



ASTSWMO, Providing Pathways to Our
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 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 various common household and outdoor equipment; and firefighting applications. Locations that may have been contaminated with PFAS include but are not limited to the following:²

- areas where fluorine-containing firefighting foams are stored, used, or released such as firefighting training areas, airport hangars, and aircraft and vehicle crash sites,
- facilities that produce or use PFAS or PFAS-containing products in manufacturing such as metal and textile plating and coating facilities,
- waste management and disposal areas including landfills, incinerators, recycling facilities, composts, land applied biosolids, and open burn/open detonation (OB/OD) facilities, and
- water and sewage treatment systems and receiving water bodies.

The PFAS class includes thousands of anthropogenic compounds, many of which are environmentally persistent and bioaccumulative, therefore posing unique challenges in State and Territorial (State) environmental cleanup 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 States are developing their own regulatory guidelines and protocols for addressing PFAS contamination in the United States.

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 Regulatory document and its [History and Use of PFAS found in the Environment Fact Sheet](#).

FEDERAL ACTION

ASTSWMO acknowledges the work of our federal partners related to the multifaceted issues surrounding PFAS. The U.S. Environmental Protection Agency (USEPA), Department of Defense (DoD), and other federal agencies have taken aggressive steps in terms of research and technology development to assist with identifying, characterizing, and addressing PFAS contamination. Further, USEPA's [PFAS Action Plan \(February 2019\)](#) and subsequent [PFAS Action Plan: Program Update \(February 2020\)](#) outline ongoing and future USEPA actions to develop a regulatory framework for PFAS. As the actions outlined are consistent with the priorities identified herein, ASTSWMO appreciates these efforts and would support an accelerated timeline for completion.

REGULATORY ISSUES

As with many pollutants and contaminants, there is no established federal framework for regulating PFAS nationwide and no enforceable federal standards for these chemicals.³ Although there are several thousand chemicals in the class known as PFAS, most of the regulatory focus by the federal government to date has focused on PFOA and PFOS. In May 2016, USEPA published [Drinking Water Health Advisories \(HAs\)](#) under the Safe Drinking Water Act for two PFAS, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), at 70 parts-per-trillion (PPT) for each of these contaminants individually or the combination of the two. The HA is intended to be protective of the public, including the most sensitive populations given potential PFAS adverse health effect concerns including developmental effects and effects on the liver and immune system. In December 2019, USEPA also published the guidance, [Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS](#) for federal cleanup programs.⁴

While ASTSWMO supports the development of such guidance, without clear federal regulatory authority under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Resource Conservation and Recovery Act (RCRA) 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, which in some cases are more conservative than current federal advisory levels;^{5,6}

³ ITRC summarizes current federal regulatory and guidance initiatives in its [Regulation of PFAS Fact Sheet](#).

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

⁵ 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.

⁶ 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 Regulatory document.

- 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.

Therefore, to reconcile the contrast between the current federal PFAS regulatory framework (two PFAS HAs) and certain State efforts to regulate additional PFAS (e.g., derivation of State-specific standards or guidelines for additional PFAS), ASTSWMO recommends that USEPA designate the entire class of PFAS as CERCLA hazardous substances. This action will provide federal and State regulators with greater regulatory 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.

In the absence of federal standards for PFAS, many States will be left to promulgating their own groundwater and drinking water standards for various PFAS. For example, some States have already promulgated standards for up to six or seven PFAS. That said, ASTSWMO believes that it is imperative that these State-specific PFAS standards be recognized for cleanup and mitigation efforts similar to State standards for other environmental contaminants through CERCLA or RCRA listings.

ASTSWMO also advocates for timely development of additional validated analytical methods for PFAS in all media beyond drinking water and soil. Currently, there are two EPA-validated drinking water analytical methods ([Methods 533 and 537.1, Version 2](#)) and one multi-laboratory validated SW-846 method for non-potable waters that is pending final publication ([SW-846: Method 8327](#)). However, there are currently no other validated testing methods for PFAS in other environmental media, including wastewater, surface water, groundwater, biosolids, soil, sediment, and fish tissue. USEPA is collaborating with the DoD on validation of additional test methods for PFAS in other environmental media. In addition, some laboratories are creating modified methods for other environmental media, which may result in inconsistent data.⁷ Developing HA levels or toxicological information in the absence of established USEPA analytical methods for all media creates difficulties for States as our citizens expect that regulatory agencies will ensure those responsible for contaminating all environmental media are held accountable. It is difficult to investigate potential sources of contamination when there are no approved analytical methods for environmental media.

ONGOING RESEARCH

In coordination with the ASTSWMO membership, we found that continued research is needed in the following areas:

- Development of fluorine-free firefighting foams;
- Development of human health and ecological toxicity values for PFAS;

⁷ ITRC summarizes sampling and analytical methods in [Section 11](#) of its PFAS Technical Regulatory Document.

- Destruction and disposal technologies for PFAS-containing materials, and waste streams;⁸
- Solidification and stabilization technologies to minimize PFAS in landfill leachate and methods to assess treatment effectiveness;
- Remediation technologies to remove PFAS from environmental media, to include groundwater, surface water, sediments, soil, and air;
- Drinking water and wastewater mitigation technologies; and
- Acceptable levels of PFAS in compost, biosolids, and industrial byproducts that are land applied.

Much of this research work is being performed by our federal partners. It is important that States remain engaged in the technology development process 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. Additional federal monies are needed through State and Tribal Assistance Grants (STAG) and other programs, not only to investigate and clean up contamination, but also to implement the necessary public water and wastewater infrastructure improvements to reduce exposures and pollutant loads in the nation's water. State staff need training on PFAS investigations and response, especially on 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 USEPA work with the States to facilitate trainings and develop guidance on best practices for risk communication and engaging communities impacted by PFAS contamination.

ASTSWMO remains dedicated to working with our stakeholders and federal partners to address the multifaceted issues related to PFAS nationwide. To this end, ASTSWMO has formed a CEC Steering Committee comprised of representatives from each of the ASTSWMO program Subcommittees. By working across the Subcommittees, and with our partners in other State environmental associations and federal agencies, the CEC Steering Committee can more effectively and efficiently share information, ensuring that State programs across the Association remain engaged and informed as the science, technology, and regulatory framework related to PFAS continues to evolve.

Approved by the ASTSWMO Board of Directors in March 2021.

⁸ On December 18, 2020, USEPA released [Interim Guidance on Destroying and Disposing of Certain PFAS and PFAS-Containing Materials That Are Not Consumer Products](#) for public comment. The document includes information about ongoing and future research activities relative to PFAS treatment and disposal. ASTSWMO's CEC Steering Committee submitted [comments](#) to USEPA on the Interim Guidance document in February 2021.