

PFAS TECH Strategy

*Technology Evaluation, Coordination,
and Harmonization*



Summary and Purpose

The U.S. Environmental Protection Agency (EPA) under President Trump is focused on addressing per- and polyfluoroalkyl substances (PFAS) in a practical way that drives innovation and provides real and tangible benefits to communities. A key focus of PFAS TECH is ensuring that local decision-makers and members of the public have access to information on PFAS technologies that is up-to-date, easy to navigate and understand, and can be used to inform on-the-ground decision-making.

To support the EPA's PFAS Technology Evaluation, Coordination, and Harmonization (PFAS TECH) Strategy, the agency will invest in and prioritize opportunities to advance PFAS technology development and deployment. In addition to working with states and localities, EPA will work with federal partners, its regional offices, and the private sector. These collaborative efforts to support PFAS technologies will: power innovation in research and development; demonstrate what's possible through pilot-scale initiatives; and translate progress into practical actions. A key focus of PFAS TECH is ensuring that local decision-makers and members of the public have access to information on PFAS technologies that is up-to-date, easy to navigate and understand, and can be used to inform on-the-ground decision-making.

EPA is committed to advancing the following suite of actions across the agency's National Program Offices and Regional Offices over the next two years.

Powering Innovation in Research and Development

Facilitate Public-Private Partnerships

EPA's Office of Water (OW), in coordination with the Office of Applied Science and Environmental Solutions (OASES) is actively investigating avenues for Cooperative Research and Development Agreements (CRADAs) and public-private partnerships to promote research, development, and scalable water treatment technologies for PFAS removal.

"The Trump EPA is laser-focused on making America healthy again by developing real and tangible agency-wide strategies to protect Americans from exposure to PFAS. Technology innovation is essential to accelerating our efforts to address these contaminants, and EPA's new PFAS TECH strategy will advance scientific discovery, demonstrate the real-world feasibility of advanced technologies, and help reduce PFAS in the environment."

EPA Administrator Lee Zeldin

- **Analytical Method Development:** OW is partnering with private laboratories to leverage their expertise to more quickly and efficiently develop analytical methods to measure PFAS in drinking water.
- **Emerging Technology Evaluations:** OW is partnering with manufacturers of innovative and emerging technologies, such as novel sorbents, that remove PFAS from drinking water. These public-private partnerships facilitate data sharing, cooperative research, and speed up development and evaluation of emerging treatment technologies for removal of PFAS from drinking water.
- **Foam Fractionation Demonstration Study:** OW plans to partner with multiple vendors of foam fractionation technology and drinking water utilities to conduct field tests to evaluate foam fractionation efficacy under different water quality conditions. The process takes advantage of PFAS molecules attaching themselves to air bubbles rising through water, which decreases PFAS concentrations in the water while creating an enriched foam, which can be separated and removed. The goal of the project is to demonstrate multiple vendors' capabilities to remove PFAS from drinking water sources and treatment residuals with this new lower cost technology and disseminate planning and design information to water utilities across the country.
- OW convened a national workshop with the Water Environment Federation, Water Research Foundation, Interstate Technology and Regulatory Council, and leading researchers to identify innovative, potentially cost effective wastewater treatment technologies for PFAS and to clarify research needed to advance them from lab-scale to full-scale. Technologies addressed include other sorbents like polymer networks, aerosol capture, coagulation approaches, and destruction approaches like electrochemical oxidation and UV silica granular media. The workshop results and proceedings synthesize expert insights for utilities that may need treatment beyond pretreatment and source control.

"Partnerships are the key to unlocking innovation and next-generation technologies and the collaborations we are forging will accelerate technology breakthroughs to reduce PFAS in the environment while also reducing the cost of treatment and saving money."

Jess Kramer, PFAS Lead and Assistant Administrator for Water

Destruction Technology Research

The Office of Land and Emergency Management (OLEM) is collaborating with OASES to consider organomineral and anaerobic digestion techniques for PFAS destruction.

- **Organomineral Research:** Deliverables derived from lab-based experimentation of surface-modified minerals plus PFAS in soil conditions to evaluate PFAS trapping/immobilization.
- **Anaerobic PFAS Digestion:** Adapting a mature in situ groundwater remediation system originally designed to treat hexavalent chromium and trichloroethene. The remediation approach has already shown effectiveness in removing PFAS, and this ongoing work is to evaluate efficacy of PFAS destruction/immobilization.

Fund Technology Innovation

OASES is providing research and development funding for PFAS destruction in environmental media. New funding will be available, including under the Science to Achieve Results (STAR) grant program and Small Business Innovation Research program.

Advance Technology Research

OASES is working toward a partnership with a drinking water treatment plant to advance foam fractionation and supercritical water oxidation (SCWO) for PFAS removal and destruction in a real-world setting.

Explore Technologies to Eliminate PFAS from Drinking Water

OASES is conducting laboratory studies, modeling, pilot/full-scale testing, and Rapid Small-Scale Column Test development to optimize performance and cost of granular activated carbon (GAC), anion exchange, reverse osmosis, and other novel treatment methods.

Evaluate Supercritical Water Oxidation

OASES is evaluating both existing and novel SCWO processes, conducting treatability studies, and optimizing operational parameters to maximize PFAS destruction efficiency while minimizing by-products and environmental impacts. This work achieved >99.99% destruction efficiency of PFAS in aqueous film-forming foam using industrial-scale SCWO system.

Assess Potential of Hydrothermal Alkaline Treatment (HALT)

OASES is continuing to build understanding of HALT, a thermochemical process that uses sodium hydroxide (NaOH) or potassium hydroxide (KOH) under subcritical water conditions to break carbon-fluorine bonds, which has shown promising results in pilot projects.

Research and Development at National Priority List Superfund Sites

Region 1 is continuing treatment at sites using adsorptive and sequestration technologies, mainly GAC and in situ liquid carbon injections.

Emissions Stack Testing

OASES and external partners are conducting emissions stack testing at an Ohio incinerator in Region 5.

Evaluation of Gasification Systems at Sewage Sludge Incinerators

Region 5 is evaluating whether gasification can potentially help address PFAS in biosolids at wastewater treatment plants.

“EPA is prioritizing research and development on PFAS and ensuring our science is gold standard and directly applicable to needs in local communities as they work to address PFAS pollution.”

Teresa Booeshaghi, Associate Administrator for the Office of Applied Science and Environmental Solutions



Collaboration with States

Region 1 is sharing data and information with New England states that are actively working on PFAS projects to support research and development while aligning EPA's ongoing hazard assessments.

Explore Partnerships with Universities

OW will leverage its education and workforce development priorities to explore pilot programs with colleges and universities. OW will develop a list of educational institutions working on these programs.

Evaluation of Non-traditional GAC Regeneration Methods

Region 9 is supporting the evaluation of GAC regeneration using solvent-based approaches (ethanol, methanol, isopropyl alcohol, cetrimonium bromide surfactant). Results are intended to support reuse-based strategies for energy-constrained island settings (e.g., Guam and the Commonwealth of the Northern Mariana Islands).

Invest in Private Sector Innovation

In Region 10, the EPA Small Business Innovation Research program provided initial funding to Aquagga. Aquagga is conducting a municipal-scale thermal destruction demonstration for PFAS in Tacoma, Washington.

Demonstrating What's Possible through Pilot-Scale Initiatives

Partnering with States and Drinking Water Utilities

OW is actively partnering with approximately 40 drinking water utilities across the country to identify optimal treatment methods for removing emerging contaminants, including PFAS, and to help ensure the long-term effectiveness of those treatment methods. Through the Removing Emerging Contaminants through Engineering and Science Solutions (RECESS) program, EPA conducts pilot- and full-scale studies to help water systems select, install, or evaluate best available technologies or novel treatment technologies – at minimal cost to the system – while also contributing to the science of removing emerging contaminants, such as PFAS, from drinking water.



Engagement with Federal Partners

OLEM is exploring potential pilot projects with the Department of War and Department of Energy (DOE) for emerging destruction technologies. OLEM has begun engaging with Department of War to identify shared goals for PFAS pilot projects and identify technologies to test at appropriate sites with an emphasis on in situ destruction and other remediation techniques that do not require significant dig and haul costs.

Low-Level Soil Concentration Framework

OLEM is developing a framework for managing soil containing low concentrations of PFAS from non-point or diffusive sources. OLEM held six public engagement sessions with interested parties, including the construction industry, in April and May 2026 to clarify challenges associated with low-level PFAS in soil for construction/development projects.

Research, Development and Testing at Superfund Sites

Region 3 is piloting foam fractionation for groundwater PFAS removal and planning a permeable reactive barrier pilot project using Fluoro-Sorb and GAC.

Collaborate with Department of War

Willow Grove Naval Air Station in Region 3 is constructing a PFAS groundwater extraction and treatment system using ion exchange resin and GAC. Previous pilot projects successfully treated tens of millions of gallons.

Characterization, Destruction and Treatment Research

- Region 4 is engaged in ongoing remediation efforts at DOE, Navy, and Air Force facilities. Five Region 4 National Priorities List sites led by Air Force and Navy have implemented off-site drinking water provision actions and community outreach efforts to expand and ensure clean drinking water in the homes of nearby residents.
- Multiple pilot and research projects are ongoing in Region 4, including use of GAC, foam fractionation, and colloidal activated carbon at a Florida Navy site and implementation of colloidal activated carbon at a South Carolina DOE site.
- The Air Force is also doing a research project treating wastewater from an Active Fire Training Area on Air Force Base Tyndall in Florida.
- Region 4 is supporting a proof-of-concept project underway at the Galey and Lord Superfund Site in Society Hill, South Carolina, targeting bioremediation of PFAS-impacted soils and groundwater. R4 is working with OLEM, which plans to fund a contract with a bioremediation technology vendor to test PFAS degradation in soil and groundwater samples obtained from the site. The potential second phase would be an on-site pilot test of the technology, with a goal of reducing PFAS levels while preserving the integrity of soil matrices for future agricultural use.

“Hazardous waste cleanup sites managed by EPA are actively addressing PFAS contamination, and they can provide excellent opportunities for advancing critical technology to sample for and remediate PFAS.”

Steven Cook, Principal Deputy Assistant Administrator for the Office of Land and Emergency Management



- Region 8 is engaged in ongoing efforts with EPA Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remediation pilot projects at Air Force Bases in Utah, Colorado, Wyoming, and South Dakota using electrical discharge plasma, high-pressure membranes, micro/nanobubble aerators, supercritical water oxidation, and phytoremediation.

Advancing Cost-Effective PFAS Investigation Field Methodologies

Region 4 is undertaking a pilot project at the Galey and Lord Superfund site in South Carolina to evaluate the efficacy of incremental sampling for PFAS. Results could dramatically lower sampling and analytical costs for the site.

Pilot Testing Non-Traditional GAC Regeneration

Region 9 is continuing support for optimization of solvent-based GAC regeneration and PFAS removal, with pilot testing.

Translating Progress into Practical Actions

Launch *PFAS Break the Bond Navigator*

OW has convened a cross-agency workgroup to develop and implement a public-facing, agency wide, web-based PFAS destruction and removal technology navigator. The agency's "PFAS Break the Bond Navigator" will serve as a user-friendly filterable and searchable tool to help states and local leaders identify applicable and right-sized PFAS destruction and removal technologies. The tool's content and supporting documentation are under active development, and will build on the agency's most recent Destruction and Disposal Guidance.



PFAS Destruction and Disposal Technologies

OLEM is evaluating the performance of destruction, separation, and storage/disposal technologies, including those addressing air deposition, and will publish rolling updates to the *PFAS Break the Bond Navigator*, allowing new data, research findings, and technology advancement to be incorporated on an ongoing basis.

Distribute Dedicated Infrastructure Funding

OW is implementing water infrastructure funding programs. The Infrastructure Investment and Jobs Act (IIJA) allocated dedicated Emerging Contaminant funding through the Clean Water and Drinking Water State Revolving Funds and the Emerging Contaminants in Small or Disadvantaged Communities Grant program, enabling drinking water and wastewater systems, especially small and rural systems, to pursue planning and pilot projects for PFAS treatment.

Support Utility with New Treatment System

Region 8 provided funding for Commerce City, Colorado to construct an anion exchange facility at a drinking water treatment plant.

Real Water Technical Assistance

OW is helping drinking water and wastewater systems with PFAS challenges evaluate right-sized technology options. For example:

- **EPA's PFAS OUTreach initiative:** PFAS OUT proactively and systematically engages with water systems that face potential challenges with PFAS, with a focus on preparing drinking water systems for future compliance with federal drinking water standards for PFOA and PFOS. PFAS OUT helps public drinking water systems tackle PFAS challenges by connecting them to the resources needed to take action, including funding and Technical Assistance. With access to these resources and support from EPA and partners, water systems across the nation can take proactive steps to address PFAS and protect the health of the communities that they serve.
- **Tackling Emerging Contaminants Technical Assistance (TEC TA) Initiative:** In Region 4, Technical Assistance is being provided to eight communities in Region 4 (seven in North Carolina and one in Georgia) regarding public drinking water system PFAS treatment options, among other engineering design, operator training, and public outreach tasks.
- **RealWater Technical Assistance Program:** In Region 4, technical assistance was provided for two cities in Tennessee regarding public drinking water system PFAS treatment efforts, including assistance with applying for funding and performing engineering and design activities.

Installing Treatment Systems to Support Military Facilities

Region 6 is engaged in ongoing efforts at Cannon Air Force Base, Former Reese Air Force Base, and Lackland Air Force Base. These bases are working on installing pump and treat systems, using GAC and Ion-Exchange Resin.

Investigation and Remediation

Region 6 will continue participating in Tier 2 regulatory meetings (Army, Air Force, Navy, National Guard, Texas Commission on Environmental Quality, and EPA) and Tier 3 meetings to ensure consistency within Department of War at PFAS investigation sites and across the region on PFAS investigations/remediation.

Call to Action

Advancing EPA's PFAS TECH strategy is essential to achieving the shared goal of addressing PFAS by harnessing next-generation advanced science and technology with a focus on pragmatic actions and real-world impact. A key to success is cultivating partnerships across federal agencies, states, local officials, industry, associations, technical assistance providers, and other stakeholders to unleash research and development, pilot projects, and practical actions that are grounded in real-world experience.

To get involved, contact PFASTECH@epa.gov.



¹Disclaimer: Any mention of companies, manufacturers, non-federal entities or products does not imply an endorsement by the U.S. Government or the U.S. EPA. EPA and its employees do not endorse any commercial products, services, or enterprises.