

# 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 protect people and property. Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the

Department of the Air Force (DAF) has identified locations where PFAS releases off-base have impacted drinking water. DAF remains committed to fulfilling our PFAS-related cleanup responsibilities and is taking necessary actions to incorporate the EPA's final regulatory standard for certain PFAS under the Safe Drinking Water Act into the current cleanup process.

## IDENTIFY & INVESTIGATE



**100%** Preliminary Assessments (PAs) and Site Inspections (SIs) completed\*

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

**68%** Remedial Investigations (RIs) in Progress (130/192)\*\*

**BRAC:** 18 OF 31 RIs | **Active/Reserve:** 82 OF 86 RIs | **ANG:** 30 OF 75 RIs

\* PA and SI focused on AFFF-sources; DAF is currently evaluating potential release of PFAS from non-AFFF sources, and if release is confirmed, will include in future RIs

\*\* Of the 204 locations, 12 did not have PFAS releases above screening levels

## RESPOND

### CERCLA DRINKING WATER RESPONSES



**37 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

**25 Installations** (39 projects)

Interim Response Actions

- Installation of groundwater extraction and/or treatment systems
- Removal of PFAS impacted soils
- Retrofit of legacy groundwater treatment systems to treat PFAS 5
- 5 additional projects planned at 4 other installatins

## PREVENT

Past Actions

**100%**

539 hangars, 23 GOCO facilities transitioned from legacy AFFF to C6 AFFF in stockpiles and fire trucks since 2017

**\$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) since 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 June 2024

## INNOVATIVE TECHNOLOGIES

DAF is currently hosting **43** technology demonstration projects at **19** 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

**AFP 44:** 2 NTCRA EE/CA with GW treatment

**Cannon AFB, NM:** 3 off-base private drinking water wells impacted: 3 FSI; NTCRA to mitigate GW 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); Environmental Services Agreement with regulator for treatment at one impacted public water well, NTCRA EE/CA

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

**Eielson AFB, AK:** AF signed IRA 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, 3 wells connected to city water. NTCRA EE/CA with GW and SW pilot study

**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. NTCRA include a GW 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 24 off-base wells, 1 BWP until owner brings property up to code, 2 municipal connections in progress. NTCRA with GW pilot study at base boundary to control PFAS migration off base

**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:** One well impacted; a No Further Action letter was sent because the property is connected to a public water supply system. 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). NTCRA includes 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. 2 NTCRAs includes an ion-exchange system installed and ongoing treatability study at Valley Utilities, and feasibility study for PTS upgradient of impacted municipal and private wells

**McConnell 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:** No off-base private drinking water well impacted. FSI for 1 building using impacted GW 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. NTCRA includes treatment of PFAS in SW 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: 2 FSI, 5 municipal connections. NTCRA with SW and GW pilot study at base boundary

**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 2 NTCRAs for 5 AFFF sites to treat PFAS-impacted GW and SW

## BRAC Installations

**Former Castle AFB, CA:** 3 private wells impacted, FSI at 3. TCRA 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. TCRA includes addition of GAC to existing treatment systems

**Former Mather AFB, CA:** 2 private drinking water wells impacted: BWP for both. 2 public wells impacted, FSI. 2 TCRA 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. IRA for 2 GW 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:** 270 private drinking water wells impacted: 261 FSI, 6 BWP 3 not usin water. 4 public wells impacted: 1 public well replaced with public water supply, 1 public well FSI, 2 other public wells awaiting FSI, 76 homes BWP. TCRA includes treatment systems to control migration of PFAS from Picnic Lake

**Former Wurtsmith AFB, MI:** 1 private drinking water well impacted: connected to public water supply. 7 interim response actions: GW treatment at former FTA near Clark's Marsh (IRA), Central Treatment System (TCRA), Mission System (NTCRA) retrofits to treat for PFAS, former FTA expanded treatment system (NTCRA), Van Etten Lake GW treatment (IRA), Aircraft Alert Apron GW treatment (IRA), and soil removal at FT002 (TCRA)

## 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. NTCRA SW treatment and IRA with GW pilot study

**Burlington ANGB, VT:** IRA for GW pilot study

**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. NTCRA 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. Two IRAs including amendments to Record of Decision to upgrade treatment systems at FTA-1

**Selfridge ANGB, MI:** 2 IRAs for SW treatment to resolve a notice of violation to meet state SW standard and NTCRA for soil removal

**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

**Stewart ANGB, NY:** IRA SW treatment

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

## Key

BWP – Bottled Water Provided	MCL – Maximum Contaminant Levels
ECD – Estimated Completion Date	NTCRA – Non-time Critical Removal Action
EE/CA – Engineering Evaluation/Cost Analysis	O&M – Operations & Maintenance
FSI – Filtration System Installed	OSD – Office of the Secretary of Defense
FTA – Fire Training Area	PPT – Parts Per Trillion
GAC – Granular Activated Carbon	PTS – Pump-and-Treat System
GW – Groundwater	SW – Surface water
IRA – Interim Remedial Action	TCRA – Time Critical Removal Action

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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