

PFAS

**STATEMENT OF QUALIFICATIONS
PER- AND POLYFLUOROALKYL
SUBSTANCES
STRATEGIC CONSULTING SERVICES**

ENSAFE

Bridget Morello, PE
bmorello@ensafe.com
(813) 734-7985

David A. Warren, PG
dwarren@ensafe.com
(843) 628-1785

www.ensafe.com

*Cost-Effective, Custom Solutions
Technical Expertise & Experience
Award-Winning Technologies*



On the cutting edge of **Emerging PFAS Issues**

Per- and polyfluoroalkyl substances, better known as PFAS, have been used in industry and consumer products since the 1940s. PFAS are widespread because of their unique chemical properties — for example, when there is need for high thermal stability, improved mechanical or surface properties, or chemical resistance to acids, alkalis, or solvents. They are used to produce surfactants, protectants, wetting agents, and polymers. PFAS can be found in every facet of industry, including chemical manufacturing, aerospace, medical devices, cosmetics, construction materials, textiles, and semiconductors.

Questions about the health and safety risks associated with PFAS began emerging in the 1960s and 1970s, and public attention on PFAS started in the 1990s with identification of releases to the environment, contamination of water supplies, and subsequent litigation. In the ensuing two decades, both the U.S. Environmental Protection Agency (EPA) and state environmental agencies have been working to understand the extent of PFAS usage, estimate the severity of releases to the environment, and quantify the toxicology behind an ever-expanding class of compounds that are often deemed life- or process-critical.

In October 2021, EPA released its PFAS Strategic Roadmap proposing significant regulatory changes over the 2021 to 2024 time frame, with an array of measures related to the two most commonly known PFAS compounds: Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS). The EPA has proposed updates to laws and regulations including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous materi-

al definitions and the Resource Conservation and Recovery Act (RCRA) waste designations and subsequent waste management; effluent discharge and storm water permit requirements; and national surface water criteria. EPA has also increased reporting requirements under the Toxic Substances Control Act (TSCA) and Toxics Release Inventory (TRI). In May and June 2022, respectively, EPA published Regional Screening Levels and updated Health Advisories for select PFAS, and has continued to update Regional Screening Levels every six months. In April 2024 EPA finalized Federal drinking water standards for six PFAS. State-specific agencies continue to roll out their own PFAS action levels. Such developments are impacting federal facilities, municipalities, and industries across the country — many of whom may not realize they use PFAS daily.

WE ARE ENSAFE

EnSafe began as a two-person firm in 1980, navigating complex regulatory compliance issues associated with RCRA on behalf of our clients. While having grown to over 350 employees nationwide, including a dedicated PFAS workgroup of diverse professionals from various service lines, we have maintained the same nimble mindset allowing us to quickly adapt to ever-changing policy.

In addition to assisting our clients anticipate regulatory ramifications, we develop strategies to minimize PFAS liabilities and craft end-game solutions. Our vigilance ensures our clients' compliance, investigation, remediation, and due-diligence decisions are based on the most recent technically defensible science and reflect a sound strategy for managing PFAS over the long term.

WHERE DO YOUR ACTIVITIES POTENTIALLY INTERSECT WITH PFAS?

AFFF MANAGEMENT



Many of our clients have used Aqueous Film Forming Foam (AFFF), and EnSafe recognizes that, for some, future use of fluorinated firefighting foams remains essential. As the paradigm shifts, EnSafe will assist our clients with identifying alternative foams, whether complying with Military Specifications (MIL-SPEC) requirements or transitioning to fluorine-free foams (FFF) 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.

DUE DILIGENCE



EPA's definition of PFOA and PFOS as hazardous substances under CERCLA and differing state regulations have significant liability repercussions for both the seller and prospective purchaser. EnSafe assists clients in proactively identifying and planning for potential liabilities associated with PFOA and PFOS, as well as other emerging PFAS. We assess current/historical PFAS use and the potential for impacts to environmental media. In addition to providing critical information to consider during transaction negotiations, such data is used to set environmental reserve values and project costs/timetables for potential regulatory enforcement actions. We apply both our proven Phase I Environmental Site Assessment experience and PFAS expertise to provide accurate data for informed decision-making.

ASSESSMENT, INVESTIGATION & CLEANUP



Where PFAS are identified and response actions 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 policy. We execute highly efficient investigations, including disposal of investigation-derived waste. Our chemists, field crews, and in-house forensics experts monitor changing analytical methods and data validation requirements, adapt protocols, and provide in-depth analysis to evaluate PFAS release histories. We design and implement both short- and long-term response actions, vet sustainable solutions for complex treatment scenarios, engage in community outreach, and partner with public and regulatory stakeholders to achieve project-specific objectives most appropriate given potential risks to human health and the environment.

LITIGATION/FORENSICS SUPPORT



With PFAS-related lawsuits emerging nationwide, reliable forensic investigations of PFAS sources become critical in site investigations. Our multi-disciplinary PFAS experts have experience in PFAS source evaluation using multiple forensic techniques including chemical fingerprinting, signature chemicals, historical document review, and contaminant transport modeling. We're already investigating sites nationwide and are up-to-date with emerging science advancements, using the state-of-the-art analyses, data mining, statistics, mapping and display necessary for your litigation support or source differentiation needs.

POLLUTION PREVENTION



Whether PFAS are found in wastewater, storm water, or other waste streams, Pollution Prevention (P2) is one of our first lines of defense. P2 eliminates or reduces contaminants within facilities, rather than controlling pollution after it is generated. But because PFAS are difficult to identify within a facility, EnSafe’s approach includes a deep dive into processes, interfacing with suppliers to understand chemistry, verification through testing, and coordination with management and process engineering teams. We apply treatment technologies hand-in-hand with P2 techniques — identifying PFAS sources and finding substitutions, minimizing PFAS-impacted wastes, and isolating waste streams when PFAS are mission-critical — and work with management teams to develop P2 strategies for impacted waste streams.

PERMITTING & COMPLIANCE



Recent regulatory changes and revised guidance will change how PFAS-impacted wastes and wastewaters are managed — with resulting higher costs. We help clients navigate NPDES and Industrial Wastewater Discharge Permits, and associated changes to operations and treatment systems. We also support clients in PFAS usage tracking and reporting under both TSCA and TRI. We can assist companies as they navigate the profound changes to TSCA and TRI requirements finalized in 2023, which will trigger substantive due diligence and reporting. EnSafe also helps clients identify and manage PFAS in products regulated by California Proposition 65, including strategies to sample and document PFAS content.

RISK ASSESSMENT



EnSafe’s risk assessors are tracking the evolving research of PFAS fate and transport within biological systems and human and environmental toxicology. We keep abreast of evolving 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.

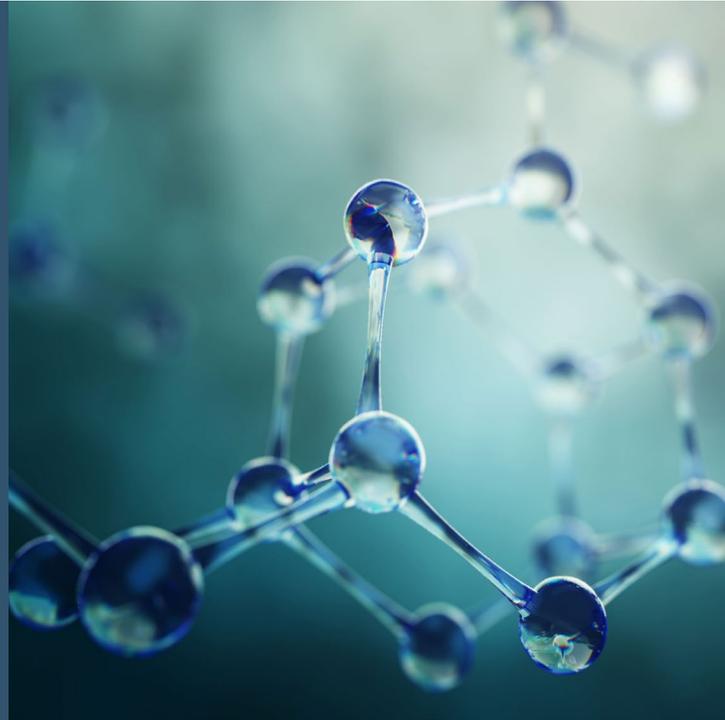
WASTEWATER & STORM WATER



When PFAS are present in wastewater or storm water, very low discharge criteria or threats to adjacent ecological receptors may trigger treatment of effluent prior to discharge. Wastewater treatment plant (WWTP) design holds an essential place in EnSafe’s PFAS toolbox. And because PFAS may be co-located with other contaminants and complicate treatment, our designs are long-term, holistic, and highly site-specific, depending upon PFAS concentrations, co-contaminants, and underlying water chemistry. We re-engineer site drainage to isolate PFAS-impacted systems and minimize treatment volumes, and design long-term, comprehensive remedies that optimize current and planned future infrastructure.

WHAT ARE PFAS?

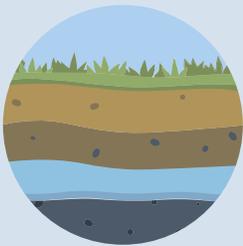
PFAS are **per- and polyfluoroalkyl substances**, a large class of **man-made chemicals** manufactured since the 1940s and used in many household and industrial products because of their heat and chemical resistance as well as their stain- and water-repellent properties.



PRESENT VIRTUALLY EVERYWHERE IN THE WORLD!



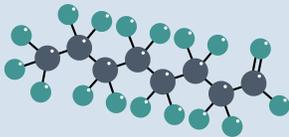
Because of widespread use and slow breakdown, PFAS compounds are in soil, groundwater, surface water, rain, ice caps, air, plants, animal tissue, and blood serum.



Heterogeneous environmental distribution, **accumulating in source areas and at interfaces.**

5,000-10,000

Individual PFAS compounds estimated to have been produced.



Most commonly associated with **Aqueous Film Forming Foam (AFFF)**, PFAS are associated with

OVER 200

industrial use categories to date.



A tiny fraction of PFAS,

LESS THAN 100 INDIVIDUAL COMPOUNDS, are currently commercially analyzed.

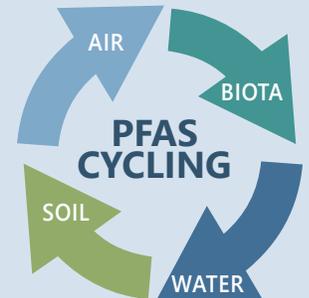


Unique fate & transport with **poorly characterized environmental generation** of common perfluoroalkylated PFAS from polyfluoroalkylated precursors.

HIGHLY MOBILE in the environment.



May **persist in the environment for very long times**, cycling between air, water, soil, and biota.



ON THE CUTTING EDGE OF EMERGING CONTAMINANTS

EnSafe has found that many clients do not realize they are using PFAS until they are identified in a wastewater sample and are traced back to a specific process — a wash bay or polymer coating, for example. With thousands of fluorinated products in use, and the definition of what constitutes a PFAS still in flux, the issue revolves around the transformation products — what the PFAS can degrade to — and the toxicity of those products. Unfortunately, PFAS and PFAS transformation products are persistent (they remain in the environment for decades or more) and pose health threats to human and ecological receptors.

ENSAFE'S ROLE

EnSafe assists our clients in navigating the evolving regulatory arena and managing PFAS liabilities by leveraging our expertise in the following areas:

- Evolving regulations and implications for our clients.
- Compliance support, including TSCA, TRI, California Proposition 65.
- NPDES and industrial wastewater discharge permitting support.
- Wastewater and storm water design/treatment.
- Pollution Prevention and waste minimization assessments.
- Due diligence evaluations and site assessment.
- Emergency response support.
- Removal/replacement of AFFF concentrate.
- Development of strategies, guidance documents, and best-management practices for PFAS management.
- Historical research to identify potential PFAS sources.
- Planning and execution for site investigations to evaluate release areas and determine extent of impact.
- Evaluation/implementation of field and laboratory methods to meet project needs and generate defensible data.
- Data evaluation and development of conceptual site models.
- Forensic “fingerprinting” for reliable source identification, age-dating, and fate and transport evaluations.
- Human health and ecological risk assessment and modeling.
- Regulatory negotiations/partnering.
- Litigation support and other strategic consulting.

PFAS HAVE A MYRIAD OF USES RESULTING IN THEIR PRESENCE IN:

- Fire-fighting foams
- Mist suppressants for metal plating operations
- Landfills
- Wastewater
- Biosolids
- Oil and gas industry
- Aerospace industry
- Textile industry
- Electronic devices
- Mining
- Photographic industry
- Automotive industry
- Semiconductor industries
- Furniture, carpets, and clothing
- Large variety of household and personal care products
- Plastic, rubber, and resins
- Coatings, paints, and varnishes
- Pesticides
- Pharmaceuticals
- Paper and packaging
- Lubricants and greases
- Sealants and adhesives
- Stone, concrete, and tiles
- Flame retardants
- Wire and cable insulation
- Gaskets and hoses
- Pipes, pumps, fittings, and liners
- Ammunition
- Metallic and ceramic surfaces
- Glass
- Optical devices
- Particle physics
- Medical utensils
- Sport articles
- Air conditioning
- Antifoaming agents
- Aerosol propellants
- Building and construction materials
- Wood industry
- Wire and cables
- Cleaning products
- Printing inks
- Refrigerants
- Deicing fluids
- Soldering
- Artificial turf
- Leather and apparel
- Lithium and other batteries
- Solar collectors and photovoltaic cells
- Windmill blades
- Machinery and equipment
- Laboratory supplies, equipment, and instrumentation
- Conservation of books and manuscripts

INTERSTATE TECHNOLOGY AND REGULATORY COUNCIL (ITRC) PFAS Technical and Regulatory Guidance Document

EnSafe is proud to support the ITRC, a State-led coalition working to reduce barriers to the use of innovative air, water, waste, and remediation environmental technologies and processes. EnSafe is represented in the ITRC PFAS Team by Dr. Ioana G. Petrisor, who has actively contributed to the development of the PFAS Technical and Regulatory Guidance document, specifically related to PFAS History of Use, Physical and Chemical Properties, Fate and Transport, and Site Characterization sections.



<https://itrcweb.org/>

SELECT EXAMPLES OF PFAS EXPERIENCE

PFAS EXPERIENCE

The regulatory, analytical, technical, and remedial requirements for PFAS (including PFOA/PFOS) compounds are evolving rapidly. We have witnessed daily changes in regulatory approach on some projects. That's why we track developments across the country and ensure that lessons learned are strategically applied to every project. Our cross-company knowledge transfer is how we maximize cost benefits for each of our clients. We know that a PFAS response is not one-size-fits-all, and the regulatory situation is not static for the duration of the investigation and compliance evaluations.

BECAUSE PFAS COMPOUNDS ARE EVOLVING RAPIDLY—ENSAFE RESPONDS RAPIDLY

We continuously track developments across the country

Lessons learned are strategically applied to all projects

Cross-company knowledge maximizes cost benefits for clients

DEPARTMENT OF DEFENSE, MULTIPLE LOCATIONS

Program Development/Soil and Groundwater Characterization/Long-term Groundwater Monitoring/Waste Management

Since 2013, long before PFAS was on the radar of most state agencies, EnSafe has taken a leading role with the U.S. Department of Defense (DoD) in responding to PFAS discharges across the country. EnSafe has provided full-spectrum support, ranging from development of data quality objectives and preparation of sampling and analysis plans/quality assurance project plans, investigation (sampling, laboratory coordination, quality assurance/quality control), and interim response actions in residential areas where PFAS were identified. Project efforts have involved community response, public and governmental interface, and connection of residents to public water supplies.

EnSafe has performed public outreach and potable well sampling in response to potential PFAS releases in the northeast and southeast regions.

As part of these sampling activities, EnSafe performed well surveys, prepared materials for and supported public outreach sessions, developed sampling plans, secured property access, tested private potable wells for PFAS, validated data, and prepared reports for both the well owners and the regulatory agencies.

We provided multi-faceted support for community relations, including preparing materials for a public open house, discussing risk communication techniques to be utilized during

meetings and subsequent sampling visits, and supporting the DoD and agencies during community relations events. We are fully aware of the complexities of field investigation and delineation, and the sensitivities of sampling private residential or municipal potable wells. We have also worked extensively at current or former airfields (Base Realignment and Closure properties and Formerly Used Defense Sites) and have significant experience working with stakeholders to identify historical PFAS release areas, including the CERC-LA Preliminary Assessment/Site Inspection process.

We have worked closely with DoD stakeholders, evaluating remedial technologies not just for full-scale remediation, but for treatment of investigation-derived wastes. The feasibility of treatment and disposal is highly dependent on regulations, PFAS concentrations, co-contaminants, and discharge options (i.e., Publicly Owned Treatment Works or NPDES permitting). Evaluation of options, testing, and permitting is integral to the process. We have managed PFAS-containing liquids using a variety of methods, including onsite treatment using granular activated carbon. We have also coordinated offsite solidification of PFAS-containing wastewaters, with disposal in Subtitle D or Subtitle C landfills. We have found the key to PFAS management is flexibility and communication, as PFAS regulatory issues may evolve mid-project, requiring changes in approach.

The DoD, with EnSafe's support, has led the way in developing standardized analytical approaches for other environmental media as well as Standard Operating Procedures (SOPs) for sample collection and data management. EnSafe works closely with DoD chemists and other technical/policy personnel as analytical and regulatory protocols change rapidly, ensuring that assessment activities and laboratory protocols are consistent with the most up-to-date standards. We remain in contact with the DoD representatives leading the charge on PFAS analysis and investigations.

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION, STATEWIDE, CONNECTICUT

Environmental Investigation Remediation and Project Management

In early 2021, EnSafe was contracted by the Connecticut Department of Energy and Environmental Protection (CTDEEP) to complete PFAS sampling and analysis of private, potable wells at residences throughout a local municipality. Following development of a programmatic PFAS sampling and analysis plan, including standard operating procedures and specifications for quality assurance and data usability assessment, EnSafe coordinated and led PFAS sampling activities at over 100 properties and two surface water bodies. Field tablets and survey-grade locating tools were used to collect data regarding well/water system construction, property layout, public utilities, septic systems, water treatment, water usage, and other pertinent information. Findings were used to prepare Conceptual Site Models and determine the need for further investigation and/or corrective action. EnSafe attended and supported the CTDEEP during a public meeting to inform residents about PFAS and the actions that CTDEEP was performing. As a result of potable well sampling, whole-house granular activated carbon treatment systems were installed at 18 properties. Long-term monitoring is in progress. EnSafe assists CTDEEP in tabulating and reporting effectiveness results for public distribution and awareness.

As part of a separate project with CTDEEP, EnSafe completed an investigation of a town-owned property, which included maintenance facilities and emergency response (fire) training areas, to evaluate potential PFAS release areas. The sampling plan was developed based on information on historical PFAS storage and use, obtained via records review, interviews, and a site reconnaissance. Soil borings and monitoring wells were used to facilitate collection of soil samples and groundwater samples for PFAS analysis, leading to successful identification of PFAS source area. Planning for interim response actions is underway.

SULLIVAN COUNTY INTERNATIONAL AIRPORT, SULLIVAN COUNTY, NY

Soil and Groundwater Characterization/ Stakeholder Interactions

Since 2017, EnSafe has been working with Sullivan County, the New York State Department of Environmental Conservation (NYSDEC), and the New York State Department of Health regarding scope of work details, site characterization planning, and implementing a PFAS investigation of soil, groundwater, and surface water surrounding the Sullivan County International Airport (SCIA). Investigation documents have



EnSafe is working at airports and other sites across the country to evaluate PFAS in soil, groundwater, and other media.

included a Records Search Report (RSR), a Site Characterization Work Plan (SCWP), and the resulting Site Characterization Report (SCR). The RSR included:

- A review of historical documents related to facility operations, environmental conditions, fuel tank systems, maintenance facilities, hangars, firefighter training, fire equipment storage, and utilities to identify potential onsite sources of PFAS.
- A cursory review of surrounding property uses to identify potential offsite PFAS sources.
- Identification of multiple locations across the SCIA where AFFF may have been used, handled, or stored, and recommended those locations for further investigation.

Based on the RSR, the SCWP developed an investigation strategy for procedures and methodologies for investigating those locations for PFAS.

Overall, the SCR concluded that — based on the comparative analysis of relative soil, groundwater, and drinking water sample PFAS profiles — the source of offsite PFAS impacts to drinking water was likely associated with the use, handling, and storage of AFFF at the SCIA. Residual PFAS mass within the overlying soils and sorbed within fine-grained aquifer materials had the potential to act as a persistent source for long-term leaching of PFAS to groundwater. However, based on soil and groundwater analytical results, PFAS degradation was actively occurring during leaching to, and migration within, the aquifer underlying the SCIA.

Additional response actions are currently underway, including fish and wildlife assessments, additional soil and groundwater sampling, sediment and surface water sampling, borehole geophysics, and offsite drinking water supply sampling.



Field sampling requires PFAS-specific SOPs to ensure data quality and minimize the chances of cross contamination from ubiquitous PFAS sources.

Offsite sampling identified the need for interim response measures (providing bottled water service) to property owners with PFAS-impacted potable wells. A Remedial Investigation Report (RIR) is being prepared to present a qualitative exposure assessment and associated recommendations for areas of concern that exceed NYSDEC screening criteria, which will be used as the basis for a feasibility study.

PFAS SUPPORT, TRI REPORTING

Multiple Industries

EnSafe is providing PFAS-related TRI support to multiple industries, triggered by changes to reporting requirements beginning on January 1, 2022. These include tracking 179 different PFAS, usage rates, and (through the end of reporting year 2023) *de minimis* quantities. Starting with reporting year 2024, PFAS are designated as chemicals of special concern, which eliminates *de minimis* exemptions and changes reporting thresholds. EnSafe is working with clients to assess the impacts of these changes, and to develop a sound approach to data collection on additional PFAS-containing chemicals. In addition to assessing usage requirements, we are supporting many of these same industries in evaluating PFAS releases into water and wastewater, in anticipation of future developments with NPDES and local WWTP permitting.

MICHIGAN WATER SUPPLY SUPERFUND SITE

Confidential Client

EnSafe's ongoing management of this Superfund site has included assessment and remediation of PFAS in site groundwater. We prepared a Quality Assurance Project Plan Addendum for assessment of emerging contaminants PFAS and 1,4-dioxane, and completed several rounds of groundwater sampling at select locations site-wide. While this is a federal Superfund Site, EPA does not have promulgated standards for 1,4-dioxane or PFAS in drinking water. Michigan Department of Environment, Great Lakes, and Energy (EGLE) does have promulgated drinking water criteria for 1,4-dioxane and six PFAS, and all of the analytical results are being compared to the EGLE drinking water criteria. One of the site source areas has a groundwater extraction system with treatment via granular activated carbon adsorption, and discharge to the City's WWTP pursuant to an Industrial Use Permit. System influent and effluent are routinely monitored for PFAS. The granular activated carbon system has effectively reduced influent PFAS to below Industrial Use Permit discharge limits. EnSafe is working with stakeholders to develop a Contingency Plan for protecting the City's water supply from potential PFAS impacts from this site.

CALIFORNIA PROPOSITION 65 SUPPORT

Confidential Client

Addition of PFOS and PFOA to California's Prop 65 consumer protection regulations required a client that manufactures aluminum shower doors to evaluate next steps. Given the complexity of the manufacturing process and the absence of Safe Harbor Levels, EnSafe compliance experts and toxicologists reviewed process information, chemical usage data, and Prop 65 requirements and worked closely with the client and legal counsel to develop a path forward.



CALIFORNIA PROPOSITION 65

WARNING

This product can expose you to chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

For more information, go to
www.P65Warnings.ca.gov

INDUSTRIAL WASTEWATER TREATMENT PLANT UPGRADE PROJECT TO ADDRESS TREATMENT OF ACROLEIN AND PFAS

Confidential Client

While working on WWTP upgrades to address acrolein at a railroad maintenance facility in New England, EnSafe advised the client about the potential for future PFAS effluent limitations. Design efforts proceeded in parallel with monitoring regulatory developments. EnSafe worked closely with maintenance facility personnel to determine whether PFAS were used, and sampled multiple waste streams to establish background and baseline PFAS concentrations. In November 2021, regulators sent letters to all industrial customers, including the client, stating that they would begin sampling for PFAS in wastewater discharges as part of its ongoing compliance monitoring program in 2022.

Space limitations inside the existing treatment plant limit the footprint for any new treatment equipment and resulting in a temporary hold on the fabrication of a treatment module for acrolein until it is determined if PFAS treatment might also be required.

EnSafe finalized a baseline PFAS sampling plan at the railroad maintenance facility to identify potential sources, establish background levels in City water, and evaluate variation and ranges in PFAS concentrations.

The first round of PFAS wastewater samples has been collected. If it is determined that PFAS compounds will require treatment, treatability testing and pilot studies will be designed and completed to identify the most cost-effective option to treat PFAS and acrolein as part of the ongoing WWTP upgrade project.



Potential PFAS sources were evaluated as part of upgrades for a wastewater treatment plant at a rail maintenance facility.
 Pi.1415926535, CC BY-SA 3.0 <<https://creativecommons.org/licenses/by-sa/3.0/>>, via Wikimedia Commons

CUSTOMS AND BORDER PROTECTION, JACKSONVILLE, FL

AFFF Suppression System Decommissioning

EnSafe and its subsidiary GR2 conducted the removal and replacement of AFFF concentrate from a tank and associated piping at a U.S. Customs hangar located within a Naval Air Station in Florida. The AFFF concentrate in the tank contained legacy AFFF which exhibited PFOS/PFOA concentrations above MIL-SPEC limits (i.e., greater than 800 parts per billion [ppb]). The scope of work included collection of all PFOS-/PFOA-contaminated AFFF concentrate and rinse waters from the tank and associated piping. The tank was replenished with MIL-SPEC-compliant (Mil-F-24385) AFFF concentrate which exhibited PFOS/PFOA concentrations below MIL-SPEC thresholds; the tank and suppression system was tested by a fire safety engineer. Generated wastes included removed AFFF concentrate, rinsate water, and decontamination fluids that were disposed of at an approved Waste-to-Energy facility for incineration.



Bladder tank with MILSPEC-compliant (Mil-F-24385) AFFF concentrate

ENSAFE INC. – WHO WE ARE

creative thinking. custom solutions.

EnSafe Inc. is a global professional services firm providing engineering, environmental, health & safety, and technology services to industry and government clients worldwide. Our dedication to the stewardship of our clients' resources is best explained by one of our longstanding clients: "EnSafe personnel always think about the issues as if they were in your shoes as owners of the business." Regulators know us as technically competent and appropriately assertive in representing our clients' best interests. What really sets us apart is our outside-the-box thinking that leads to innovative and cost-effective solutions.

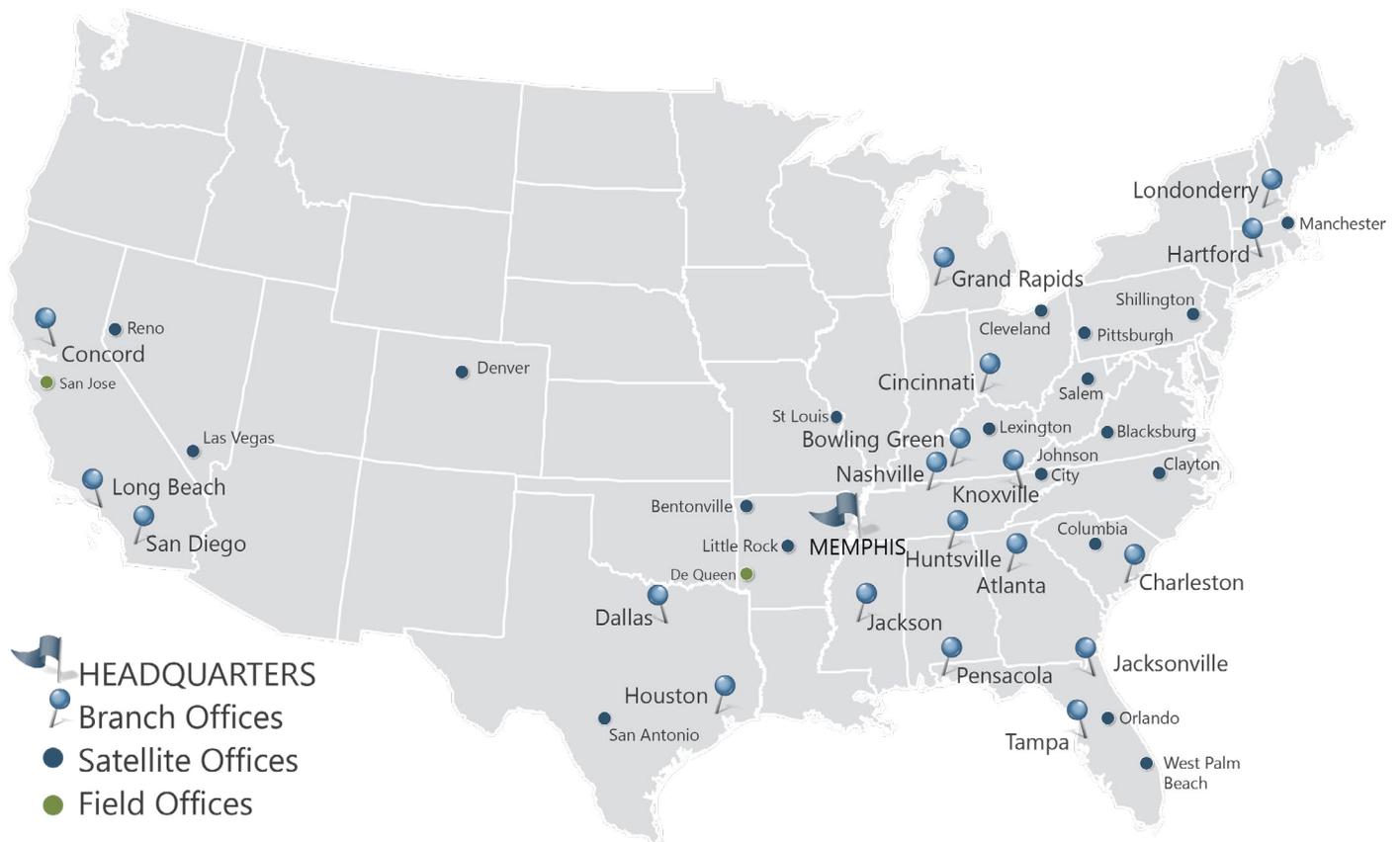
Environmental Management & Planning

Environmental stewardship requires robust management and planning. Our diverse staff of environmental specialists are ready to apply innovation and creativity to whatever challenges your business currently faces within the myr-

riad of local, state, and federal regulations. Whether we are charged with evaluating the compliance status of an industrial facility, quantifying environmental liabilities and risks, or assessing properties for real estate transactions, we are committed to providing you with pragmatic, cost-effective strategies for maintaining compliance, minimizing liabilities, and improving environmental performance.

That's why EnSafe's engineering solutions are customized to the unique requirements of each client and each project. Whether working on site development, storm water management, water/wastewater treatment, soil or groundwater remediation, or solid waste management, EnSafe's team of experienced engineers is committed to developing cost-effective, site-specific solutions to accomplish both long- and short-term goals.

EnSafe offers the personal attention of a small firm with the national resources of a large firm. Local flavor, nationwide.



Our solutions stand out because we provide our clients with the complete picture – specific goals, constraints, and risks clearly communicated. This “front and center” approach drives strategic, nimble delivery. Our engineers do more than just satisfy budget and schedule. Our tailored solutions validate the trust and care upon which our long-standing relationships are built.

Health & Safety

EnSafe understands that the lifeblood of any successful organization originates with its people. When workers are protected, they are freed to focus on your company’s core business. Our top priority at EnSafe is providing cost-effective, creative solutions to your most challenging health and safety issues. EnSafe’s Health & Safety Team helps you protect your most valuable resource ... your people.

Environmental Restoration

EnSafe’s experienced environmental restoration professionals are equipped to restore your resources to renewed productive reuse – whether environmental remediation of a previously contaminated site, redevelopment of a Brown-fields property to serve the local community, or decontamination and decommissioning of a site for reuse by an incoming industry. We ask the right questions to define the problem and design a solution that considers traditional constraints, such as budget, down-line liability, schedule, community relations, and management buy-in.

Natural & Water Resources

Protection and management of natural resources (our streams, wetlands, and endangered species) can have a significant impact on project schedules and budgets. Given today’s complex regulations and the ever-increasing emphasis on judicious natural-resource management methods, partnering with a knowledgeable, responsive, and reliable consultant is essential. EnSafe’s track record of technical and regulatory expertise has earned us the high regard of both our clients and environmental regulatory agencies.

Technology

EnSafe’s Technology Division is comprised of three service groups —Software Development, Geographic Information Systems, and Networking Infrastructure. With our Technology Division, additional services (engineering, environmental, and health & safety), and strategic alliances, EnSafe builds teams of highly qualified technical professionals with business domain expertise. EnSafe specializes in technologies that optimize our clients’ business processes — from systems planning and software to interactive mapping and infrastructure management.

GR2

Remediation and Restoration Services

GR2 is a wholly-owned subsidiary of EnSafe Inc., specializing in remediation, demolition, decommissioning, abatement, and civil construction services. GR2 has been providing quality services to our clients since 2000. Originally founded as Operations Contracting Services, the company was re-branded as GR2 in 2013. Based in Memphis, Tennessee, with a second office in Nashville, GR2’s project approach allows us to successfully service our clients across the U.S. in a variety of industries and locations with a strong focus on quality, customer service, and safety.

GR2 Services

GR2 industrial, abatement, and remediation services include the following:

- Asbestos abatement
- Confined-space entry
- Construction of industrial waste landfill caps
- Decommissioning and decontaminating industrial facilities
- Hydroblasting
- Lab packs
- Lagoon closure
- Management of transportation and disposal of waste and contaminated media
- Mold services
- Monitored natural attenuation
- Remediation construction (including piping and trenching for groundwater remediation systems, soil bioremediation and venting systems, etc.)
- Removal and containerization of waste and contaminated media
- Removal and disposal of underground storage tanks
- Site characterization and remedial design
- Structural/industrial demolition
- Tank (pit and sump) cleaning
- Vacuum truck services



Remediation and Restoration
Services



ENSAFE

ENGINEERING | ENVIRONMENTAL | HEALTH & SAFETY | TECHNOLOGY

5724 Summer Trees Drive | Memphis, TN 38134 | 800-588-7962 | www.ensafe.com