Water & Health Advisory Council

**July 21, 2025**

Steven B. Elmore
Chair, National Drinking Water Advisory Council
Office of Ground Water and Drinking Water
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

**RE: National Drinking Water Advisory Council (NDWAC) Consultation on Revisions to the PFAS National Primary Drinking Water Regulation (NPDWR)**

Dear Mr. Elmore,

Thank you for the opportunity to provide feedback on the proposed PFAS National Primary Drinking Water Regulation (NPDWR). We are a multidisciplinary group of professionals that care deeply about water quality, the environment and public health. We have a broad range of expertise, with backgrounds in water utility management and finance, water treatment, toxicology, public health, drinking water regulation development, and risk analysis.

Our council supports science-based drinking water policy and management that prioritizes providing reliable, and safe drinking water for the most people possible. With this in mind, we have concerns with the PFAS maximum contaminant (MCLs) levels, and the rationales provided for them. Our concerns center on:

1. The lack of clear, consistent scientific evidence on health risks from low-level PFAS exposure;
2. Substantial discrepancies between EPA's economic analysis and real-world cost estimates;
3. New findings from EPA's Fifth Unregulated Contaminant Monitoring Rule (UCMR 5) data;
4. The need to prioritize funding and regulatory efforts on higher-risk contaminants such as regrowth legionella and infrastructure; and
5. Small community challenges and needs.

We support targeted action where perfluorooctanoic acid and perfluorooctanesulfonic acid (PFOA and PFOS) contamination poses a clear risk, (i.e. in highly contaminated surface waters), but we urge EPA to adopt a more pragmatic, science-based, and equitable strategy that aligns with the Safe Drinking Water Act's goal of ensuring safe, affordable, and reliable drinking water for all communities.

However, given the EPA's substantial changes proposed to the rule and the availability of new, real-world PFAS occurrence and cost data, we believe a comprehensive reevaluation of the original rule is both necessary and justified. We ask that you continue to apply a science-based, risk- and cost-benefit analysis when approaching regulating PFOA / PFOS. Water systems face and address many known public health risks, and we must prioritize funding to the areas of highest need.

**INCONSISTENT SCIENCE & PUBLIC HEALTH IMPACTS**

The Safe Drinking Water Act requires that proposed regulations for our drinking water systems demonstrate a "meaningful opportunity for health risk reduction," which means evaluating risks to the public based on clear exposure and health impact information. As of today, expert toxicologists' opinions and advisory levels for PFAS vary by over 100,000-fold, indicating that there is no consensus regarding the toxicity of these compounds at drinking water levels. Numerous toxicologists, epidemiologists, and risk assessors worldwide have disagreed with the U.S. EPA technical review of PFOA and PFOS toxicity data.

For example, the U.S. EPA's proposed strategy for regulating PFOA and PFOS as carcinogens with an MCL Goal of zero is in direct contrast with the United Kingdom's independent science advisory committee conclusion that there is "no evidence for a link between exposure to PFASs and cancer risk." (COT, 2022, p. 24).[1] In addition they are not genotoxic so they should be assessed as threshold chemicals, with a numeric MCLG. The newly released Australian National Health and Medical Research Council concluded that the critical effect for PFOS is noncancer, and that for PFOA, cancer risks may be of concern for human health but only after exceeding a threshold level of exposure.[2] Additionally, all the noncancer health endpoints used by the U.S. EPA are based on "suggestive" evidence only. Importantly, there is still no clear evidence that exposure to low levels of PFOS / PFOA causes any human disease. Yet there is a risk of higher psychological distress and a diversion of critical resources needed for people living in PFAS affected communities.[3] We ask that the U.S. EPA take a more balanced approach to their interpretations of the potential human health risks associated with PFAS, consistent with international agencies that have developed more practical approaches that consider the significant uncertainties within the available toxicity data.

Additionally, current U.S. population PFAS exposure levels are 70 to 90% lower than they were 25 years ago (see Figure 1 below) (CDC, 2019).[4] The EPA itself assumes drinking water accounts for only a minor portion of overall PFAS exposure (via a default relative source contribution of 20%) yet proposes to place the primary regulatory burden on public water systems. Thus, it is unclear that the MCLs will have any meaningful impact on the general public's exposure levels to PFOA and PFOS.

[1] COT (2022) 'Statement on the EFSA Opinion on the risks to human health related to the presence of perfluoroalkyl substances in food'. Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment. P. 24 Available at: https://cot.food.gov.uk/sites/default/files/2022-11/COT%20PFAS%20%20Statement%20on%20EFSA%20Opinion_2022_04.22%20Acc%20V_0.pdf.

[2] NHMRC (2025a) Part 5: Fact Sheets Physical and Chemical Characteristics Per- and poly-fluoroalkyl substances (PFAS)

[3] NHMRC (2025b) Administrative Report: Review of health-based guideline values for Per- and Polyfluoroalkyl Substances (PFAS) in the Australian Drinking Water Guidelines

[4] CDC (2019) 'Fourth National Report on Human Exposure to Environmental Chemicals Updated Tables, January 2019, Volume One. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.', p. 866.

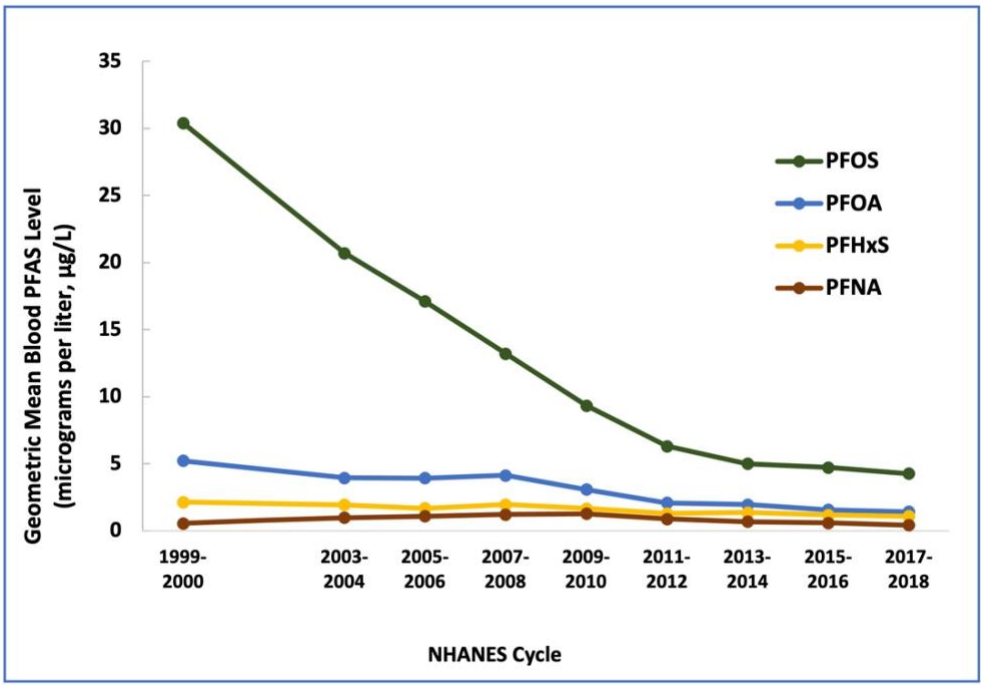


**Figure 1** – ***Geometric Mean PFOS and PFOA Serum Concentrations for the U.S. Population, CDC National Health and Nutrition Examination Survey, 1999 – 2018.***

**THE U.S. EPA ECONOMIC ANALYSIS UNDERESTIMATED REAL WORLD IMPACTS**

The U.S. EPA's estimated annual compliance cost ($755 million to $1.2 billion) substantially underrepresents real-world impacts. The American Water Works Association (AWWA) estimates that the national cost to comply with these regulations will be at least $3.8 billion annually.[5] As stated by the U.S. EPA, the Bipartisan Infrastructure Law will provide some of the necessary funding to municipalities (a total of $9 billion). However, these funds are meant to cover not only PFAS, but drinking water systems impacted by other emerging contaminants, regulated contaminants that are not being adequately addressed (e.g., lead or arsenic), and critical infrastructure and maintenance upgrades. Federal funds devoted to PFAS will crowd out support for needs that may be more pressing in many parts of the U.S. Moreover, these economic impact analyses do not account for costs associated with other programs that will be impacted by the U.S. EPA's stringent position on PFAS, such as environmental remediation programs, redevelopment, and wastewater treatment.

AWWA also worked with one of our own council members Chad Seidel, President of Corona Environmental, and Black & Veatch to review the most recent PFAS national occurrence data and better understand the associated national costs to meet the Rule expectations. Their findings highlight discrepancies between the U.S. EPA's original cost-benefit estimates and the real word data, warranting a reevaluation of the original rule. AWWA's analysis also shows that more than 7,000 entry points will need capital improvement investments to install treatment of PFAS in drinking water. This cost will total an estimated $37.1 to $48.3 billion over the next five years. The annualized cost is estimated to be $2.7 to $3.5 billion when combined with costs of operations and maintenance. This is roughly twice the U.S.

[5] https://www.awwa.org/AWWA-Articles/awwa-statement-on-proposed-pfas-drinking-water-standards

EPA's estimate as part of the final rulemaking.[6] There is no substantial identifiable benefit accruing from these costs.

**NEW UCMR 5 DATA UNDERMINES EPA ECONOMIC JUSTIFICATION**

Recent data from the U.S. EPA's Fifth Unregulated Contaminant Monitoring Rule (UCMR 5) offers the most comprehensive view of PFAS across U.S. water systems to date.[7] The U.S. EPA originally estimated that more large water systems would be impacted by PFAS occurrence than small water systems. However, according to an analysis conducted by one of our council members, Chad Seidel, and his firm Corona Environmental, more small systems are affected than EPA projected, while the overall population impacted is less than initially estimated (see Figure 2). This further erodes the cost-benefit rationale for a one-size-fits-all national standard.

Notably, the Hazard Index showed almost no unique regulatory impact. Of the data collected from more than 8,000 systems and 779 systems exceeding any portion of the rule, only 5 were affected by the Hazard Index alone. If EPA rescinds or modifies this component, the entire framework should be re-evaluated for consistency, scope, and cost assumptions.

In addition, the small number of detections above the proposed MCL do not comport with the Safe Drinking Water Acts criteria to warrant national standards. States have the authority to determine standards within their domains, if warranted.

[6] https://www.awwa.org/wp-content/uploads/Final-Technical-Memorandum-Updating-National-Cost-Estimate-for-PFAS-Standards-using-UCMR-5.pdf

[7] https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule

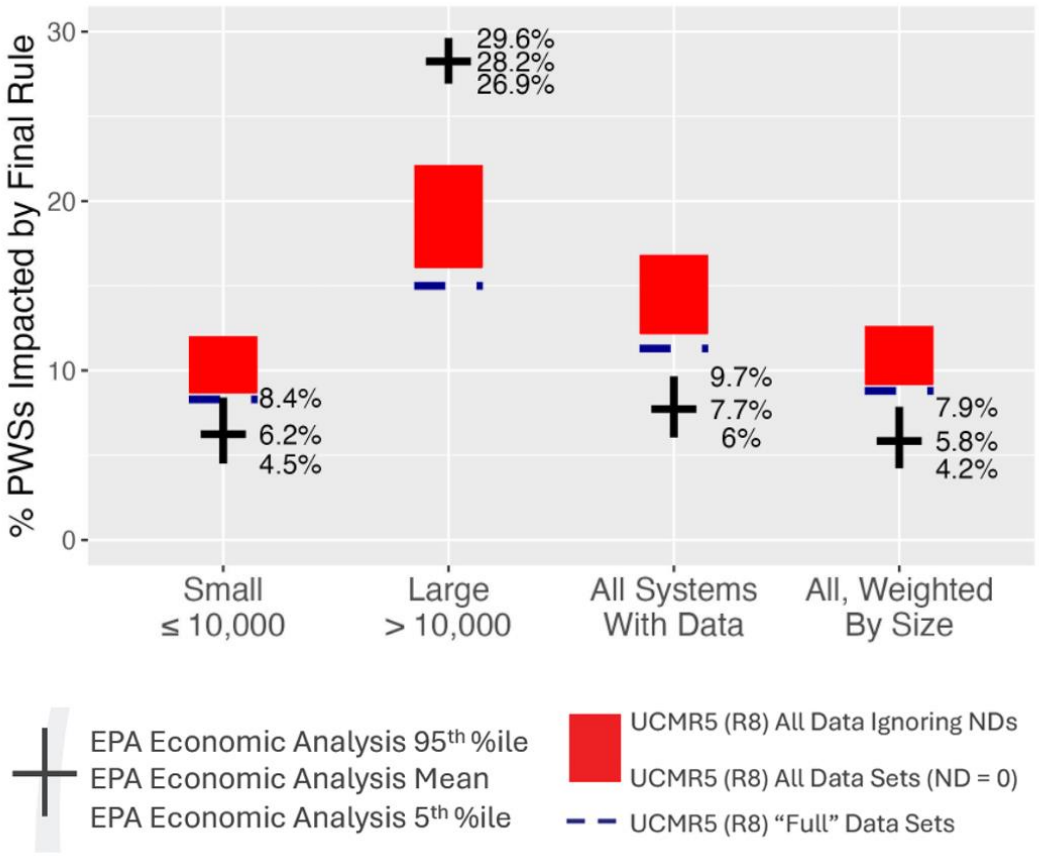


**Figure 2 – *Comparing the U.S. EPA Final Economic Analysis and UCMR5 Results, June 2025***

*EPA Final PFAS Rule estimates of % of PWSs impacted by the Final Rule are shown as the black cross with the middle bar indicating the EPA Economic Analysis Mean and the upper and lower whiskers indicating the EPA Economic Analysis 95th and 5th Percentiles, respectively. The red blocks in the chart display the UCMR5-derived occurrence of impacted PWSs with the top of the blocks calculated using all data and ignoring non-detects (NDs) and the bottom of the blocks calculated using non-detects (NDs) as zero (0) per the Final Rule. Last, the dashed line displays the UCMR5-derived occurrence of impacted PWSs following the EPA UCMR5 summary approach limiting analysis to PWSs with "Full" data sets available in the current UCMR5 record. This reveals that EPA underestimate the amount of small water systems impacted and overestimated the amount of large water systems impacted.*

**SUPPORTING SMALL & DISADVANTAGED SYSTEMS**

About 85 percent of Americans who receive water utility service are served by local governments that face continuous pressure to keep rates low. High PFAS testing, remediation, and/or removal costs are likely to crowd out water system investments that would yield greater public health benefits, such as investment in infrastructure necessary to improve reliability or address contaminants such as arsenic or lead or legionella in drinking water. Small water systems and water systems in disadvantaged communities who already struggle with underfunding and understaffing lack the necessary resources to address these proposed regulations.

While the U.S. EPA has designated PFAS-specific funds for these communities, the cost of implementation far exceeds the available funding. We must invest in small water systems and disadvantaged communities in ways that benefit them most, rather than forcing them to address contaminants at such low levels and uncertain science. The media creates intense concern regarding PFAS, but when it comes to public health, it is important to focus on addressing issues that most improve the safety of our nation's drinking water for the greatest number of people.

**INTERNATIONAL STANDARDS AND GUIDELINES & VARYING MCL SCENARIOS**

Several countries that have traditionally held very stringent environmental standards have adopted a more balanced approach to regulating PFAS in drinking water (Figure 3). The graph below illustrates the deep contrast between the U.S. and other developed democracies. Many international standards are set at levels that reflect both the available scientific data and the practical limitations of detection and treatment technologies.

We ask that the U.S. EPA consider a pragmatic approach to setting the PFAS MCLs. To help visualize the practical implications of different MCL thresholds, the chart below (Figure 4, Corona Environmental) models exceedances of public water systems (PWSs) at four potential MCL levels (4, 5, 10, and 20 ppt) using real world UCMR 5 data.

- 779 exceedances at 4 ppt
- 669 at 5 ppt
- 318 at 10 ppt
- 113 at 20 ppt

This data underscores the importance of aligning regulatory levels with practical considerations, especially for small and disadvantaged systems.

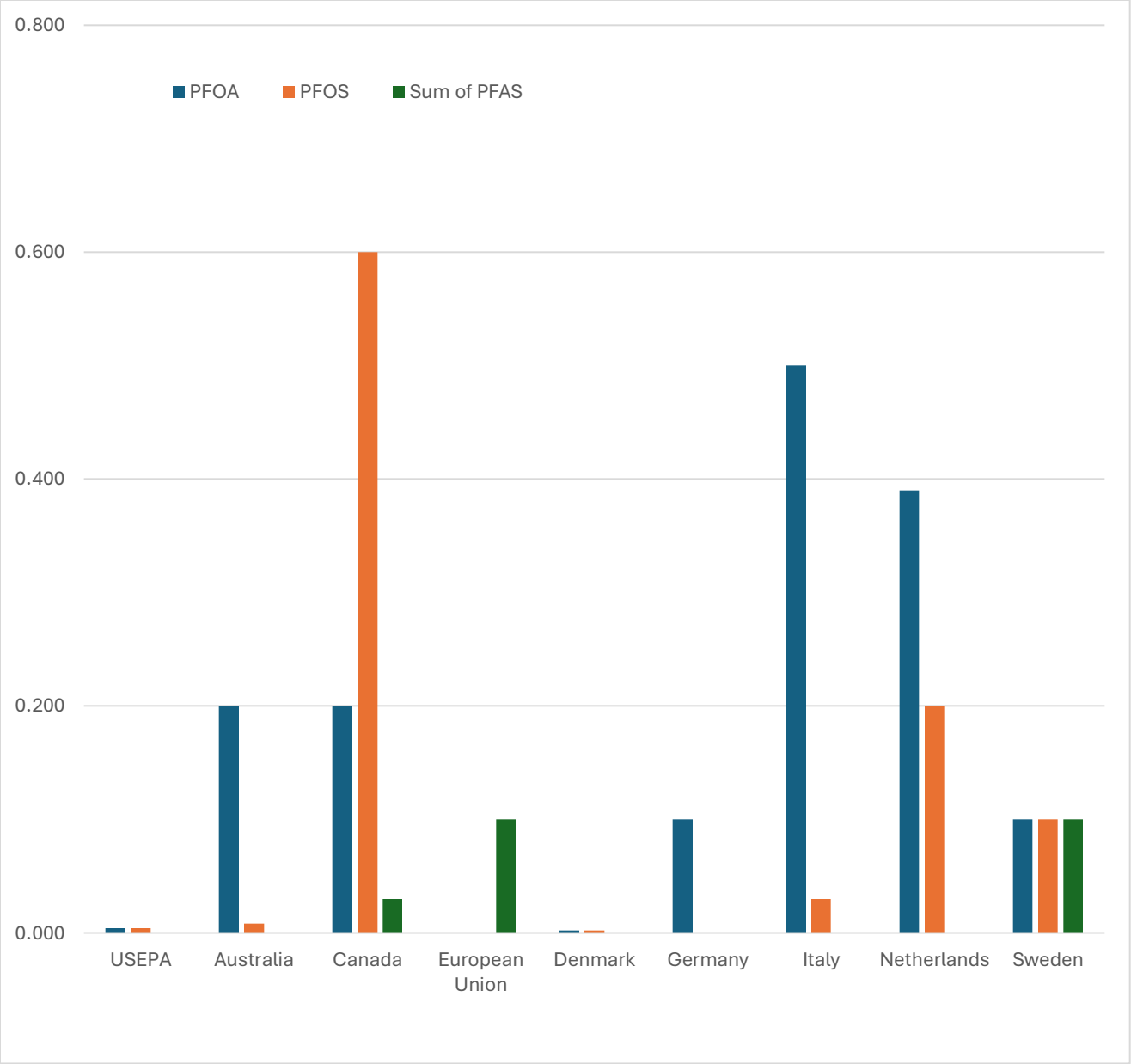


**Figure 3 –** ***Comparing U.S. EPA Standards to Current International PFAS Standards and Guidelines, June 2025***

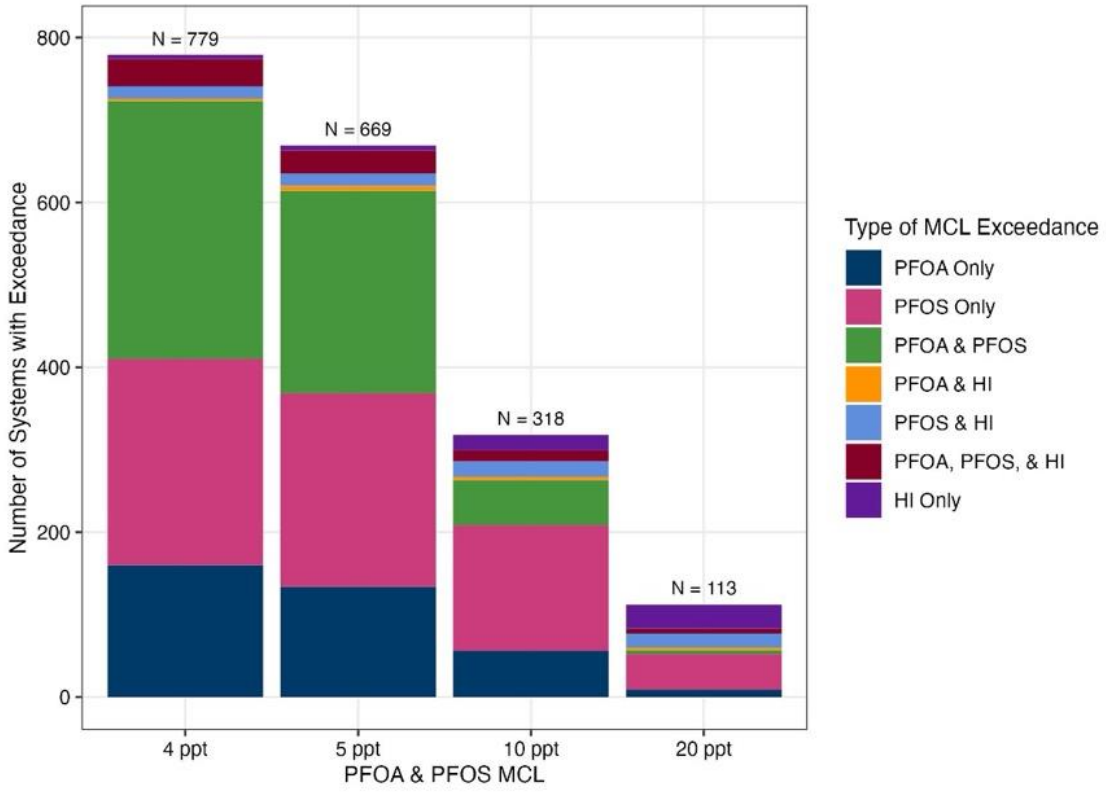


**Figure 4** – ***Impacted Public Water Systems – Using UCMR 5 PFAS Data Sets: Comparing Impact of PFOA & PFOS MCLs, June 2025***

**CONCLUSION**

Overall, the U.S. EPA has not demonstrated that the proposed PFAS drinking water regulations provide meaningful public health protections that justify the financial burden that the regulation will place on municipalities, communities, and ratepayers. Science is still evolving, with critical research ongoing. While drinking water quality must always be a top priority, an overly conservative interpretation of the science on PFAS can have negative public health consequences by diverting resources away from known public health drinking water issues (e.g., arsenic, lead or microbial contaminants in water, failing infrastructure, raised water utility costs) and impose unnecessary stigma and stress on communities identified as PFAS-contaminated.

We urge the U.S. EPA to consider the unintended public health consequences associated with diverting water utility resources towards these low-level contaminants and away from known risks impacting drinking water. The Safe Drinking Water Act calls on our nation's leaders to take effective steps towards ensuring a safe, affordable, and reliable drinking water supply for everyone.[8] We ask that you continue to apply a science-based, risk- and cost-benefit analysis when approaching regulating PFAS.

Thank you for the opportunity to comment. Our Council stands ready to provide additional expertise, technical insight, or testimony as this important process moves forward.

[8] https://wateradvisory.org/sdwa50/

Sincerely,

Water & Health Advisory Council

*Rob Renner, Council Chair, Former Chief Executive Officer at Water Research Foundation*
*Chad Seidel, Ph.D., President, Corona Environmental Consulting*
*Joseph Cotruvo, Ph.D., BCES President, Joseph Cotruvo & Associates ,1st Director of EPA's Drinking Water Standards Division.*
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*Janet Anderson, Ph.D., DABT, Principal Scientist and Health Sciences Practice Director, Exponent, Inc.*