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Nation's Environmental Stewardship Since 1974

ASTSWMO Position Paper: Addressing Per- and Polyfluoroalkyl Substances (PFAS)

INTRODUCTION

Per- and polyfluoroalkyl substances (PFAS) are a large class of man-made compounds that are contaminants of emerging concern (CEC)¹ in both the environment and human health. PFAS have been produced since the 1940s and used in several industries in the public, private, and defense sectors to make fluoropolymer coatings and products that are widely used in manufacturing and by consumers due to their unique chemical and physical properties. Products include materials used in the automotive, aviation, construction, electronics, and medical industries; consumer products including food packaging, clothing, carpets, and outdoor equipment; and firefighting applications.²

The PFAS class includes thousands of anthropogenic compounds, many of which are environmentally persistent and bioaccumulate, and therefore pose unique challenges in State and Territorial (State) environmental cleanup and waste management programs. The scientific community, industry leaders, regulatory agencies, and others are working to increase understanding of the health and environmental effects of PFAS as well as developing various analytical methods, treatment technologies, and remediation alternatives. In addition, federal government agencies and some States are developing their own regulatory standards and protocols for addressing PFAS contamination in the United States.

FEDERAL ACTION

ASTSWMO acknowledges the work of our federal partners related to the multifaceted issues surrounding PFAS. The Federal government, through Congress and Executive Agencies³ including the U.S. Environmental Protection Agency (EPA), has taken aggressive steps in terms of research and technology development to assist with identifying, characterizing, and addressing PFAS contamination.

EPA began more actively addressing PFAS in 2018 when the agency convened a two-day National Leadership Summit on PFAS, hosted a series of community engagement events in communities impacted by PFAS, and solicited public comments. [EPA's PFAS Action Plan](#), which described the

¹ ASTSWMO defines "contaminant of emerging concern" to include any physical, chemical, biological, or radiological substance or matter in any environmental media that may pose a risk to human and/or ecological health, is under regulated, and the presence, frequency of occurrence or source of which is not well understood or routinely monitored, and/or may lack analytical methods.

² The Interstate Technology & Regulatory Council (ITRC) summarizes historical and current uses and sources of PFAS in [Section 2](#) of its PFAS Technical and Regulatory Guidance Document and its [History and Use of PFAS found in the Environment Fact Sheet](#).

³ In October 2021, President Biden announced [a new, "government-wide approach"](#) to addressing PFAS with strategies and actions for eight federal agencies.

agency's approach to identifying and understanding PFAS, addressing current PFAS contamination, preventing future contamination, and effectively communicating with the public about PFAS, was released in February 2019. Two key results of these efforts which benefited federal cleanup programs were EPA publishing the guidance [Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS](#) in December 2019⁴ and [Interim Guidance on Destroying and Disposing of Certain PFAS and PFAS-Containing Materials That Are Not Consumer Products](#) in December 2020.⁵

The formation of the [EPA PFAS Council](#) in April 2021 and subsequent release of its [PFAS Strategic Roadmap](#) in October 2021 has since led to some significant advances in understanding and addressing PFAS. The PFAS Strategic Roadmap laid out EPA's comprehensive strategy for researching, restricting, and remediating PFAS and set timelines for concrete actions from 2021 to 2024. Recently completed actions of particular interest to ASTSWMO include:

- [CERCLA RSLs and RMLs](#)
In May 2022, EPA added five PFAS chemicals and updated a previously listed PFAS to the [Regional Screening Levels \(RSLs\)](#) and [Removal Management Levels \(RMLs\)](#) lists, which provide risk-based values to help determine if response or remediation activities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) are needed.
- [Drinking Water Health Advisories](#)
In June 2022, EPA issued interim updated [drinking water health advisories for PFOA and PFOS](#) (replacing the original 2016 drinking water health advisories) and issued final [drinking water health advisories for perfluorobutane sulfonic acid \(PFBS\) and hexafluoropropylene oxide dimer acid \(HFPO-DA or "GenX"\)](#). These health advisory levels (HALs) identify the maximum concentration of a contaminant in drinking water at which adverse health effects and/or aesthetic effects are not anticipated to occur over a lifetime; however, they are non-enforceable and non-regulatory.
- [CERCLA Hazardous Substances Designation](#)
On September 6, 2022, EPA published a [Notice of Proposed Rulemaking \(NPRM\) for Designation of PFOA and PFOS as CERCLA Hazardous Substances](#) in the *Federal Register*. This action marks the first time EPA has exercised its authority to issue a rule to list a chemical as a CERCLA hazardous substance since program inception in 1980. The NPRM allows for a 60-day public comment period ending on November 7, 2022, and EPA plans to issue the Final Rule in August 2023.

REGULATORY ISSUES

The fundamental regulatory issue for addressing PFAS contamination is the current lack of federal regulatory authority under CERCLA and the Resource Conservation and Recovery Act (RCRA).

⁴ ASTSWMO's PFAS Workgroup submitted [comments](#) to EPA on the Draft Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS in June 2019.

⁵ ASTSWMO's CEC Steering Committee submitted [comments](#) to EPA on the Interim Guidance in February 2021.

Without this authority, it is unclear how responsible parties will be compelled to manage wastes containing PFAS and remediate PFAS contamination in a complete and timely fashion. The absence of a clear federal regulatory framework for PFAS has:

- 1) Necessitated State programs to conduct their own research and develop their own standards and guidelines;^{6,7}
- 2) Hampered recognition of promulgated State-derived PFAS standards or guidelines as Applicable or Relevant and Appropriate Requirements (ARARs), given the lack of inclusion of PFAS in the CERCLA or RCRA federal programs; and
- 3) Limited the States' abilities to cost recover against responsible parties for response actions aimed at eliminating or mitigating PFAS exposure by the public and sensitive subgroups.

Furthermore, there are currently no enforceable federal standards for these chemicals. Although drinking water health advisories provide information to make informed decisions, these do not provide regulatory enforcement mechanisms to compel cleanup and treatment. In the absence of federal standards for PFAS, many States have been compelled to promulgate their own standards for various PFAS at differing levels.

POSITION

ASTSWMO commends recent concerted plans and actions conducted by our federal partners and acknowledges their unprecedented and monumental efforts. The Association presses for continued action with an accelerated timeline for completion based on science as our understanding of the behavior and impacts of these substances in the environment evolves.

Establishing a Federal Regulatory Framework

ASTSWMO supports the current efforts to designate PFOA and PFOS as CERCLA hazardous substances, as well as EPA's commitment to [designate four PFAS \(PFOA, PFOS, PFBS, and GenX\) as RCRA hazardous constituents under Appendix VIII](#) and clarify regulatory authority for requiring investigation and cleanup of these PFAS in the RCRA Corrective Action Program. However, even with current efforts to list PFOA and PFOS as CERCLA hazardous substances and PFOA, PFOS, PFBS, and GenX as RCRA hazardous constituents, several thousand compounds will remain unlisted and unregulated. To further reconcile the contrast between the current federal PFAS regulatory framework (PFAS health advisories) and some States' efforts to regulate additional PFAS (e.g., derivation of State-specific standards or guidelines for additional PFAS), ASTSWMO recommends that going forward EPA, rather than designating PFAS individually, evaluate classes of PFAS that have common characteristics in order to expeditiously designate as many

⁶ The Environmental Council of States (ECOS) White Paper, [Processes and Considerations for Setting State PFAS Standards](#), updated in March 2021, summarizes State processes, rulemaking, and other considerations for developing PFAS Standards.

⁷ ITRC summarizes regulatory actions related to PFAS and includes a listing of current State standards and guidelines that is updated periodically in [Section 8](#) of its PFAS Technical and Regulatory Guidance Document.

compounds as possible as CERCLA hazardous substances and RCRA hazardous constituents. This action will provide federal and State regulators with greater regulatory and enforcement authority when considering the development of groundwater, soil, and/or drinking water standards. This designation will also further federal and State efforts to compel responsible parties to investigate and remediate contamination nationwide, especially when private wells and public water systems are impacted.

Recognition of State-Specific PFAS Standards

ASTSWMO urges federal partners to recognize State-specific PFAS standards for cleanup and mitigation efforts similar to State standards for other environmental contaminants regulated through CERCLA or RCRA listings.⁸

Development of Analytical Methods

ASTSWMO advocates for timely development of additional published analytical methods for PFAS in all media.⁹ Robust and accurate methods for detecting PFAS in the environment are essential for implementing remedies, evaluating treatments, and supporting effective regulation. However, there are currently no multi-laboratory-validated methods published other than those for drinking water. The EPA is collaborating with the Department of Defense on validation of additional test methods for PFAS in other environmental media, but some laboratories are creating modified methods for these media, which may result in inconsistent data and confusion as analyte lists and detection capabilities change over time.

The development of health advisory levels or toxicological information in the absence of established EPA analytical methods for all environmental media also creates difficulties for States. Citizens expect that regulatory agencies will ensure those responsible for contaminating all environmental media are held accountable. It should also be noted that the interim updated drinking water health advisories for PFOA and PFOS are currently lower than analytical detection limits by three orders of magnitude. This discrepancy between the analytical capabilities and advisory levels makes it difficult to investigate, communicate, and enforce in areas where potential action is needed.

Continued and Expanded Research

Continued and expanded research in the following areas is needed to facilitate effective assessments, cleanups, and enforcement:

- Development of human health and ecological toxicity values for PFAS;
- Drinking water and wastewater treatment technologies;
- Remediation technologies to remove PFAS from environmental media, to include groundwater, surface water, sediments, soil, and air;
- Destruction and disposal technologies for PFAS-containing materials, and waste streams;

⁸ ASTSWMO's 2018 position paper [State Concerns with the Process of Identifying Comprehensive Environmental Response Compensation and Liability Act \(CERCLA\) Applicable, or Relevant and Appropriate Requirements](#) summarizes policy concerns and recommendations for determining which State environmental regulations are potential ARARs.

⁹ ITRC summarizes sampling and analytical methods in [Section 11](#) of its PFAS Technical and Regulatory Guidance Document.

- Solidification and stabilization technologies to minimize PFAS in landfill leachate and methods to assess treatment effectiveness to aid in addressing capacity limitations; and
- Acceptable levels of PFAS in compost, biosolids, and industrial byproducts that are suitable for land application.

Much of this research work is being performed by our federal partners, academic institutions, and private entities. It is important that States remain engaged in the technology and toxicity factor and associated risk-based screening/action level development processes to ensure that State regulatory requirements and concerns are being considered and addressed.

Support for States

Beyond the technical and regulatory issues identified above, the States have identified other resource needs to support their proactive investigations and responses to PFAS contamination. In June 2022, the EPA invited States to apply for \$1 billion in Bipartisan Infrastructure Law grant funding to address PFAS and other emerging contaminants in drinking water, specifically in small and disadvantaged communities. However, additional federal monies are needed through State and Tribal Assistance Grants and other programs, not only to implement the necessary public water and wastewater infrastructure improvements to reduce exposures and pollutant loads in the nation's water, but also to investigate and clean up contamination. Further, States need training and guidance on PFAS investigations and response, especially related to the potential sources and source pathways, environmental fate and transport, and treatment and remediation methods. The States also need support for informing the public about PFAS. ASTSWMO strongly recommends that the EPA work with State programs to facilitate trainings and develop guidance on best practices for risk communication and engaging communities impacted by PFAS contamination.

CONCLUSION

ASTSWMO recognizes the complex issues related to PFAS nationwide and remains dedicated to working with our stakeholders and federal partners to better understand and address PFAS contamination.

The Association will continue to monitor and evaluate the regulatory issues and State challenges as the science, technology, and regulatory framework related to PFAS evolve. The ASTSWMO CEC Steering Committee, formed in 2019, provides a forum for ASTSWMO representatives to discuss regulatory, policy, and technical development and to recommend research projects and training activities regarding CECs for ASTSWMO Subcommittees, Focus Groups, and Task Forces to execute. By working across the Subcommittees, and with partners in other State environmental associations and federal agencies, the CEC Steering Committee effectively and efficiently shares information, ensuring that State programs across the Association remain engaged and informed.

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