

U.S. Air Force's Programmatic Approach to Protecting Human Health and Environment from PFAS

Michael Self (michael.self.4@us.af.mil) (Air Force Civil Engineer Center, San Antonio, TX, USA)
Melissa Helton (melissa.helton@woodplc.com) (Wood EI&S, Knoxville, TN, USA)

Background/Objectives. In 2009, the US DoD established an Emerging Contaminant Program to evaluate one emerging contaminant class, per- and polyfluoroalkyl substances (PFAS). The US DoD initiated numerous measures to address releases of PFAS resulting from its use of AFFF. These response actions include the issuance of policy memorandums and guidance, revamping its fire training facilities, revising training protocols, initiating the replacement of C8-based AFFF, executing PA/SI's to evaluate if there is a threat to human health and the environment, conducting and sponsoring research in analytical techniques, risk assessment, and treatment technologies; and implementing mitigation measures to minimize drinking water exposures. This presentation will cover how the Air Force evaluated PFAS across the United States using a proactive and programmatic project approach focusing on four primary facets of project management: conception/initiation; definition and planning; project launch and execution; and performance and control. Each facet was uniquely approached to accommodate the ever-changing and dynamic social, scientific and regulatory status of this emerging contaminant class. In addition, the results and lessons learned from the process will be shared.

Approach/Activities. The USAF approach follows an emerging contaminant protocol coined "Identify, Respond, and Prevent" to address PFOS/PFOA contamination at all USAF installations (Active, Reserve, ANG, and BRAC). A criterion for mitigation activities in accordance with USAF policy referred to as the "3Ps" (probability, proximity, and pathway) is employed after confirmation of PFOS/PFOA above lifetime health advisory. The USAF continually re-evaluates prioritizations based on regulatory changes and stakeholder concerns using a tiered approach for contamination found in receptor drinking water and groundwater. A critical component to the success of the USAF program is a communication strategy with all stakeholders (DoD, federal/state representatives, regulatory agencies, communities, contractors). This includes development of a PFOS/PFOA webpage, Public Affairs guidance and toolkit, media engagement, and community engagements/public meetings.

To identify technology solutions to PFOS/PFOA cleanup issued, the US DoD has shifted investments to focus on emerging contaminants. Research is being funded through BAA's SERDP, and ESTCP. An update on the research activities will be discussed.

Results/Lessons Learned. Key protocols, tools, systems, and strategy will be discussed and highlighted. Challenges with identifying requirements that align with current policy and regulations were overcome in order to implement timely execution of projects and timely mitigation of exposures and risk to human health and the environment.