Association of State
Drinking Water Administrators

April 25, 2022

Dr. Jennifer McLain
Director, Office of Ground Water and Drinking Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

**Re: Proposed PFAS National Primary Drinking Water Regulation (NPDWR) Federalism Consultation (EPA-HQ-OW-2022-0114)**

Dear Dr. McLain,

The Association of State Drinking Water Administrators (ASDWA) appreciates the opportunity to provide early input through the Federalism Consultation on the proposed National Primary Drinking Water Regulation (NPDWR) for per- and polyfluoroalkyl substances (PFAS). ASDWA is the professional association that serves the leaders (and their staff) of the 57 state and territorial drinking water programs. Formed in 1984 to address a growing need for state administrators to have national representation, ASDWA has become a respected voice for states with Congress, the Environmental Protection Agency (EPA), other Federal agencies, and professional organizations in the water sector.

ASDWA would like to thank the Office of Ground Water and Drinking Water (OGWDW) for its continued engagement on such an important and precedent-setting rulemaking. Without a PFAS NPDWR, some states are figuring out how to appropriately use EPA's health advisory levels for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) or have moved ahead to set their own state-level standards. This regulatory action by EPA is a step in the right direction to provide national leadership and consistency for assessing and addressing PFAS in drinking water throughout the country.

As EPA moves forward with these efforts, ASDWA would like to reiterate the importance of including and involving state drinking water programs and other stakeholders in each step of the decision-making process for developing the proposed regulation, the final regulation, and other potential regulations for additional PFAS in the future. ASDWA is pleased to provide these initial thoughts on the Agency's work to develop a NPDWR and looks forward to providing more detailed comments once EPA releases a proposed rule.

**General Comments on Rulemaking**

ASDWA supports the regulatory development process mandated by the Safe Drinking Water Act (SDWA). Drinking water regulations must be developed using the best available peer-

reviewed science and maximizing health risk reduction at a cost that is justified by the benefits. ASDWA continues to be appreciative of EPA's significant effort to appropriately regulate PFOA and PFOS (and likely additional PFAS at some point).

EPA has noted the Agency's intention to update and lower the health advisory levels (HAL) of PFOA and PFOS ahead of finalizing a NPDWR based on new science currently being reviewed by the Agency's Science Advisory Board PFAS Review Panel. ASDWA is supportive of acting based on sound science but has concerns regarding public perception and risk communication if an updated and lower HAL were put into place that is different (could be lower) than the NPDWR. Communicating the differences between drinking water regulations and HALs to the public can be challenging. HALs are health-based and are not required to balance the benefits and costs like the regulations. Since 2016, the current EPA PFAS HALs have become de-facto Maximum Contaminant Levels (MCLs) in the eyes of the public. HALs are supposed to be non-regulatory and non-enforceable. If EPA determines a lower HAL is needed, ASDWA recommends that EPA work with states to ensure extensive risk communication resources are in place before releasing any new HAL.

Multiple states have expressed concerns with the increased complexity of a new and lower HAL for PFOA and PFOS while the sector is waiting for the first PFAS NPDWR. Health advisories do not consider the feasibility of analytical methods and treatment, and the cost of treatment to remove PFAS at increasingly lower levels. This will likely cause confusion if EPA later proposes an MCL with a different level. If EPA publishes a new lower HAL, the Agency must provide additional information and messages that clearly explains what this new level means for public health protection. This additional information must clearly state what states and water systems will be expected to do in response to levels that exceed the HALs, including considerations for interim use of alternative water sources, such as bottled water for either the general public or vulnerable subpopulations therein. In developing these recommendations and informational materials, ASDWA recommends that EPA consider the significant societal, economic, and environmental disruptions and consequences that result from widespread bottled water use. Additionally, ASDWA is unaware of any bottled water vendors who are certified to be PFAS-free. The usage of bottled water does not mean there is zero risk of PFAS exposure and EPA should take this into consideration when developing risk communication materials.

ASDWA continues to recommend that EPA consider including four additional PFAS in this rulemaking, specifically perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA), and perfluorodecanoic acid (PFDA). If the science, occurrence, and cost/benefit analysis support regulating these PFAS under the SDWA process, ASDWA recommends that EPA do so now rather than waiting to initiate a separate rulemaking. ASDWA pushed for the inclusion of these four additional PFAS in previous comments made to the Agency for the Fourth Regulatory Determination.

The following factors (as described in the *ECOS Processes & Considerations for Setting State PFAS Standards White Paper*) continue to support ASDWA's recommendation for including these additional compounds:

- PFOA, PFOS, PFNA, PFHxS, and PFHpA were included in EPA's third round of the Unregulated Contaminant Monitoring Rule (UCMR3). These PFAS have been researched to the extent that some states have developed (or are developing) guidelines or regulations. Though PFHpA has minimal toxicity data available and PFDA was not in UCMR3, some states are regulating both compounds based on close structural similarity.
- These four additional compounds have similar chemical structures to PFOA and PFOS.
- These compounds are often found together in the environment and have characteristically similar bio-accumulative patterns and fate and transport mechanisms.
- Human exposures to these PFAS often are correlated, making it difficult to differentiate the contributions of the individual PFAS to health effects observed in humans.
- The toxicity for these compounds is assumed to be additive with similar toxicological effects, long serum half-lives in humans, and similar health effects in humans.
- These compounds have similar detection limits for EPA Methods 537.1 and 533, and there is a minimal cost difference between analyzing one or multiple compounds. Therefore, regulating and requiring testing for more analytes does not increase the cost and lessens the potential for the need to resample in the future.
- These compounds have high (and similar) removal rates for known treatment methods such as granular activated carbon, powdered activated carbon, ion exchange resins, nanofiltration, and reverse osmosis.

**A Holistic Approach for PFAS Management**

ASDWA has consistently recommended that EPA use a holistic lifecycle approach that includes close coordination with other Federal agencies to administer all possible Federal statutory regulatory authorities to assess, address, and remove PFAS or prevent PFAS from entering the environment (and drinking water sources) from all contributing media. This includes consideration of impacts from disposal and incineration under each regulatory authority to ensure that the responsibility and cost for removing PFAS are not passed on from one media to another.

ASDWA recommends that EPA use all the Agency's authorities, both regulatory and non-regulatory, to prevent PFAS from entering drinking water sources. Using a holistic approach to reduce or eliminate the use of PFAS, and to prevent these compounds from entering the environment and drinking water sources throughout any part or all of the chemical's lifecycle - from manufacturing through processing, distribution, and disposal - is much more effective and less expensive than having to remove them once contamination has occurred. Protecting drinking water sources (and preventing contamination) is essential for sustaining safe drinking water supplies, protecting public health and the economy, and has many additional environmental benefits.

ASDWA continues to be appreciative of EPA's work to address PFAS under the Agency's PFAS Strategic Roadmap. The Agency's approaches to "get upstream of the problem" and to "hold polluters accountable" is paramount to the long-term protection of both surface water and ground water sources of drinking water. In this regard, EPA must expedite the Agency's work to

address PFAS in wastewater and stormwater discharges, including the development of rulemakings for PFAS effluent limitation guidelines for the organic chemicals, plastics and synthetic fibers, and metal finishing and electroplating point source categories, as well as studying PFAS discharges from landfills, paper and textile mills, and electrical and electronic components.

Additionally, the Agency should work to quickly finalize its guidance for states on how to address PFAS in National Pollutant Discharge Elimination System (NPDES) permits; the Draft Method 1633 for labs to analyze samples for surface water, ground water, and other media; and the national recommended ambient water quality criteria for PFAS. States are waiting for EPA assistance and guidance in these areas, as some want to require monitoring for pollutants in their surface waters, and some want to develop their own water quality criteria. Further Clean Water Act (CWA) actions should continue to be taken simultaneously with the Agency's other efforts. PFAS will continue to be a problem for drinking water systems so long as the sources of PFAS contamination are not addressed and PFAS users are not held accountable.

**PFAS Treatment**

When considering what PFAS compliance treatment technologies should be included in a NPDWR, ASDWA recommends that EPA allow flexibility in the selection of a specific treatment technology (or technologies) for compliance. The treatments that may be most effective can vary depending on water quality parameters and source water chemistry. In many cases, pilot testing is needed in order to determine the best treatment technology for a system. With the likely need for pilot testing, and then appropriate oversight of design and construction, small systems will have significant challenges capacity when compared to their larger counterparts, whether it be technical, financial, or managerial knowledge and skills to work through the piloting, design, construction, and operation of PFAS treatment technologies.

Primacy agencies will need to review design details and construction plans and specifications for each applicable treatment technology including granular activated carbon (GAC), ion exchange (IX), and reverse osmosis (RO). States will also need assistance with determining the efficacy and simultaneous compliance concerns as new IX resins or other adsorbent resins specifically designed to remove PFAS enter the market, along with other new and innovative treatment technologies. These reviews and approvals will be a significant burden for primacy agencies.

As EPA is aware, treatment efficacy varies widely depending on which PFAS are being targeted for removal and the numerical target. ASDWA recommends that EPA review our *PFAS MCLs White Paper* that outlines the different considerations for establishing MCLs. Below are considerations outlined in this paper with respect to specific treatment technologies.

- Granular Activated Carbon (GAC): More studies are needed to confirm GAC treatment effectiveness for shorter chain PFAS or to identify complementary technologies (adsorption media) to supplement GAC removal capability.
- Ion Exchange (IX): EPA should acknowledge that the efficiency of IX for removing PFAS depends upon the source water chemistry and co-contaminant concentrations

(including organic and inorganic compounds) that may significantly reduce the IX PFAS removal capacity and may also require pretreatment. Protocols are needed for removing co-contaminants such as uranium and arsenic that may require additional treatment and pretreatment to reduce fouling if iron is present.

- Reverse Osmosis (RO): The high cost of RO treatment systems, along with the need for pretreatment and the need to dispose of the concentrated waste stream precludes the use of RO for most water systems. EPA should consider these limitations in its analysis of costs for the proposed rule, as part of its considerations of treatment options.

Finally, EPA must also consider the barriers and challenges of disposing of spent media, particularly if PFOA and PFOS are eventually designated as hazardous substances under CERCLA. A significant regulatory consideration for the NPDWR will be the costs of the disposal of the spent media. EPA should provide detailed guidance for media regeneration and disposal options to allow maximum flexibility for water systems to assess costs and ensure proper disposal of spent materials in a manner that avoids further environmental contamination.

**Development of a Combined or Individual Maximum Contaminant Level**

ASDWA continues to recommend that EPA thoroughly consider state standards and guidelines with lower PFAS levels than EPA's current Health Advisory Level (HAL) of 70 parts per trillion for combined concentrations of PFOA and PFOS. Currently, six states (Massachusetts, Michigan, New Hampshire, New Jersey, New York, and Vermont) have drinking water regulations in place, and a further four (California, Connecticut, Illinois, and Minnesota) have guidance, health advisories, or action levels that are different from EPA. In addition, another seven states (Delaware, Maine, Pennsylvania, Rhode Island, Virginia, Washington, and Wisconsin) are in the process of developing regulations for PFAS. ASDWA recommends that EPA review each state's data and information used for setting their drinking water regulations, health advisories, or guidelines as this will help the Agency consider whether it would be more impactful to use a combined MCL for two or more PFAS compounds (if more are added beyond PFOA and PFOS), or individual MCLs for each compound. In addition, EPA should continue to rely on the best available science on health effects as the science evolves and consider existing state regulations for determining whether to require a Tier 1 or Tier 2 water system public notification for PFAS as an acute or chronic contaminant and for non-transient and transient community water systems.

**EPA's Consideration of a PFAS Treatment Technique Rule**

ASDWA recommends that EPA engage with states and stakeholders as the Agency considers proposing a PFAS treatment technique rule. While ASDWA understands that EPA's consideration for a treatment technique could provide an additional benefit by allowing water systems to remove PFAS beyond just PFOA and PFOS, implementation of a PFAS treatment technique raises several significant areas of concern and confusion. Multiple rules use treatment techniques, such as the Surface Water Treatment Rule (SWTR), the Stage 1 and Stage 2 Disinfectants and Disinfection Byproducts Rules, the Ground Water Rule (GWR), and the Lead and Copper Rule (LCR).

The SWTR requires a specific level of treatment, via filtration and inactivation, for a defined subset of public water systems with an identified risk. Compliance with the rule is determined using surrogate parameters (turbidity, disinfectant residual, Concentration times Time [CT] calculations for inactivation) in order to avoid the unreliable and variable microbial testing that would be required for monitoring viruses, protozoan cysts, etc. Similarly, the GWR requires a 4-log treatment of viruses for identified at-risk systems. As with the SWTR, compliance is determined using a surrogate, in this case, disinfectant residual monitoring.

However, at this time, it is unclear how a treatment technique, like those mentioned above, would be used for PFAS. If EPA opted to use a treatment technique, it would be helpful to understand how the Agency will identify the subset of public water systems that are at risk. Currently, there does not appear to be a surrogate for monitoring PFAS. A water system could have no detectable level of PFOA or PFOS but still have other PFAS within its source water. EPA's two verified methods currently cover 29 PFAS, so systems already testing for PFOA and PFOS would be able to determine if other PFAS were present in their source waters with a limited additional financial burden.

If EPA's goal for a treatment technique is to address additional PFAS beyond PFOA and PFOS, the Agency must consider the current limitations, as well as limitations that may emerge during the regulatory development process based on ongoing research. The low detection limits for the 29 PFAS are close to the limits of the currently available treatment. As mentioned above, the length of PFAS chains can greatly impact the effectiveness and longevity of both GAC and IX. A system could still be removing PFOA and PFOS to acceptable levels, but no longer be able to address shorter-chain PFAS. This highlights the need for further research to find innovative and effective treatment techniques and protocols to better address the entire suite of PFAS. Implementing a treatment technique with the methods currently available could result in the installation and maintenance of costly and unnecessary drinking water treatment which takes resources from equally important water system priorities such as replacing lead service lines and updating aging infrastructure. If EPA determines it is appropriate to implement a treatment technique, ASDWA recommends that the Agency provide significant guidance for how systems should choose a treatment based on their source water characteristics and chemistry, and how they should maintain these systems, including how often a system should change or regenerate the media used.

**PFAS Monitoring**

ASDWA has consistently recommended that a monitoring approach similar to the Standardized Monitoring Framework for regulated volatile organic chemicals or synthetic organic chemicals (VOC or SOC) under 40 CFR 141.24(h) as a model for the PFAS NPDWR. For example, the states with PFAS MCLs developed their requirements using a VOC or SOC framework that typically starts with four quarters of initial sampling at each entry point to the distribution system for their community and non-transient non-community water systems.

ASDWA has also consistently recommended that EPA include an option for states to utilize monitoring waivers in the proposed regulation for PFOA, PFOS, and other PFAS. Using the VOC or SOC approach, monitoring frequency would be dependent on whether the contaminant has

been detected above a certain "trigger level" and/or detected above an MCL, and whether a waiver from monitoring has been granted by the state. This allows states the flexibility to alleviate monitoring burdens for appropriate water systems while maintaining public health protection. While there is a substantial administrative burden and cost for states to process waivers, many states currently utilize waivers and are familiar with the process.

Finally, EPA must work to ensure that there is adequate certified laboratory capacity to conduct compliance sampling across the country and that certified laboratories have the capacity to analyze for PFAS. In addition, new validated methods for additional PFAS for both drinking water and other media continue to be needed to provide consistent sample test results for many different PFAS at extremely low minimum reporting levels for the large and growing number of PFAS being found in the environment.

**Costs and Benefits Considerations/State Burden**

Implementing a new NPDWR for PFAS will require significant state staff time and resources. EPA must include increased state staff positions (full-time equivalents-FTEs) and the training needed for those staff to implement these new standards and to ensure system compliance within any cost/benefit analysis. Additionally, states that have conducted sampling programs have reported that staff must spend a considerable amount of time reviewing lab reports for quality control. At present, those state primacy agencies that are addressing PFAS are diverting resources from core drinking water programs (including inspections, technical assistance and training, permitting/plan approvals, and compliance/enforcement) to do so.

To implement these additional regulatory requirements effectively, state agencies will need adequate funding. One of the primary Federal funding sources for state drinking water programs is the Public Water Supply Supervision Program (PWSS). Over the past decade, this funding has been flat except for two small increases in PWSS funding over the past two years. Inflation over the past decade has eroded this funding by approximately 18 percent, and this flat funding has gradually eroded the funding for states' core programs. Recognizing that Congress controls Federal funding, without additional funding, both the core program and the additional work to address PFAS will suffer.

Beyond direct state staffing costs, the Agency must also estimate the costs of assistance for sampling and treatment including contract assistance and database (technology) funding needs for tracking sampling and compliance. Some state costs include the shipping and analysis of water system samples for PFAS which vary considerably from state to state. States that have completed a comprehensive statewide PFAS sampling program and have occurrence data are better able to estimate the total amount of capital and operating costs for PFAS treatment needed for all PWSs in the state. ASDWA recommends that EPA use the data from these states to help inform the cost/benefit analysis.

ASDWA recommends that EPA consider the variation in costs that a system will accrue based on the source waters and water quality parameters within a water system and how that impacts the effectiveness and longevity of different treatment processes. In this same vein, the Agency must consider the costs associated with the handling and disposal of residuals from each type

of treatment EPA considers and base these figures on the volume and frequency of the materials used. These calculations should include considerations for moving PFAS contamination from one media to another. For example, disposal at landfills may also cause PFAS contamination in groundwater from leaching.

As noted above, the addition of PFOA and PFOS as hazardous substances under CERCLA will require additional considerations for the cost of spent media regeneration or disposal and the associated potential environmental impacts. EPA's cost estimates should also consider how to account for those systems that are able and will choose to blend, interconnect with another system, or take contaminated wells offline rather than install treatment.

The Bipartisan Infrastructure Law (BIL) provides a unique opportunity for meaningful investment in the U.S. drinking water infrastructure which will help to address this issue. In particular, the $9 billion in funding to address PFAS and other emerging contaminants through the State Revolving Fund and the Water Infrastructure Improvements for the Nation Act's Small and Underserved Communities Emerging Contaminants Grant Program will go far in helping communities across the country tackle PFAS, but more will be needed beyond these initial investments. EPA must also consider that the smallest systems will need additional technical assistance to prepare for and obtain funding to install the appropriate PFAS treatment technology. Technical assistance will also be needed for operation and maintenance training and to develop rate structures to support the operation and maintenance costs. These engineering, funding, and managerial challenges are difficult for small systems and their operators, due to a lack of resources and expertise.

States are also ready and willing to work with the Agency to prioritize disadvantaged communities and individuals most impacted by PFAS contamination as we work together to implement projects with this funding and meet the Biden Administration's ambitious Justice40 goals. The BIL funding provides a significant boost in available funding for capital construction but does not cover operating and maintenance costs.

**Public Communication**

ASDWA and its members have consistently recommended that EPA develop robust risk communication tools and resources. ASDWA recognizes that EPA is already working on materials for UCMR5 and ASDWA recommends that EPA expand upon these resources and release them as soon as possible, but at minimum prior to the proposal of the NPDWR for PFAS. If needed, these risk communication tools and resources could be updated between the proposed and final NPDWR.

The public needs to understand why the water system is monitoring for PFAS and why they are taking action (or not) when PFAS are detected at different levels above or below an MCL. Risk communication about these actions should include information about known versus unknown health risks from PFAS, and general characteristics, such as if they are bioaccumulative and/or highly persistent in the environment.

The public struggles to understand why some states have different (and lower level) PFAS standards and guidelines and why they require different water system response actions when PFAS are found. Some states and water systems are treating PFAS as acute contaminants and issuing "do not drink" orders for compounds found above a certain level and providing bottled water until treatment can be installed, while other states and water systems are treating PFAS as chronic contaminants and advising customers (or a subset of customers) to continue using the drinking water while the water system works on installing treatment. EPA's development of these risk communication tools and messages should work to provide clarity on why water systems are sometimes taking different actions to address these compounds, and how to communicate their actions and the associated PFAS health risks to the public.

ASDWA continues to recommend that the Agency develop risk communication materials that are needed now, in advance of the proposed NPDWR that:

- Provide specific information and messaging for water systems to share with their customers and with the public if they find PFAS in their drinking water.
- Provide clear direction for consumers to reduce their risk from PFAS in drinking water, if necessary, as well as reducing exposure via other pathways.
- Provide information about EPA's role and what the Agency is doing to assess and address PFAS in drinking water and other media, and to keep it out or remove it from the environment.
- Compile, leverage, and reference existing content from other resources including the new Interstate Technology and Regulatory Council (ITRC) document, "Risk Communication Toolkit for Environmental Issues and Concerns,"
- Explain what is known and unknown for specific PFAS and their associated health risks, including information about what a toxicity assessment is, what a health advisory level and maximum contaminant level (MCL) is and how they differ, and the use of (or lack of) health effects studies for decision-making.
- Provide some regulatory context for the public to understand why there may be different requirements and actions by different states and water systems for various PFAS.
- Explain the relative risk from drinking water compared to all PFAS exposure pathways.

**Additional Research Needed**

ASDWA has consistently highlighted the need for more research on all PFAS to make informed regulatory decisions. Up to this point, most studies have focused solely on PFOA and PFOS, which leaves a severe data gap for the thousands of other PFAS compounds. Monitoring data from UCMR 5 will help fill in the gap on occurrence for the 29 PFAS included, but there are still many unknowns regarding PFAS beyond PFOA and PFOS. Robust information on health effects, analytical methods, and treatment efficacy are needed as we look to address additional PFAS in drinking water and other media.

Again, ASDWA supports EPA's goals outlined in the Agency's PFAS Strategic Roadmap. ASDWA requests that EPA prioritize the following research components and activities from the roadmap to ensure maximized support for drinking water initiatives:

- Update the guidance on destroying and disposing of certain PFAS and PFAS-containing materials;
- Develop and validate methods to detect and measure the full spectrum of PFAS in the environment;
- Advance the science to assess human health and environmental risks from PFAS; and
- Expand research on current and emerging PFAS treatment.

Additionally, ASDWA members have identified the need for information regarding the additive health effects of multiple PFAS. Results from some state monitoring efforts have shown that it is more common to encounter multiple analytes versus a single analyte when PFAS are present. Finally, there is substantial interest in destructive technologies that could avoid the waste disposal burden that accompanies PFAS removal technologies. EPA should prioritize this type of research as we work to avoid moving PFAS from one media to another.

ASDWA thanks EPA for the opportunity to provide comment early in the process as the Agency works to address PFAS in drinking water. As co-regulators and the boots on the ground, it is vital that EPA collect state input throughout the process. We look forward to further engagement with the Agency on this critical rulemaking.

Sincerely Yours

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