds that are in the current EPA approved method for drinking water – Method 537. Some of the most widespread and mobile PFAS are not included in the EPA list. When these are

eventually added, plumes that were defined by the old list will now appear to grow when they are sampled using the updated list. Moreover, the potential for adding more PFAS compounds to the analyte list for defining groundwater plumes will always be significant given the vast universe of these compounds. As additional analytes are sampled for and detected at lower and lower limits, the apparent boundaries and impacts from known PFAS groundwater plumes have the potential to grow exponentially.

9. **Would you describe how states work with DOD to detect PFAS?**
    a. **How do you work with EPA to ensure you are using the most appropriate assessment technologies?**

DoD's position is that it is conducting PFAS response actions under the Defense Environmental Restoration Program (DERP), which provides authorities to DoD to perform and fund these actions, and requires they be carried out in accordance with CERCLA. According to DoD, its first step was to identify the source of a known or suspected release. DoD has identified 401 active and former installations with known or suspected release of PFOS or PFOA. The DoD also states that it has proactively taken action to address drinking water impacted by DoD releases. DoD reports that it bases these actions on the EPA advisories for PFOS and PFOA even though these are non-regulatory guidance under the Safe Drinking Water Act and not required or enforceable drinking water standards. DoD reports that though not required by law or regulation, it has followed the EPA health advisories for PFOS and PFOA, and provided consumers bottled water or additional water treatment.

Once PFOS and PFOA impacts to drinking water have been addressed, DoD states that the military departments are prioritizing sites for further actions using the normal CERCLA risk-based process. As DoD moves through the CERCLA process it applies to PFAS sites, the Department works in collaboration with regulatory agencies and communities to share information and gather input. DoD limits its response actions for PFAS contaminated drinking water to situations where there are exceedances of the EPA advisories for PFOS and PFOA. This sometimes creates complexities for the State and local authorities when additional PFAS are detected above State standards and where there is a State standard for PFOS and PFOA that is lower than the EPA advisories. While DoD voluntarily uses elements of the CERCLA process for investigations, the States do not have access to the standard CERCLA regulatory authorities as PFAS sites are not in the Superfund Program. The States therefore continue to collaborate with DoD through a diversity of situations with the objective of ensuring immediate risks are addressed on the way to complete site investigations and risk assessments that will result in full and final cleanups. There is not always perfect alignment or full agreement between States and DoD, but the work and dialogue continue in a generally collaborative manner, with the anticipation that development of a consistent national framework will bring clarity to these situations as well.

a. EPA work on PFAS, including efforts to coordinate with the States, is covered in the response to Question 3. Specifically on assessment methods, EPA has developed a laboratory method for measuring PFOS, PFOA and twelve other PFAS in drinking water (EPA Method 537). EPA has stated that it is working on publishing an expanded version of the current drinking water Method 537 to include GenX chemicals and additional PFAS. EPA has stated that this update method will be published in 2018.

10. For site remediation, what are the available methods that may be deployed?

a. What is the Federal government doing to ensure communities have sufficient information to assess the public health benefits against the cost for deploying these systems?

According to the ITRC, only a few conventional methods and technologies are in widespread use at present for remediation of PFAS in both soil and water. Other newer and innovative technologies are at various stages of development and testing, but are not known to be in common use at present.

A. Soil
    i. In use:
        1. Capping
        2. Excavation and disposal
    ii. Under development:
        1. Sorption and stabilization
        2. Thermal treatment
B. Water
    i. In use:
        1. Granular activated carbon (GAC)
        2. Ion exchange
    ii. Under development:
        1. Biochar
        2. Precipitation/flocculation/coagulation
        3. Redox technologies
        4. Reverse osmosis
        5. Nanofiltration

a. EPA has compiled an online resource for PFAS that includes topics such as policy and guidance, chemistry and behavior, occurrence, toxicology, site characterization, and remediation technologies. EPA continues to update its 'Drinking Water Treatability Database' with information on PFAS compounds as information becomes available.

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ONE HUNDRED FIFTEENTH CONGRESS

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October 16, 2018

Ms. Carol Isaacs
Director
Michigan PFAS Action Response Team
111 South Capitol Ave
Lansing, MI 48933

Dear Ms. Isaacs:

Thank you for appearing before the Subcommittee on Environment on September 6, 2018, to testify at the hearing entitled "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. Also attached are Member requests made during the hearing. To facilitate the printing of the hearing record, please respond to these questions and requests with a transmittal letter by the close of business on Tuesday, October 30, 2018. Your responses should be mailed to Kelly Collins, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to kelly.collins@mail.house.gov.

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,

John Shimkus
Chairman
Subcommittee on Environment

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment

Attachments

1. **What are the steps MPART has taken to deal with PFAS contamination?**

Please refer to pages 7-11 for a partial list of MPART's actions.

a. **Does MPART have regulatory and/or enforcement authority?**

MPART does not have or exercise separate regulatory authority. All the existing regulatory authority for each individual state department is still intact and has been used when necessary. For example, the State (Michigan Department of Environmental Quality) filed a lawsuit, in cooperation with EPA, against a responsible party – Wolverine. The State has issued water violation notices against some military bases because of water run offs that exceed the PFAS surface water standards set by the Michigan Department of Environmental Quality.

b. **Does that impact the ability of MPART to be effective?**

No. The effectiveness of MPART is attributed to the structural management system established by Governor Rick Snyder through an Executive Directive issued on November 13, 2017. The Director of MPART is stationed within the Governor's office and has been authorized by the Governor to coordinate action taken on environmental, public health and public information fronts. The ten state departments forming the MPART team are tasked with enhancing cooperation and coordination among local, state and federal agencies charged with identifying, communicating and addressing the potential effects of PFAS substances in Michigan and protecting public health.

2. **How does MPART work with local governments within the State of Michigan?**

MPART has prioritized communication with local units of government, legislative members, local public health, stakeholder and interest groups and individual residents. If a potential site of contamination within a community has been identified the MPART team schedules a briefing with community leaders to provide information and discuss planning and activities. Before testing private home wells MPART schedules a community meeting with residents. Local officials are always part of the planning and notification process for their residents. Michigan has undertaken the most extensive public water testing initiative in the nation. We are testing all public water systems, even small systems, as well as schools on private wells. We had one community, serving over 3,000 residents test 20 times higher than the EPA Lifetime Health Advisory Level for PFAS. We worked in complete partnership with the local government units to successfully eliminate the old contaminated source of water and connect to a new public water system.

3. **One of the issues we focused on with this hearing is what are the technical and economic barriers that States face with respect to responding to PFAS contamination.**

   a. **Do you feel like MPART is better suited to deal with technical and economic barriers that face State government than states without such an organization?**

   The existence of MPART as the coordinating structure for the State is a clear advantage. I feel strongly that other states would benefit from using this or a similar model. When technical issues are brought forward the MPART structure can quickly contribute to resolution or unified agreement and direction to resolve the issue. The regular communication of the state departments through MPART allows response planning at a pace not possible without the MPART structure.

   Economics

   Michigan Legislative support to investigate and mitigate PFAS contamination of drinking water has been good and this is partially because MPART has systematically informed the legislature of our status and progress. The legislature provided $23 million in fiscal year 2018 for PFAS activities. However, responsible parties, including public and private sector entities, must provide resources to remediate PFAS contamination attributable to current or previous activities by those parties. The cost of remediation associated with DOD facilities (both currently operational and those previously subject to BRAC) must be borne by DOD as the responsible party. States and local communities have neither the resources nor the responsibility to remediate DOD contamination. All states need the cooperation of the DOD to clean-up contamination on military bases and in areas affected by PFAS migration off the bases.

4. **What do you think the Department of Defense should be doing to address PFAS contamination?**

   The Department of Defense (DOD) should determine the cost of PFAS clean up on military bases and ask Congress to appropriate sufficient funds to complete that clean-up. The DOD should work cooperatively with states to determine the extent of contamination on and off bases. It should not take years to make these determinations. A time limit should be imposed. The DOD should acknowledge its part in contamination and stop looking for small insignificant contributions to contamination of an area. If the DOD is responsible for the majority of PFAS contamination, DOD should meet its responsibility to clean it up. States should not have to initiate legal action against the DOD to ensure clean-up of their drinking water and environment. DOD should take responsibility for more than

contaminated drinking water. If contamination from a military base has resulted in residents not being able to eat the fish or game in an area the DOD should take responsibility and provide remedy.

a. **Are they doing it willingly in Michigan?**

While testing results are sometimes slow from some National Guard bases in Michigan, the National Guard in general, is much more cooperative than the DOD is related to the Wurtsmith BRAC base in Oscoda MI. In general, the DOD is too slow in providing relief to residents in Michigan related to some bases.

5. **I count in your testimony about 60 local, state and federal level organizations that engaged with Michigan DEQ and your program.**

a. **Are other states paying attention to your leadership?**

Yes, we are in discussion with other states. We have formed national PFAS groups through our Department of Environmental Quality and they are holding discussions on their experiences. We are aware of another state that is adopting the MPART management structure to respond to contamination in their state and have been contacted by other states that seek to learn more about MPART and the Michigan approach.

b. **How do you work with other states that are attempting to address PFAS issues?**

We have traveled into several states to meet with teams of state people to discuss experiences in different areas. States are all at different stages when dealing with PFAS. Michigan is sharing its experiences and its protocols with any state who requests information.

c. **What lessons at this stage can you share for other states and localities to consider?**

States will need to deal with PFAS. Military bases, fire stations, private airports all have used PFAS and so the potential for contamination of drinking water and the environment exists in every state. Industrial contamination adds to the potential problems and is more important for some states. I would advise all states to proactively prepare and gather the information they need to deal with PFAS as a risk to public health. For those states that are further along I would advise them to partner with other states and share information.

6. **You mention in your testimony that we have significant knowledge about only a few of the PFAS chemicals. In your water quality surveys, are you able to delineate the specific PFAS chemicals?**

   The State of Michigan tests for 24 different PFAS compounds. This does not mean we know everything about all 24. The EPA has a Lifetime Health Advisory on just two of these chemicals – PFOA and PFOS. The ATSDR report analyzed 14 PFAS chemicals but could only make recommendations on 4 because they lacked enough knowledge to address the other 10 it analyzed. We do need more research on the toxicology associated with specific PFAS chemicals commonly found in drinking water.

   a. **Are most of the sites you found PFAS contaminated with chemicals for which the risk is well characterized?**

      Risk is not well characterized for all PFAS chemicals and there are thousands of PFAS chemicals. Federal agencies have provided toxicological information on only a few of these substances. For example, we tested a school's drinking water and determined a specific PFAS chemical was present in unexpected amounts. State toxicologists researched this specific PFAS chemical and determined the level in the school's water was not a risk to public health. The school was advised of the determination. The state will look to set a regulatory standard for this chemical and others before the end of 2018. This specific chemical had enough existing research to allow us to make a determination of risk but not all PFAS chemicals have sufficient research as noted in the ATSDR draft report.

   b. **What do you tell the public if the PFAS risks are not well characterized?**

      We acknowledge what we do not know. We say that we hope more research will occur soon and when that does happen we will use that information to help guide the state's actions to protect public health. We continue to urge federal agencies to complete crucial research to help all communities understand risk, exposure pathways, health effects, and remediation methodologies. Uniform national understanding from federal agencies with scientific and research expertise is an important step as we develop a comprehensive national approach to deal with PFAS contamination.

7. **Some of the sites you identify were contaminated by private industry, and some by military, is that correct?** Yes.

a. What has been your experience with DOD when it comes to addressing PFAS contamination, and is there more action you would like to see?

This question was answered in question #4 above. I have repeated that answer below.

The Department of Defense (DOD) should determine the cost of PFAS clean up on military bases and ask Congress to appropriate sufficient funds to complete that clean-up. The DOD should work cooperatively with states to determine the extent of contamination on and off bases. It should not take years to make these determinations. A time limit should be imposed. The DOD should acknowledge its part in contamination and stop looking for small insignificant contributions to contamination of an area. If the DOD is responsible for the majority of PFAS contamination, DOD should meet its responsibility to clean it up. States should not have to initiate legal action against the DOD to ensure clean-up of their drinking water and environment. DOD should take responsibility for more than contaminated drinking water. If contamination from a military base has resulted in residents not being able to eat the fish or game in an area the DOD should take responsibility and provide remedy.

b. What has been your experience with EPA?

EPA is a federal regulatory body that is reluctant to establish an MCL for PFAS chemicals, yet it issued a Lifetime Health Advisory. If it is important enough to issue a "warning" through a health advisory, then it should be important enough to set an enforceable standard.

EPA's establishment of a national PFAS conference to hear from states and non-governmental entities was a positive step. It is important that EPA acknowledged this is a national issue and that they would provide leadership. The State hopes they fulfill the promises made in the PFAS conference earlier this year to consider setting an enforcement standard and take a more active role in addressing PFAS contamination nationwide.

Michigan has engaged the EPA and ATSDR as partners to address the PFAS issues in our state. We seek assistance from EPA in any way they can help us to protect our residents. EPA staff have participated with local responses within our state. It is our intent to continue to partner cooperatively with the EPA.

MICHIGAN'S PFAS ACTION PLAN (MPART)

EXECUTIVE DIRECTIVE CREATES THE MICHIGAN PFAS ACTION RESPONSE TEAM

Governor Rick Snyder formed the Michigan PFAS Action Response Team (MPART) on November 13, 2017. It is the first multi-agency action team of its kind in the nation. The ten state departments that form the core membership of the MPART, along with state employees, have joined together to investigate sources and locations of PFAS contamination in the state. They are tasked with ensuring a comprehensive, cohesive and timely response to the continued mitigation of perfluoroalkyl and polyfluoroalkyl substances (PFAS) in the drinking water of our citizens across Michigan. The team is charged with enhancing cooperation and coordination among local, state and federal agencies charged with identifying, communicating and addressing the potential effects of PFAS in Michigan. They have been authorized by the Governor to protect public health and ensure timely action is taken on all environmental, public health and public information fronts.

> "To safeguard Michiganders from this emerging contaminant, it's critical that responding agencies at all levels are effectively communicating and coordinating efforts," Snyder said. "This team will be instrumental in establishing protocols and best practices that will allow all partners to comprehensively address these contaminants across Michigan."
>
> Governor Rick Snyder

Directive 2017-4 states that the Department of Environmental Quality (DEQ), the Department of Health and Human Services (DHHS), the Department of Military and Veteran Affairs (DMVA), and the Director of the Department of Agriculture and Rural Development (MDARD) are essential members of the team and all other departments are instructed to coordinate and cooperate with the MPART Team as requested. State Departments have actively engaged in full-filling the mission of the Executive Directive by forming cooperative relationships with EPA, ATSDR and Local Public Health Agencies and local units of government. Through MPART, Departments have expedited the assessment of PFAS contamination across the state, formulated investigation and response plans and, in general, moved rapidly to protect public health.

CHRONOLOGY OF THE PFAS ACTION PLAN AND ACTIONS TAKEN BY MPART

- Executive Directive issued November 2017.
- MPART Director appointed November 2017.
- Michigan PFAS web site-initiated November 2017 to inform state residents of the State's actions and to provide information about PFAS. www.michigan.gov/pfasresponse
- Working relationships were established with the federal EPA and Region V-EPA., as well at the Agency for Toxic Substances and Disease Registry (ATSDR).

- Director Grether and PFAS Director Carol Isaacs initiated outreach to EPA to help them understand the experience of Michigan in response to PFAS in drinking water.

- The Michigan State Legislature appropriated 23M dollars for the PFAS response at the end of 2017.

- In January 2018, MPART took swift action to set a new clean-up criterion for groundwater water of 70 parts per trillion for PFOS and PFOA combined. Michigan is one of a minority of states to establish clean-up standards for any PFAS compounds found in groundwater used for drinking. This standard mirrors the EPA Lifetime Advisory Level. This is also the level the Department of Defense recognizes as actionable.

- MPART has taken legal action against responsible parties like Wolverine Worldwide. The lawsuit was in conjunction with the EPA and allows the EPA and the MDEQ to work together to achieve environmental investigation for PFAS and other contaminants in soil, water, etc. The lawsuit's goal is to achieve immediate environmental testing and investigation and long-term remediation for West Michigan.

- Dispute Resolution was initiated with the US Airforce in Oscoda on 12/20/17. The State is seeking agreements from the Airforce that will result in remediation of contamination in the area off the base because of PFAS plumes attributed to the closed Air Force base. Negotiations have taken too long and comprehensive remediation efforts have not been agreed to by the Airforce. The State has helped negotiate an agreement between the City and the Airforce to establish a new water pump station within the City of Oscoda. The State has worked with the USDA, the legislature and the local unit of government and legislators to plan municipal hook-up of residents and this is progressing in stages as expected. The school system will be connected to municipal water this fall. The State has initiated a study of PFAS foam on Lake Van Etten. MPART has spoken to DoD representatives and Congressional members about Oscoda.

- A Local Health Department Advisory Committee was established to coordinate and exchange information between state and local health leadership on PFAS. This committee will elevate and address locally identified issues, concerns, and requests for assistance, ensure ongoing two-way communication within communities regarding state and federal agency activities: coordinate data sharing: and identify and jointly develop action plans related to community engagement, testing, remediation, and more, for PFAS contamination sites.

- A PFAS Science Board was established in March of 2018 to review current research on PFAS and make recommendations regarding health effects, environmental pathways, remediation, and whether other PFAS analytes, in addition to PFOA and PFOS, should be addressed.

  The Michigan PFAS Scientific Advisory Board to MPART is being led by Dr. David Savitz of Brown University's School of Public Health and academic advisor to MPART. It will convene Michigan and national PFAS experts to review available science and make recommendations for Michigan's statewide response. The committee will coordinate and review medical and environmental PFAS research and develop evidence-based recommendations. The committee has been charged with completing their review and making recommendations by end of the fall, 2018. The panelists were selected based on their expertise in the areas of epidemiology, toxicology, water quality, biochemistry and molecular biology.

  The state announced the names on Thursday, March 18, 2018.

  - Jennifer Field of Oregon State University
  - Scott Bartell of the University of California, Irvine
  - Christopher Lau of the U.S. Environmental Protection Agency
  - Susan Masten of Michigan State University
  - Dan Jones of Michigan State University
  - David Savitz of Brown University will chair the panel

- The State has consulted with other states, helped organize states to address PFAS and urged convening the first national PFAS EPA summit, which was held May 2018. The invitation only conference included attendees from 36 states, Non-Governmental Organizations (NGOs), community groups, media and Native American Tribes. Director Isaacs and Director Grether received invitations and attended.

- MPART has engaged approximately 70 external state and national groups on PFAS.

- MPART has held many community forums for residents. Individual meetings with residents continue to be held to discuss drinking water testing results. Community leadership is regularly updated on the status of PFAS within communities.

- MPART holds regular legislative meetings and conference phone calls to update the House and Senate. Michigan's legislature appropriated an additional $23 million at the end of 2017 to allow MPART to investigate PFAS and improve lab capabilities.

- MPART has identified multiple PFAS state sites that are associated with historic and current industrial/manufacturing operations, AFFF (aqueous film-forming firefighting foam) discharges, landfills, and military installations. Thousands of water tests have been performed and hundreds of filters have been provided to households, along with alternate water supplies.

- MPART was provided $1.5 million by the legislature for in-state laboratory improvements to speed up PFAS testing.

- MPART has met with more than 200 wastewater treatment plant personnel across the state to identify and work cooperatively toward the elimination of PFAS being discharged into water resources, such as our rivers.

- MPART has partnered with the landfill industry to develop standard sampling protocols to evaluate PFAS in landfill leachate statewide by December 2018. This effort will also evaluate how landfill design and operating practices affect the concentration of PFAS in leachate.

- MPART is overseeing the sampling of fish and deer for PFAS contamination in areas near known AFFF, or other releases.

- MPART has contacted 1,000 fire departments throughout the state to determine their use and storage of PFAS-containing firefighting foam and will be making best protocol recommendations when the survey is complete.

- Michigan has communicated with the Federal Aviation Administration (FAA), asking for their assistance in controlling use of PFAS firefighting foam used in practice and testing sessions because the foam can end up in ground water for drinking.

- MPART is piloting a first-of-its-kind project for the removal of PFAS containing foam from the surface of Van Etten Lake near the Wurtsmith Air base.

- Plainfield Township, through a State $750,000 grant, has a granular activated carbon (GAC) pilot project underway with 5 filters capable of filtering 9 million gallons/day

- Ann Arbor is also engaged in a similar project and working with the University of Michigan.

- Importantly, MPART has undertaken the most comprehensive state drinking water survey in the nation. All public water systems are being tested through a $1.7M appropriation from the legislature. This survey is testing all drinking water systems with more than 25 people served. The Legislature and Governor agreed to fund this initiative as part of a supplemental appropriation. 75% of Michigan's population is served by a public drinking water supply. Proactive public water supply testing will be complete by the December 2018.
    - 1,380 community water supplies (~1,100 on wells, 75 with intakes on the Great Lakes, ~200 purchase from another municipality)
    - 461 schools with their own wells (testing all wells used for consumption)
    - This public water testing program led to the quick and proactive MPART response which resulted in an additional 3,000 Michiganders in Parchment and 300 school children in Ottawa County being protected from contaminated drinking water.
- MPART is reviewing and studying biosolids used in agriculture when they are associated with PFAS contamination.
- The Michigan Department of Health and Human Services (MDHHS) continues to work with the Michigan Department of Environmental Quality (MDEQ) and all local public health offices to help evaluate PFAS testing results and explain those results to residents. Additionally, they have initiated the following projects.
    - MDHHS performed a Health Statistics Review of cancer incidents in North Kent Co., issued a report, and held a media round-table to explain the results. There were no specific PFAS findings.
    - MDHHS has worked with ATSDR, as a federal partner, to provide enhanced assistance in developing a PFAS exposure study in Kent Co. The protocol has been finalized. Blood samples will be collected and the DHHS lab is now able to run lab analysis on the samples to be taken. This assessment will determine if there was a higher than typical exposure of the population to PFAS and will later determine, through repeat blood sampling, future levels of PFAS within the blood of those in the study.
    - The Parchment area is also being assessed for a PFAS exposure study.
    - DHHS has also advocated for Wurtsmith Airforce base and surrounding area to be included as one of the study areas under DoD research money awarded in the federal budget last year.

- MDHHS is also working with NSF International, an independent public health and safety organization that certifies PFAS filter systems. Michigan wishes to assure the proper application of all filter systems to PFAS compounds.
- Michigan is now employing drones to determine water flow to better allow targeted testing for PFAS levels in surface waters

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