



## EMERGING CONTAMINANTS – PFAS & AFFF



MSE has extensive experience with the development of objective per- and polyfluoroalkyl substances (PFAS) and aqueous film forming foam (AFFF) investigations, strategies, and assessments as well as the development of necessary conceptual site models, data quality objectives, sampling and analysis plans, and standard operating procedures.

Our team can provide the full range of comprehensive services to assess, detect, manage, and address the impacts of PFAS and AFFF contamination. Additionally, we have the experience, expertise, and personnel to complete turnkey AFFF concentrate characterization, removal, and disposal as well as provide upgrades relative to the latest EPA-approved AFFF replacement products.

Our extensive history supporting the Department of Defense (DoD) with these types of projects provides unique insights into issues related to property transfer, environmental liabilities, access, long-term stewardship, and field efforts in sensitive and highly secure areas. We also have extensive legal support capabilities to help clients stay ahead of the ever-changing regulatory environment associated with these emerging constituents. For non-DoD owners, we stand ready to assist you in all facets of this crucial issue in our industry, and ensure at all times that sound, cost-effective solutions are implemented to maximize protection of human health and the environment.

## SERVICE LIST

- Review of historical documents to identify potential sources of PFAS
- Site investigations to determine presence or absence of PFAS in various environmental media
- Development of conceptual site models to determine migration pathways and potential receptors
- Regulatory coordination of site-specific remedial action goals and risk assessment input
- Development of sampling and analysis plans and standard operating procedures
- Preparation of data quality objectives and compliant UFP-QAPP
- Groundwater, soil, sediment, surface water, potable water sampling, and AFFF concentrate sampling
- Turnkey AFFF concentrate removal, replacement, and disposal in secure and flight line locations
- Regulatory consultation and risk management regarding industry regulations and their potential to affect your business
- Safety plan development and personnel monitoring in absence of long-term toxicity data
- Community relations support for communities affected by PFAS detections
- Emergency response



## ABOUT US

FOUNDED IN 2002

MSE Group, a Montrose Environmental Group company, is an international environmental, engineering, and construction firm providing qualified and competitive environmental, engineering, and health and safety services to public and private entities nationwide. Success for our clients, teaming partners, and employees is derived from an intense work ethic and the ability to enjoy the journey.

As a part of the broader Montrose network, which includes more than 70 offices globally, MSE stands ready to support your needs and exceed your expectations every time.

# PRACTICE AREA

## FACTS

MSE's experience includes:

- Removal, disposal, and remediation of sites where PFAS contamination has been identified.
- Compliance procedure evaluations for PFAS assessment and tank closures in accordance with federal, state, and local regulations.
- Development of plans for proper decontamination, removal, and disposal of USTs that contain or contained AFFF in various states nationwide.
- Evaluation of guidance documents developed by the Army, Navy, Air Force, Marine Corps, and municipalities to ensure a consistent approach when identifying and treating PFAS contamination.



# REPRESENTATIVE PROJECTS

**Future AMF Baseline Environmental Impact Investigation (BEII) at Orlando International Airport, Florida:** MSE investigated the site of the future aircraft maintenance facility (AMF) for the Greater Orlando Aviation Authority (GOAA). Prior to being transferred to GOAA, the property had been the site of the former McCoy Air Force Base, and was used as a burn pit and fire-fighting training area (FFTA). The sampling efforts involved investigating potential PFAS impacts. The BEII tasks performed included review of environmental data records, historical aerial photographs, and fire insurance maps; personnel interviews; and onsite visual inspections. Site investigation work included sampling and analysis of soil and groundwater for PFAS using EPA Modified Method 537 Rev 1.1. Both, PFOA and PFOS were detected in soil below the current Army guidance for residential exposure and groundwater below current health advisory levels.

**AFFF UST Compliance Support at Youngstown Air Reserve Station (YARS), Ohio:** MSE is performing the removal and assessment of two USTs and one AST at YARS that contain AFFF and/or rinsate with PFAS. The tanks are being removed concurrent with an ongoing Preliminary Assessment and Site Investigation to address PFAS liabilities at the reserve station. Based on current DoD guidance and Air Force Reserve Command directives, AFFF concentrate, PFAS-containing rinsate, and soils impacted with PFOA and PFOS concentrations above the EPA RSL are being removed and incinerated at an RCRA-permitted facility. Under this project, plans and specifications were prepared to clean and remove the tanks from the existing fire station, which requires excavation inside the building. Waste profiles, manifests, and disposal records for AFFF and PFAS-contaminated media were also developed.



# SUCCESSES

## EXCELLING IN OUR FIELD

**MSE is on the forefront dealing with emerging contaminants such as PFAS, AFFF and 1,4-Dioxane. Because of our extensive federal experience with these chemicals of concern, we are one of only a few consultants specifically qualified to assist clients in mitigating potential risks associated with these types of projects. While everyone else in the industry is talking about this, MSE's clients are entrusting us to do the work!**

**Environmental and Installation Restoration Program Support and Preliminary Assessment and Site Investigation for PFAS at Marine Corps Recruit Depot (MCRD), Parris Island, South Carolina:** MSE recently prepared a Preliminary Assessment Report of potential sources of PFAS at MCRD Parris Island, for the Department of the Navy. During the assessment, MSE evaluated the potential for PFAS at facilities and locations within the entire installation. Potential areas of interest evaluated included facilities that stored and used AFFF, performed electroplating operations, received/handled/disposed of solid waste and/or wastewater, and other potential source areas such as those used for water-proofing military uniforms and equipment. Research on AFFF sites included areas of active fire and rescue operations such as aircraft crash sites, vehicle fires, and training areas. The Preliminary Assessment under the CERCLA process reviewed 49 potential areas of interest and identified nine locations to perform Site Investigations due to potential impacts from PFAS use.

**AFFF Turnkey Removal and Replacement, Department of Defense Air Station, Florida:** MSE is currently providing turnkey design and construction services for removal and replacement of legacy AFFF with new, compliance MILSPEC AFFF with short-chain fluorotelomers that are characterized with lower concentrations of PFOS and PFOA. The project is being conducted for 30 ASTs and delivery systems within active areas adjacent to the flight line as well as military aircraft maintenance areas that are subject to squadron activation and mission changes. Tasks include pre-work inspection of all ASTs and delivery piping, isolation of all mechanical valves, removal and storage of legacy AFFF, triple-rinsing of ASTs and piping, replacement with modern MILSPEC AFFF product, and transport and incineration of legacy AFFF and decontamination rinsate. The project also consists of design and retrofit of delivery systems to improve operability and safety in accordance with fire protection engineering principles and practices. Significant planning is required with all mission-ready civilian and military personnel as well as installation-based fire protection forces. MSE is conducting all design and construction activities in-house.

## FOR MORE INFORMATION ABOUT MSE GROUP, PLEASE CONTACT

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EXCEEDING EXPECTATIONS EVERY TIME