THE UNITED STATES
CONFERENCE OF MAYORS

PFAS Toolkit

Introduction

This PFAS toolkit was developed to aid local leaders in understanding complex information about PFOA and PFOS in a succinct, easy to read format. City officials will need to stay informed of the best available information to effectively manage community concerns surrounding PFAS. The information below offers insight into several key aspects we believe local leaders should be aware of in relation to PFAS, including public health impacts, upcoming rulemakings, and estimated costs for regulatory compliance.

Additionally, as the Environmental Protection Agency (EPA) moves forward in developing upcoming PFOA/PFOS regulations, The United States Conference of Mayors (USCM) strongly urges local leaders to submit comments to the Agency highlighting local governments' priority concerns on this issue. Any insights that can be provided from a local government perspective on this topic is critical as the Agency considers the potential impacts upcoming rulemakings will have on local governments' ability to provide safe, reliable, and affordable drinking water services. We encourage you to incorporate the information below to aid in the development of your comments. A template letter will be available for your use.

Section 1: PFOA and PFOS in Drinking Water: Overview

Per- and polyfluoroalkyl substances (PFAS) are a group of chemicals developed in the 1940's that have been used in a variety of consumer products like semiconductors, cellphones, textiles, renewable energy, and medical devices. Two chemicals, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), are no longer produced today but they were once used in a wide variety of industries. Today, trace levels of PFOA and PFOS can be measured in water, air, soil, animals, humans, and some consumer products globally. PFOA/PFOS are persistent in the environment and some studies suggest that long-term exposure at increased doses may lead to negative health impacts.

Acting upon its PFAS Strategic Roadmap, the EPA has made a commitment to address PFAS in community water supplies where there is a known risk. However, the Agency's conservative and costly approaches to upcoming federal rulemakings is further

compounded by their efforts to implement a wide array of environmental priorities with a regulatory agenda that consists of its most stringent compliance regulations to date. This includes the recent proposal of new drinking water standards for PFOS and PFOA as well as designating these chemicals as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. The newly proposed drinking water standards, set at 4 parts per trillion, would represent the strictest levels in the nation. Despite historic federal funding for these issues, local governments continue to struggle to acquire the necessary resources needed to comply with new federal regulations on top of the billions of dollars already needed for upgrades to critical drinking water infrastructure.

Elected officials and water utilities should prioritize PFOS/PFOA removal in those communities where high levels are detected.

However, in many communities where only trace levels of PFOS/PFOA are detected, it is essential that local decision makers carefully evaluate the costs and benefits of PFOS/PFOA removal. Treatment technologies to clean up PFAS are expensive and are costly at scale. Our communities need reliable, safe drinking water and there are many risks that threaten the quality of our nation's drinking water. It is important that we make decisions on a state and local level to determine what the greatest threats are to public health and prioritize funding to address those areas of highest need.

Section 2: Understanding Potential Human Health Impacts

Topline: *The potential human health risks associated with low-level exposure to PFOA and PFOS are not clear. Expert opinions and advisory levels from the regulatory community vary widely. More studies are required to fully understand the health impacts of PFOS and PFOA in our drinking water.*

According to the EPA, in some instances, exposure to high concentrations of PFOS/PFOA may lead to adverse health effects. However, scientific analysis of the human health impacts from exposure to PFOA/PFOS in drinking water is inconsistent. Not all scientists agree on the potential health effects related to PFOS or PFOA in drinking water, and many experts and agencies interpret the available science differently.

Successful regulatory initiatives and new product innovation have also dramatically reduced the presence of PFOA and PFOS. In fact, according to the CDC, human blood levels of PFOA and PFOS have declined by 70-90% between 1999 and 2018. Nonetheless, PFOA/PFOS have been a growing topic of interest in our nation's drinking water for the last several years.

There is no international consensus on the health impacts of PFAS. For example, the World Health Organization proposed a Guideline for drinking-water quality (GDWQ) on PFAS in drinking-water for PFOA and PFOS. They reviewed the same health and exposure data and arrived at vastly different conclusions than the U.S. EPA. WHO's proposed guideline was 25,000 times higher than the EPA's proposed guideline. Health Canada also reviewed the

same data and currently has chemical-specific drinking water values of 200 ppt for PFOA and 600 ppt for PFOS - 50,000 and 300,000 times greater than the EPA's health advisories.

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 risk based upon exposure and health impact. The theoretical human health risk associated with exposure to low levels of PFOS/PFOA in drinking water is orders of magnitude less than other previously regulated compounds (AWWA Water Science: Does regulating per- and polyfluoroalkyl substances represent a meaningful opportunity for health risk reduction?).

Exposure alone does not indicate a negative health impact. More studies are required to better understand the toxicity levels of PFOA and PFOS in our drinking water.

Section 3: Regulatory Overview

Topline: *As the Agency moves forward in upcoming rulemakings around* PFOS/PFOA *including new drinking water standards and CERCLA designations, local leaders will need to stay informed of the regulatory process and how best to stay engaged.*

The U.S Environmental Protection Agency (EPA) recently classified PFOS/PFOA as a hazardous substance under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, and proposed a PFOS/PFOA "maximum contaminant level" (or MCL) to limit the exposure of PFOS/PFOA in drinking water.

The CERCLA designation would require our nation's drinking water, wastewater, and water reuse to bear the burden of the cost and liability for PFOS/PFOA clean up which would ultimately impact the rate payer. The organizations representing these utilities have spoken out against the regulation stating it would have unintended consequences on both water systems and rate payers, increasing the costs and shifting resources away from other pressing public health concerns. You can also find the Conference's comment letters on this issue, along with others, here.

On March 14, 2023, the U.S. EPA proposed new Safe Drinking Water Act maximum contaminant level (MCL) regulations for six PFAS chemicals. These guidelines provide drinking water limits of 4 parts per trillion (ppt) PFOA and 4 ppt PFOS, and a collective 1.0 ppt Hazard Index for hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX Chemicals), perfluorohexane sulfonic acid (PFHxS), and perfluorobutane sulfonic acid (PFBS), collectively. According to the EPA, "the proposed rule would require public water systems to monitor for these PFAS, notify the public of the levels of these PFAS and reduce the levels of these PFAS in drinking water if they exceed the proposed standards." Prior to the announcement of the EPA's proposed regulations, several states already created their own drinking water standards for PFOS/PFOA exposure. The public comment period ended on May 30, 2023, and the rules are anticipated to be finalized by the end of 2023.

Cities and Mayors, along with water utilities, will bear responsibility for managing community concerns about PFOA/PFOS in drinking water. We will continue to publish resources and update you on how you can engage in this regulatory process to make sure your city's drinking water is protected and you stayed informed on the impact of the regulations on your local city.

Section 4: Cost Impact of Proposed PFAS Regulations

Topline: *Industry experts and other studies suggest that EPA's conservative cost estimate of $775 million per year is likely to be significantly underestimated. On top of strained capacity and limited resources, local governments will be forced to bear the financial burden of cost compliance. This will likely result in higher water rates for customers, with the most disadvantaged communities being the most affected.*

The EPA has proposed federal regulations that will have a significant economic impact on drinking water systems across the nation (EPA: Key EPA Actions to Address PFAS). A one-size-fits-all approach to regulating these contaminants will require water systems to regularly monitor, test and invest millions of dollars and staffing to address contaminants that may not be impacting their community.

With such varied interpretations of the science underpinning the EPA's proposed PFOS/PFOA MCLs, it isn't surprising that estimates of the likely costs of these rules are equally inconsistent. The EPA's initial estimates a national annual cost of rule implementation will be $775 million. And yet, the American Water Works Association (AWWA) has a more conservative estimate of the cost impact on water utilities. AWWA estimates the EPA's proposal exceeds $3.8 billion annually in cost to adequately meet the proposed MCL standards.

For the CERCLA rule alone, it is estimated that the national burden of drinking water treatment for PFOA and PFOS alone would be upwards of $50 billion over the next two decades. This would drive water rates up even higher and rate increases would be felt most by low-income populations (AWWA, Black & Veatch).

According to the EPA, there are over 145,000 active public water systems in the U.S. (including territories) and 97% are considered small systems, meaning they serve 10,000 or fewer people. More economic impact data will be made available over the coming months, but one fact is already clear. Small systems and disadvantaged communities will disproportionately be impacted by the EPA's new PFAS rules due to limited resources, staff and funding.

Links to Science Based Resources

- EPA: Environmental Protection Agency: PFAS Strategic Roadmap: EPA's Commitments to Action 2021—2024
- NGWA: National Groundwater Association: EPA's Unprecedented Interim Drinking Water Health Advisories for PFOA and PFOS
- CDC: Center for Disease Control: PFAS in the U.S. Population

- ASDWA: Association of State Drinking Water Administrators: Lessons Learned from States and Challenges Ahead in Setting State- Level Per- and Polyfluoroalkyl Substances (PFAS) Standards
- AWWA: AWWA Water Science Journal: Does regulating per- and polyfluoroalkyl substances represent a meaningful opportunity for health risk reduction?
- Health Canada: Draft objective for per- and polyfluoroalkyl substances in Canadian drinking water: Overview
- World Health Organization: PFOS and PFOA in Drinking-water

Section 5: Frequently Asked Questions (FAQ)

1. Why should I care about PFOA/PFOS?

The EPA has been investigating PFAS in drinking water in recent years, and in March 2023 they release new proposed PFOS/PFOA MCLs at very low levels. PFAS has been dominating headlines and garnering media attention. And while some communities today have levels of PFOS/PFOA in their drinking water that require remediation, most communities do not have PFOS/PFOA levels that present meaningful health risk.

Understanding the health risk and communicating with your communities and regulators will be important because testing and treating PFOS/PFOA in drinking water will come at a great cost and may well present issues with disposal of PFOS/PFOA (soon to be designated as a hazardous material, under CERCLA). With a federal regulation, even the local water systems that do not have a threat of these substances in their systems will be impacted. These regulations will result in significant costs for local governments and municipal drinking water and wastewater facilities.

2. How do I know if PFOS/PFOA in drinking water is a risk to my community?

In communities where high levels of PFOA/PFOS exposure are a concern, water utilities have implemented PFOA/PFOS testing and treatments to meet state requirements. But PFOS/PFOA exposure alone does not warrant a health risk. Health risk is determined by the amount of a particular contaminant in a region combined with the toxicity of the contaminant at a specific level. While there are regions in the U.S. that face high PFOS/PFOA concentrations, but more occurrence data is needed to determine where high-concentration areas of PFOS/PFOA exist nationally.

3. Where is PFOA/PFOS found?

According to the EPA, 20% of PFOA/PFOS exposure comes from drinking water. Other human exposures may come from air, soil, animals, and consumer products all over the nation and the globe. Consumer products containing PFOS/PFOA include semiconductors, cookware, cellphones, textiles, renewable energy, and medical devices. PFOS/PFOA may also found in some types of food packaging, stain- and water-resistant coatings, nonstick

coatings and fire suppressants.

4. How do you measure for PFOS/PFOA **in drinking water?**

EPA researchers are in the process of developing and validating laboratory methods to detect and quantify PFOS/PFOA in air, water, and soil. In general, laboratory methods have advanced over the last several years and we are now able to detect trace amounts of contaminants, even at limits where they may not be harmful. You can view these methods on the EPA website, here.

5. How can we remove PFAS from drinking water?

There are several treatment technologies used to remove PFOS/PFOA from drinking water. These include Granular Activated Carbon (GAC), Ion Exchange (IX) Resin, and Reverse Osmosis (RO). Right now, the biggest challenge with these treatment systems is scalability and cost. Treatment options are very expensive and there is no uniform treatment at the moment.

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