

Testimony of Lisa Daniels

Past President, Association of State Drinking Water Administrators (ASDWA) and

Director, Bureau of Safe Drinking Water

Pennsylvania Department of Environmental Protection

to the

Senate Committee on Environment and Public Works

**Examining Legislation to Address the Risks Associated with Per- and
Polyfluoroalkyl Substances (PFAS)**

Wednesday, May 22, 2019



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 to address this growing public health problem. ASDWA believes the question is not whether to regulate PFAS, but when and how, using sound science and following the robust regulatory development processes in the Safe Drinking Water Act (SDWA) and other environmental statutes. States are each at different stages in their knowledge, evaluation, and implementation of the appropriate PFAS risk management measures. While some states have the authority and technical and financial resources to develop and implement their own standards, many do not or cannot. The Environmental Protection Agency's (EPA's) PFAS Action Plan¹ is a step in the right direction but without firm timelines and commitments, it has left many states to continue to take the lead on PFAS risk management.

ASDWA applauds Congress for advancing PFAS management with the introduction of several bills in both the House and the Senate. ASDWA believes that PFAS must be addressed using sound science and a holistic, multi-media approach using cross-statutory authority. Much of the focus on PFAS has been around occurrence in water, but the burden of addressing PFAS should not fall solely to water utilities and the state drinking water programs that oversee them. Actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Toxic Substance Control Act (TSCA), the Clean Water Act (CWA), and SDWA should be evaluated so that PFAS are removed from or prevented from entering the whole environment, not just drinking water, through efforts that are coordinated across all contributing

¹ EPA, EPA's Per- and Polyfluoroalkyl Substance (PFAS) Action Plan, February 2019, available online at https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf

media. ASDWA also advocates for regulation as a class or classes rather than approaching regulation on a compound-by-compound basis.

Six PFAS(perfluorooctanesulfonic acid [PFOS], perfluorooctanoic acid [PFOA], perfluorononanoic acid [PFNA], perfluorohexanesulfonic acid [PFHxS], perfluoroheptanoic acid [PFHpA], perfluorobutanesulfonic acid [PFBS]) were included in the UCMR 3 testing under the SDWA², however, with new analytical methods that include additional PFAS and lower detection limits, collecting additional occurrence data to quantify the extent of PFAS presence in water is critical to better inform regulatory decisions. Increased toxicity and human health effects data on PFAS and other emerging contaminants of concern is necessary to solving this growing problem. With over 40,000 chemicals in commerce, developing a holistic approach to protecting the environment and public health is critical. Developing a national agenda for contaminants of emerging concern will support policy and regulatory decisions through robust data.

Additional funding to EPA and the states, for both existing and new programs, is essential to adequately 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. Funding and technical assistance is vital to support the development and approval of treatment technologies, laboratory methods for all applicable media, and the development of lab capacity across the country.

² EPA, The Third Unregulated Contaminant Monitoring Rule (UCMR 3): Data Summary, January 2017, available online at: <https://www.epa.gov/sites/production/files/2017-02/documents/ucmr3-data-summary-january-2017.pdf>

Testimony

Good Morning Chairman Barrasso, Ranking Member Carper, and Members of the Committee. 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 and the environment.

My name is Lisa Daniels and I am the Past 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 discuss ASDWA's perspective on gaps in existing federal laws and regulations and how the proposed legislation and strengthened federal actions can more effectively address PFAS and other emerging contaminants and protect public health. ASDWA has not taken positions on all of the provisions in these bills but I will provide the state drinking water program perspective on six key issues/concerns, and potential impacts and outcomes from the implementation of such provisions.

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 or drinking water in at least 38 states. The solubility, mobility, and bio-accumulative properties of PFAS continue to heighten

concerns about potential adverse health effects. Hundreds of PFAS compounds have been approved for use in the U.S. and thousands more are being used worldwide and imported in goods. Despite increased awareness of these chemicals, there are many unanswered questions. Where are these compounds being manufactured and used in commerce? How widespread are they in the environment? 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. I would like to discuss ASDWA's perspectives on six key issues/concerns.

1. Federal Leadership is Needed to Address PFAS

ASDWA believes that federal leadership is needed to effectively and efficiently address PFAS. 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 and in other media. Some states have statutory or policy restrictions that prevent them from implementing a health advisory level (HAL) or setting their own state-level standard. Other states may face significant obstacles in setting state standards because they do not have the technical expertise or resources to dedicate towards the effort. The February 2019 EPA PFAS Action Plan³ is a step in the right direction, but without firm commitments and timelines it has left many states to continue to take the lead on addressing PFAS in the environment.

For example, in my own state of Pennsylvania, the Department of Environmental Protection announced last month that we are taking steps to move forward with setting a state maximum contaminant level (MCL). In order to support this effort we are rolling out a statewide sampling plan to identify drinking water sources impacted by PFAS. The sampling plan will test water

³ See supra note 1

from approximately 400 public water systems (PWS) including about 360 PWSs with increased potential for contamination, based on proximity to potential sources of PFAS, such as military bases, fire training sites, landfills, and manufacturing facilities, and 40 PWSs in primarily forested areas to determine background levels. The sampling plan will begin in a few weeks and last approximately 1 year. We are also contracting for additional toxicology services and gearing up to analyze for PFAS in our state lab. These efforts are being taken because the U.S. EPA did not commit to doing so in February 2019. This will be the first time that Pennsylvania has set a state MCL for a chemical contaminant rather than adopting standards set by the federal government and I can tell you that these actions have been and will continue to be a challenge due to limited resources. Regarding costs to the safe drinking water program in Pennsylvania, it is estimated that a minimum of \$1.5 million annually will be needed to move forward with the proposed rulemaking. ASDWA is in the process of compiling data from states regarding the level of effort being directed at addressing PFAS and other unregulated contaminants and non-regulatory drivers.

Currently, about a dozen states have taken some action to set state advisory or notification levels, or standards. However, these actions, in the absence of a federal regulation, lead to a patchwork of regulations that pose significant challenges for risk communication to the public and can be a burden to states in terms of implementation and for water companies operating in multiple states.

2. National Priority Framework and Research Agenda is Needed

ASDWA supports the development of a national priority framework and research agenda for PFAS and other contaminants of emerging concern (CECs). ASDWA along with their counterparts, the Association of Clean Water Administrators (ACWA), recently released a report

with recommendations for how state and federal agencies and other partners can more efficiently and effectively manage CECs in the water cycle. The recommendations include such ideas as addressing CECs through all federal statutes, not just those specific to water; exploring legislative or regulatory changes to increase chemical manufacturer sharing of toxicity information; development of a shared comprehensive dataset to facilitate better information sharing across states; development of a communications playbook to assist states with risk communication; and increased funding to federal programs that are charged with reviewing substances.⁴ The final report is available and can be shared with any interested Member or their staff. PFAS is not just a drinking water issue – all sources of exposure should be considered and PFAS must be addressed in other media as well. In addition to the EPA, the Department of Health and Human Services (HHS), Food and Drug Administration (FDA), Department of Agriculture (USDA), United States Geological Service (USGS), and the Department of Defense (DOD) also have roles to play. Therefore, states feel very strongly that PFAS must be addressed at the national level using a holistic approach.

3. Consider Listing PFAS as Hazardous Substances

One approach to address PFAS is by designating PFAS as hazardous substances under CERCLA. The hazardous substance designation would ensure that PFAS use, releases or discharges, and disposal are properly tracked and regulated. Currently, none of these protection measures and right-to-know provisions are in place, which means states and water suppliers have no idea where PFAS are being used. The designation would also ensure that appropriate PFAS removal actions are taken and also allows EPA to enforce against potentially responsible parties. However, it is important to consider the implications or unintended consequences of a

⁴ ASDWA, ACWA and ASDWA Recommendations Report: Contaminants of Emerging Concern Workgroup, May 2019, available online at: <https://www.asdwa.org/asdwa-acwa-report-on-contaminants-of-emerging-concern-2019/>

hazardous substance designation for disposal of water treatment plant residuals and biosolids. Since PFAS has already entered the water cycle, removal of the substances at the drinking water treatment plant or at the wastewater treatment plant will create media, brines, and/or biosolids that have high concentrations of PFAS. With a CERCLA hazardous substance designation, there could be unintended consequences that hold public utilities potentially liable for cleanup costs, particularly where biosolids from the treatment process containing PFAS have been beneficially land applied for their fertilizer value. Removing these chemicals from drinking water or from wastewater influent/effluent requires advanced treatment techniques such as granular activated carbon (GAC), ion exchange (IX) or reverse osmosis (RO). These treatment methods are prohibitively expensive for the volume of water that needs to be treated and it remains unclear how and where to dispose of the PFAS-contaminated concentrate generated from these processes. This could potentially limit drinking water treatment options and place a heavy burden on drinking water and wastewater systems, particularly small systems, for the responsibility of not only removing these chemical pollutants from the waters, but also disposing of the hazardous waste in accordance with federal law. It's important to consider the unintended consequences of such a designation. One way to address this would be to stagger the effective dates for various provisions, for example, right-to-know and monitoring and reporting requirements could go into effect in year one to better characterize the scope of the problem and provisions to address disposal issues could be deferred for an additional period of time.

The Water Quality Standards (WQS) provisions in the CWA can be another tool to address PFAS. The WQS establish beneficial uses of a water body, including public and private water supply, and numeric and narrative criteria for hundreds of potential contaminants. These standards support source water protection and help address impacts of discharges upstream.

EPA has not developed WQS for PFAS, once again leaving states to produce these on their own.

4. Strengthen TSCA Requirements

Creating a hazardous substance designation under CERCLA, developing WQS under CWA or setting an MCL under SDWA, are all single approaches that can help remove existing or legacy PFAS from the environment but none of these actions will “solve PFAS” on their own. Reducing human exposure to PFAS will take multiple efforts through all applicable statutes. In order to fully address PFAS, actions under TSCA are needed to reduce or eliminate the introduction of these chemicals to the environment and place the responsibility on the manufacturers and producers of PFAS. Once these chemicals have been released to water or the broader environment, it is too late for states and water suppliers to take proactive and preventative source water protection measures. Instead, water suppliers are left to bear the burden of very costly treatment facilities.

Some PFAS have been subject to risk management action under TSCA, including: 1) a 2002 Significant New Use Rule (SNUR) to require notification to EPA before any future manufacture (including import) of 75 PFAS chemicals specifically included in the voluntary phase out of PFOS by 3M that took place between 2000 and 2002⁵, 2) a 2007 SNUR on 183 PFAS chemicals believed to no longer be manufactured (including imported) or used in the United States⁶, and 3) a 2015 SNUR to require manufacturers of PFOA and PFOA-related chemicals and processors of these chemicals to notify EPA at least 90 days before starting or resuming

⁵ Federal Register Vol. 67, No. 236, December 9, 2002; <https://www.govinfo.gov/content/pkg/FR-2002-12-09/pdf/02-31011.pdf>

⁶ Federal Register Vol. 72, No. 194, Tuesday, October 9, 2007; <https://www.govinfo.gov/content/pkg/FR-2007-10-09/pdf/E7-19828.pdf>

new uses of these chemicals in any products⁷. Additionally, the TSCA New Chemicals program reviews alternatives for PFOA and related chemicals before they enter the marketplace.

However, there are authorities the agency could and should use under TSCA⁸ to gather information from industry that could inform a prioritization effort under the existing chemicals program and if deemed appropriate, initiate a risk evaluation on PFAS chemicals. EPA has the authority to require manufacturers or processors of chemicals and mixtures to conduct testing to evaluate the health and environmental effects of such chemicals. EPA can also require that manufactures and processors of chemicals keep records and report on the identity of those chemicals, their use, production volume, byproducts, health and environmental effects and exposure, and other data. EPA should use these mechanisms in TSCA to gather the data needed to initiate a prioritization process under the existing chemicals program, which under statutory process will prioritize PFAS chemicals that are stored near drinking water sources. Additionally, ASDWA recommends Congress direct EPA to organize existing data on PFAS collected under TSCA or other relevant statutes in a report and release it to Congress, States, and other stakeholders so that we can begin to fill the significant data gaps on health and environmental effects of PFAS.

5. National Focus on Research and Data Needs

In order to make sound regulatory decisions at the state and federal level to address PFAS, additional occurrence data is needed. Whether the data is collected through SDWA mechanisms or from another federal agency, such as USGS, any national study on PFAS occurrence in drinking water or ambient water must include a plan for risk communication to the

⁷ 40 CFR Part 721; <https://www.regulations.gov/document?D=EPA-HQ-OPPT-2013-0225-0001>

⁸ 15 U.S.C. §2603 and 15 U.S.C. §2607

public and to water systems before, during, and after sampling. The communications plan would need to include protocol for communicating to the public when PFAS is found in a drinking water source so as not to cause widespread public panic or alarm and premature or unnecessary abandonment of drinking water sources. If PFAS is found at low levels, how should a state and a water system respond? Will treatment need to be installed? What if sampling finds significant occurrence for a substance with no existing or very little health effects data? The public will rightfully demand to know if the water coming out of their taps is safe to drink or in the case of ambient water, if they can safely use that water body for recreation or consume fish caught from waters with PFAS detection. These questions and any others are not a reason to cease work to identify PFAS occurrence in water, but they are important considerations that must be thought through before commencing a national or state-level PFAS sampling program.

Aside from additional occurrence research, other needs include developing a total organic fluorine method for screening purposes and developing and approving laboratory methods for PFAS for drinking water, groundwater cleanup, discharges under the National Pollutant Discharge Elimination System (NPDES), and biosolids. There is a need to define and approve basic laboratory methods and a need to develop laboratory capacity for PFAS testing. Adequate, quality laboratory services are necessary to developing data sets for PFAS occurrence and conducting essential studies. Currently there is a lack of laboratory capacity and some regions do not have an accredited laboratory that can perform PFAS testing. Finally, a national monitoring program will require substantial funding.

ASDWA supports the development of a National Task Force and Research Agenda for contaminants of emerging concern. Several significant data gaps include the lack of data on the exposure of the public to potentially harmful drinking water contaminants, the health effects of

such contaminants, lack of treatment technique efficacy, design, and construction standards, and a lack of analytical methods for such contaminants which creates significant challenges for states and federal agencies to make appropriate regulatory decisions on these contaminants. Under the SDWA, the timelines for data collection, research, analysis, stakeholder and public input, and regulatory or policy decision-making often take decades. This is not an efficient or effective process to address the emerging contaminants that are being detected at increasingly low levels. An effort to develop a work group to advance a national agenda for managing emerging contaminants in water supported by a national research agenda could help fill the gap in SDWA on rapidly emerging contaminants. ASDWA and ACWA, recognized this need in the industry which lead to the development of the previously mentioned report which includes an evaluation of federal points of involvement and possible intervention under existing federal laws for contaminants with potential exposure routes through drinking water and the broader environment. ASDWA would like to recommend that the potential work group should include a diverse group of state and industry stakeholders who are already doing this work on a state- or utility-level scale. Broadening the workgroup beyond federal agency representatives will ensure a stronger agenda that considers multi-level needs and actions. A diverse workgroup should include federal, state, and industry members that represent varied geographies, populations, and levels of engagement on emerging contaminant research and regulation. Any effort to build a national work group and research agenda needs to have additional funding authorized and appropriated. This work is important and would have a real impact on informing future policy and regulatory decisions that protect public health and the environment. This work deserves funding and federal collaboration.

6. Addressing Costs, Funding, and Additional Challenges

Protecting public health and addressing PFAS comes at significant costs to states, water systems, and ultimately the public. Unregulated contaminants are having a significant impact to core activities in the state drinking water programs. State and territorial drinking water programs are chronically underfunded, which limits their ability to protect public health. Federal support for the Public Water System Supervision (PWSS) Program and the set-asides from the Drinking Water State Revolving Fund (DWSRF) have remained flat for the past decade, forcing state funds and/or water systems fees to attempt to make up the difference. When accounting for years of flat funding, inflation, and increased non-regulatory demands such as PFAS, ASDWA estimates a total funding gap of up to \$500 million or 73.3% between available and needed resources for comprehensive public water supervision programs across the United States⁹. In the absence of EPA leadership and additional federal funding, states are having to divert FTEs away from essential and regulatory programs to work on PFAS related activities.

There are also significant costs to water systems. Monitoring costs for PFAS are approximately \$350 to \$500 per sample. Recently, state sampling at a water system in Newberry Township, York County, PA cost \$19,800 to collect and analyze samples from 10 wells and 6 entry points to the water distribution system. Sampling and analytical costs are extremely high for PFAS due to the limited number of accredited labs (approximately 12 labs nationwide), and the high potential for cross contamination due to the prevalence of these substances in personal care products and in our environment (i.e., several quality assurance/quality control samples are required for each sampling site). Then there are the treatment costs, estimated to include capital costs of \$500,000 - \$1 million per well for granular activated carbon treatment. A report

⁹ ASDWA, ASDWA's Beyond Tight Budgets Report, 2018, available online at: <https://www.asdwa.org/wp-content/uploads/2018/12/Beyond-Tight-Budgets-2018.pdf>

prepared for a large water system in North Carolina evaluating costs to install advance treatment for PFAS, including GenX, and other emerging contaminants estimated \$99 million to install either reverse osmosis or ozone and additional filtration. For reverse osmosis treatment, operation and maintenance (O&M) costs, including replacement of membranes, were estimated to be \$2.9 million annually (at a flow of 16 million gallons per day) and the 25-year net present worth of O&M costs to be \$59 million¹⁰. Ongoing O&M costs even for small systems that install carbon filtration could be \$10,000 - \$20,000 per year.

During investigation and remediation of PFAS contamination, states have not and will not always be able to identify a responsible party. This means water suppliers and their customers will bear the cost of treatment. It has been suggested the Clean Water and Drinking Water State Revolving Funds (SRFs) can provide grants to water systems for PFAS treatment. EPA provides capitalization grants to states to finance state-level revolving funds, which, in turn, make loans for drinking water infrastructure projects. SRF dollars are intended to provide low-interest loans to water systems to finance their water infrastructure projects. Water systems repay these loans to the state, and the interest from the loans ensures a revolving loan fund. Only a percentage of the funds can be provided as principal forgiveness or negative interest loans. Although it is important for states to have the ability to provide subsidy for disadvantaged communities or to use subsidies to encourage innovative or necessary projects, using large percentages of the capitalization grants for subsidy can impede program growth and impact the ability to borrow as a state DWSRF program. Every dollar that is used for subsidy is a dollar that is taken out of the state revolution forever. Additionally, there are competing priorities for the limited subsidy available at the states, such as lead and aging infrastructure.

¹⁰ "Advanced Treatment Options for the Northwest Water Treatment Plant, Prepared for: Brunswick County Public Utilities, Brunswick County, NC by CDM Smith; April 2018. Available online at: <http://www.brunswickcountync.gov/wp-content/uploads/2018/04/CDM-Smith-Brunswick-Final-Report-April-2018.pdf>

Alternate funding sources for PFAS remediation in the environment as well as water treatment will be needed. In situations where no responsible party has been found or the determination of a responsible party is pending, it would be beneficial to have a funding source for rapid response to initiate clean up and mitigation in order to limit exposure without having to wait for the identification of a responsible party. There are existing programs this could be modeled after, such as funds in place for leaking petroleum storage tank removal and petroleum release cleanup or the Superfund Trust Fund. PFAS manufacturers, processors, and/or importers could pay into a fund through an excise tax or other fee and funds would then be available to address PFAS contamination. This fund could be used by states or individual water systems to tackle emerging contaminants without having to absorb those costs into traditional funding programs.

Of the 52,000 community water systems in the United States, just 8 percent (4,132) serve 82 percent of the population¹¹. Furthermore, 56 percent of the water systems are very small and serve fewer than 500 people. From a financial perspective, the median annual revenue of systems serving fewer than 500 people is about \$25,000. Small water systems will likely face the biggest burden in addressing PFAS. Not only will their rate payers likely face significant increases in their water rates if filtration or advanced treatment is required to remove PFAS from drinking water, there is often a lack of technical and/or managerial capacity to address emerging contaminants at these systems. There is a need for small drinking water systems to have access to technology and expert personnel to address PFAS. Although partnerships to increase the technical, managerial and financial capacity of small systems and consolidation of systems to create economies of scale can be great options to overcome the barriers small and very small systems face, the fact is partnership and consolidations take years, even a decade, to develop

¹¹ EPA, National Characteristics of Drinking Water Systems Serving 10,000 People or Fewer, July 2011. Available online at: <https://www.epa.gov/sites/production/files/2015-12/documents/epa816r10022.pdf>

and implement. Additionally, many of these systems are isolated and may be 10 to 20 or more miles to the next drinking water system and 50 to 100 miles to a water system that can be a technical resource. Consideration of small water system impacts will be important for any work to address PFAS moving forward.

Conclusion

ASDWA applauds Congress for moving the ball forward with the introduction of several bills in both the House and Senate. 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. ASDWA appreciates that introduced Senate legislation looks beyond developing an MCL and focuses on broader approaches to reducing PFAS in the environment. EPA must 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. In order to accomplish this, it's vital that funding be authorized and appropriated to complete the work necessary to make accurate regulatory and policy decisions. 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. ASDWA looks forward to continuing the PFAS dialogue with both Congress and our Federal agency partners to develop workable

solutions that respect the processes necessary for sound decisions on how best to solve the PFAS problem.