

Department of the Air Force PFAS Snapshot

Per- and polyfluoroalkyl substances (PFAS) are a large class of chemicals found in many consumer products, as well as in industrial products such as certain firefighting agents called aqueous film forming foam (AFFF). In the 1970's, the Department of Defense (DoD) began using AFFF, which is the most efficient extinguishing method for petroleum-based fires and is widely used across the firefighting industry, to include all commercial airports, to protect

people and property. Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), DAF has identified locations where PFAS releases off-base have impacted drinking water.

IDENTIFY & INVESTIGATE



100% Preliminary Assessments (PAs) (204/204) and Site Inspections (SIs) (191/191) Completed

BRAC: 39 PAs; 30 SIs | **Active/Reserve:** 90 PAs; 86 SIs | **ANG:** 75 PAs; 75 SIs

68% Remedial Investigations (RIs) in Progress (130/191)

BRAC: 18 OF 30 RIs | **Active/Reserve:** 82 OF 86 RIs | **ANG:** 30 OF 75 RIs

No PFAS releases identified at 13 of 204 locations and did not require SIs. PA and SI data focused on AFFF-sources. DAF is currently evaluating potential release of PFAS from non-AFFF sources, and if release is confirmed, will be included in future RIs

RESPOND

CERCLA DRINKING WATER RESPONSES



36 Installations

Private Drinking Water Wells

- Bottled water
- Point-of-use filtration
- Whole-house filtration
- Municipal Water Supply hookup
- New well installation

14 Installations

Public Drinking Water Systems

- Funded public water purveyors to:
- Install filtration systems
 - Perform operation & maintenance

23 Installations (39 sites)

Interim Response Actions (IRA)

- Installation of groundwater extraction and treatment systems
- Removal of PFAS impacted soils

PREVENT

Past Actions

100%

539 hangars, 23 GOCO facilities transitioned from legacy AFFF to C6 AFFF in stockpiles and fire trucks

\$10.8M

Cost to date to replace and dispose of legacy AFFF in stockpiles and fire trucks

979,000

Total gallons of legacy AFFF disposed thus far

Current Actions

100%

DAF-operated AFFF hangars locked out/tagged out (539/539) Apr 2023* AFFF removal contracts awarded for OCONUS facilities

\$9.2M

AFFF replacement with fluorine-free foam (F3) complete for 11 of 23 GOCOs; remaining 12 GOCOs, two presidential airlift hangars and fire vehicles/apparatus are in progress

Future Actions

1 Oct 24

Target to complete AFFF replacement with F3 from hangars & vehicles. CONUS AFFF contract under development

542,500

Total gallons of AFFF concentrate in facilities to be disposed of

445,800

Total gallons of AFFF Concentrate in fire vehicles/storage to be disposed of



\$2.19B Total Force expenditures** PFAS actions to date

*Does not include hangars at Government Owned Contractor Operated (GOCO) Air Force Plants. Two presidential airlift hangars in service will have F3 by FY25. **Expenditures as of Jan 2024

INNOVATIVE TECHNOLOGIES

DAF is currently hosting **55** technology demonstration projects at **28** installations in our effort to collaborate with DoD in developing and field testing of innovative technologies to treat or destroy PFAS in soil, water and AFFF concentrate

DoD has invested over **\$300M** to-date, to advance technologies to expedite PFAS cleanup and test and develop Fluorine Free Foam (<https://serdp-estcp.mil/>)

DAF funds innovative technologies through the "Broad Agency Announcement (BAA)" and Air Force Research Lab contracts to demonstrate and validate technologies for DAF-specific needs

Installations Status Update*

Active/Reserve Installations

Cannon AFB, NM: 3 off-base private drinking water wells impacted: 3 FSI; IRA to mitigate groundwater migration initiated in Southeast Corner May '21, and in North Playa September '23

Davis-Monthan AFB, AZ: No off-base private drinking water wells impacted: 3 public water wells impacted (shut down); IRA includes Environmental Services Agreement with regulator for treatment at one impacted public water well

Dover AFB, DE: 9 off-base private drinking water wells impacted: 9 FSI

Eielson AFB, AK: AF signed interim record of decision to connect residents to municipal water. 179 out of 192 (93%) eligible properties for municipal water connection (properties with habitable structures and private drinking water wells impacted) were connected to municipal water by Oct. '22 and BWP at 2 properties. GAC system installed at an on-base water treatment plant

Ellsworth AFB, SD: 23 off-base private drinking water wells impacted: BWP at 3, FSI at 20 residences and 1 mobile home park, 1 well connected to base water supply, and 3 wells connected to city water

Fairchild AFB, WA: 107 off-base private drinking water wells impacted: 28 BWP, 90 FSI, 4 municipal connections, 2 municipal wells impacted (1 well inactive) and an Environmental Services Agreement with City of Airway Heights for reimbursing drinking water impacts due to PFAS in supply wells. NTCRAs include a groundwater pump and treat system pilot study at FT004

Goodfellow AFB, TX: 33 off-base private drinking water wells impacted: BWP, sampling completed, 6 residents connected to municipal source, FSI at 20 off-base wells, 4 FSI in progress, 1 FSI on hold, 2 municipal connections in progress

Homestead ARB, FL: 4 off-base private drinking water wells impacted; FSI at 3 locations; BWP at 4th while FSI is implemented; BWP at 1 additional location while monitoring continues to evaluate a one-time exceedance

Hurlburt Field, FL: Initial sampling results showed 2 locations were impacted; however, confirmation sample results impact at one location, and the other location a No Further Action (NFA) letter sent to the resident because the property is connected to a public water supply system, but the resident elects not to use it. Conducting quarterly sampling at 3 private drinking water wells

JBER-Fort Yukon LRRS, AK: No off-base impacts. 1 on-base well impacted: FSI

JB McGuire-Dix-Lakehurst, NJ: 6 off-base private drinking water wells impacted: all 6 connected to municipal water. Well head treatment installed on 1 municipal well based on NJ MCL; 2 on-base public water supply wells impacted, wells decommissioned, and a new on-base deep well and public water system constructed; began operation Apr '23

JBSA Randolph, TX: 4 off-base private drinking water wells impacted: FSI at 3 wells, 2 wells connecting to a public water supply (in-progress, including 1 that is currently on FSI). IRAs include pilot study to build a slurry wall and treatment system at base boundary

Little Rock AFB, AR: 4 off-base private drinking water wells impacted: 2 of the 4 on FSI and 2 BWP

Luke AFB, AZ: 3 off-base private drinking water wells impacted: all connected to municipal water. 3 public utility wells impacted and FSI. IRA includes an ion-exchange system installed and ongoing treatability study at Valley Utilities, and feasibility study for pump-and-treat system upgradient of impacted municipal and private wells

McCormick AFB, KS: 4 off-base private drinking wells impacted; 1 location connected to municipal water supply; BWP at 1 location and in process of providing bottled water at 2 additional properties

Mountain Home AFB, ID: No impacts to off-base drinking water wells. 2 on-base drinking water wells impacted: one well replaced by non-impacted well; second well decommissioned and facility connected to base drinking water system. Base operates 3 other drinking water wells located in non PFAS impacted areas

New Boston SFS, NH: Off-base private well inventory and sampling project underway ECD May '24. FSI for 1 building using impacted groundwater source

Peterson SFB, CO: 26 off-base private drinking water wells impacted: 21 residential wells with FSI, 2 wells with FSI at a mobile home park, 2 city water connection, and BWP at one 1 location. In addition, there are 42 municipal wells with FSI. IRA includes treatment of PFAS in surface water and sediments in Pond 3

Scott AFB, IL: 1 off-base private drinking water well impacted: FSI

Shaw AFB, SC: 3 public water systems, 5 businesses and 42 residential wells (totaling 59 wells) impacted: BWP to 176 residences/locations, 22 municipal connections underway, sampling ECD Feb '25; BWP contract pending. IRA includes installation of pump and treat systems at three former FTAs, ECD Dec '24

Tinker AFB, OK: 7 off-base private drinking water wells impacted: BWP at 1 location, 2 FSI, 4 municipal connections, and 1 municipal connection by June '24

Travis AFB, CA: 3 off-base private drinking water wells impacted: FSI at all 3 locations; BWP discontinued Dec '21

Wright-Patterson AFB, OH: No private drinking water wells impacted. 2 on-base wells impacted. GAC system installed. Implementing NTCRAs at 5 AFFF sites to treat PFAS-impacted groundwater and surface water

BRAC Installations

Former Castle AFB, CA: 3 private wells impacted, FSI at 3. IRA includes addition of GACs to two existing groundwater treatment systems

Former Chanute AFB, IL: IRA to treat discharge from former landfill leachate

Former George AFB, CA: 1 private well impacted; FSI

Former K.I. Sawyer AFB, MI: 1 private well impacted; FSI

Former March AFB, CA: 2 private wells impacted; connected to public water supply; 1 public well impacted and carbon treatment system on-line, cooperative agreement in place. IRA includes addition of GACs to existing treatment systems

Former Mather AFB, CA: 2 private drinking water wells impacted: BWP for both. 2 public wells impacted, FSI. IRA includes addition of GACs to existing groundwater treatment systems

Former Pease AFB, NH: 5 private drinking water wells impacted: 2 connected to public water supply, 2 FSI, and 1 well shutdown. Also, 7 private drinking water wells above NH MCLs: 3 connected to public water, 1 DAF-FSI, 2 private FSI, 1 BWP by NH. 2 public wells impacted: both carbon treatment systems online, cooperative agreement in place for O&M. IRAs include two groundwater treatment systems

Former Plattsburgh AFB, NY: 4 private drinking water wells impacted: 3 FSI, 1 BWP. 3 private wells above NY levels, and State of NY has FSI for these 3 wells

Former Reese AFB, TX: 267 private drinking water wells impacted: 259 FSI, 2 BWP. 4 public wells impacted: 1 public well replaced with public water supply, 1 public well FSI, 2 other public wells awaiting FSI, 75 homes BWP. IRA includes treatment systems to control migration of PFAS to Picnic Lake

Former Wurtsmith AFB, MI: 1 private drinking water well impacted: connected to public water supply. IRAs: groundwater treatment at former FTA near Clark's Marsh, Central Treatment System, Mission System, former FTA expanded treatment system, Van Etten Lake, Aircraft Alert Apron, DRMO and Landfill 30/31 and soil removal at FTA

ANG Installations

Barnes ANGB, MA: No impacts to off-base private drinking water wells. 2 municipal wells impacted; treatment system online and cost reimbursed to city

Biddle ANGB (Formerly Horsham), PA: Under Administrative Order. 2 on-base drinking water wells impacted, FSI. 67 off-base private drinking water wells impacted: 66 connected to municipal water; 1 owner declined. 5 municipal wells impacted, FSI; 2 off-base private drinking water wells above State MCLs, BWP

Gabreski ANGB, NY: 2 municipal wells impacted, FSI on both; all residential wells connected to municipal water. Cost reimbursement to Suffolk Water Authority

McEntire ANGB, SC: 3 off-base private wells impacted, BWP

Montana ANGB, MT: 1 off-base residential well impacted, FSI

Morris ANGB, AZ: 3 off-base residential wells impacted, all connected to municipal water. IRA includes studies to convert existing pump & treat systems to treat PFAS and reduce migration of PFAS

Otis ANGB (JB Cape Cod), MA: 123 off-base private drinking water wells impacted or above MA MCL (20 ppt): municipal connections completed. 2 private drinking water wells above MA MCL (20 ppt): 1 FSI, 1 BWP. Wellhead treatment on 4 municipal wells. IRA includes amendment to Record of Decision to upgrade treatment systems at FTA-1

Shepherd Field (Martinsburg) ANGB, WV: 1 municipal well impacted. GAC system installed and functioning since December '17, and cost reimbursed to City of Martinsburg to install a GAC treatment system

Toledo ANGB, OH: 2 off-base residential wells impacted: 1 residence connected to municipal water supply, 1 BWP

Key

BWP – Bottled Water Provided
ECD – Estimated Completion Date
PPT – Parts Per Trillion
FSI – Filtration System Installed
FTA – Fire Training Area
GAC – Granular Activated Carbon

IRA – Interim Response Action
MCL – Maximum Contaminant Levels
O&M – Operations & Maintenance
OSD – Office of the Secretary of Defense
NTCRA – Non-timeCriticalRemovalAction

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*State MCL data included in updates in accordance with the Dec 2021 OSD Memorandum regarding use of promulgated state drinking water standards for PFAS