

PFAS ASSESSMENT & REMEDIATION

OUR ROLE: To help our clients navigate this evolving regulatory challenge and to manage their PFAS liabilities over the long term.

Environmental Management & Planning

Civil/Remediation Engineering

Environmental Restoration

Natural & Water Resources

Health & Safety

Technology

WHAT ARE PFAS?



Man-made chemicals widely manufactured since the 1950s.



Used in many household and industrial products because of **stain- and water-repellant** properties.



Present **virtually everywhere in the world** (soil, groundwater, surface water, rain, ice caps, air, plants, animal tissue, blood serum) because of widespread use and slow breakdown.



Found in **fire-fighting foam, mist suppressants for metal plating operations, and coatings on furniture, carpets, and clothing.**



Highest concentrations linked to direct discharges from industries where PFAS are in use.



Extremely mobile (i.e., can travel significantly beyond the original point of release) in groundwater and surface water and **persistent in environmental media** (i.e., does not degrade to innocuous end products).

ON THE CUTTING EDGE OF EMERGING CONTAMINANT ISSUES:

Perfluoroalkyl substances (PFAS) rapidly emerged as constituents of concern after being added to United States Environmental Protection Agency (U.S. EPA) Unregulated Contaminant Monitoring Rule list in 2012. In 2019, U.S. EPA released the PFAS Action Plan, which identified its comprehensive regulatory strategy for PFAS under the Safe Drinking Water Act, Toxics Release Inventory Program, Toxic Substances Control Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) through 2025 (and beyond). Many of U.S. EPA's planned PFAS regulatory changes have been implemented, and others remain under development. In addition to federal regulatory responses, some states have developed regulatory and guidance advisory and cleanup levels for PFAS, many of which are changing rapidly.



EnSafe's dedicated PFAS Workgroup — comprising chemists, scientists, and engineers at office locations nationwide — continually monitors regulatory developments, identifies changes in laboratory methods, and assesses field technique impacts on data quality. Our vigilance ensures that our clients' investigation and remediation decisions are based on the most recent and technically defensible science. We continually refine plans and procedures to adjust site-specific project action levels, guide field techniques, identify applicable analytical methodology, and determine suitable response actions for PFAS-impacted media.

OUR GOAL IS TO HELP CLIENTS DEVELOP STRATEGIES TO MINIMIZE PFAS LIABILITIES AND CRAFT END-GAME SOLUTIONS.

Our vigilance helps ensure our clients' compliance, investigation, remediation, and due-diligence decisions are based on the most recent and technically defensible science and reflect a sound strategy for managing PFAS over the long term.



HOW CAN WE HELP?

Due Diligence/Background Research: EnSafe's experts have the up-to-date knowledge, experience, and resources for providing research on historical/current PFAS usage, whether we are performing a Phase I Environmental Site Assessment, conducting a CERCLA-level Preliminary Assessment, or providing project-specific research necessary to identify potential liabilities and determine the most appropriate strategic approach to mitigate risks. In addition to providing critical information to consider during transaction negotiations, such data are used to set environmental reserve values and project costs/timetables for potential regulatory enforcement actions down the road.



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Site Investigation: Where investigations are necessary, EnSafe's support is comprehensive. We develop data quality objectives, sampling and analysis plans, and quality assurance project plans to meet the demands of constantly evolving guidance and policy. We execute highly efficient field investigations to identify source areas, determine the extent of impacts to various environmental media, and appropriately dispose of investigation-derived waste. We have experience with PFAS impacts at federal, municipal, and industrial sites ranging in complexity from fire stations to wastewater treatment plants to legacy manufacturing facilities. Our chemists, field personnel, and in-house experts monitor changing analytical methods and data validation requirements, adapt protocols, and provide in-depth analysis to evaluate PFAS release histories. We work closely with our clients during planning and throughout the assessment phase to develop and refine strategic approaches for investigation and response actions, particularly given the uncertainties with respect to long-term site management and future regulatory framework.



Forensics/Fate and Transport: Reliable forensic investigations of PFAS sources have become a critical component in the data evaluation process to differentiate the original source(s) of PFAS (e.g., firefighting foam, plating shops, landfills). Our multi-disciplinary experts have experience in PFAS source evaluation using various forensic techniques, including chemical fingerprinting. Such state-of-the-art techniques — combined with Environmental Sequence Stratigraphy analysis, modeling, mapping, and statistics — are key in gaining an understanding of PFAS fate and transport through environmental media and fine-tuning the conceptual site model.



Risk Assessment: EnSafe's human health and ecological risk assessors track the evolving research of PFAS toxicology, keep abreast of unfolding regulatory guidance/policy, and work closely with federal and state agencies in developing risk assessment methodology to meet site-specific needs. Our approach balances on-the-ground lessons learned with recent developments, so we're not caught in a "do loop" of continuous revisions as new information is published.



Remediation/Cleanup: We design and implement both short- and long-term PFAS response actions, vet sustainable solutions for complex treatment scenarios, and partner with public and regulatory stakeholders to achieve remedial action objectives most appropriate given potential risks to human health and the environment. EnSafe's experts keep our clients apprised of best practices as PFAS remediation technologies advance, in parallel with the evolving regulatory environment, and are standing by, ready to develop a response/clean-up strategy to meet your project-specific needs.



AFFF Management: Many of our clients have used Aqueous Film Forming Foam (AFFF). EnSafe is assisting clients with identifying alternate foams or transitioning to fluorine-free foams to minimize future liabilities. In partnership with EnSafe's wholly owned subsidiary, GR2, we offer turn-key services, including front-end research, planning, and design through decommissioning/decontaminating suppression systems and apparatus, and managing AFFF wastes.



Community Relations Programs: EnSafe works hand-in-hand with our clients, regulators, and government officials to establish community relation programs. We support community information sessions, website portals, and other education and outreach throughout the PFAS mitigation process, particularly when properties and/or sensitive resources (wells, wetlands, etc.) have been adversely impacted.



CONTACT US

Dave Warren
(843) 628-1785
dwarren@ensafe.com

Lori Goetz
(901) 937-4276
lgoetz@ensafe.com

TEL 800.588.7962



Scan the QR code for the latest PFAS regulation updates and download EnSafe's detailed SOQ for more information.