

# Report on Department of Defense's Per- and Polyfluoroalkyl Substances Task Force Activities



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Office of the Assistant Secretary of Defense  
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## **I. INTRODUCTION**

Section 341 of the National Defense Authorization Act for Fiscal Year (FY) 2022 (Public Law 117-81) codifies the Department of Defense's (DoD's) Per- and Polyfluoroalkyl Substances (PFAS) Task Force in title 10, United States Code, Section 2714, and directs the Chairman of the PFAS Task Force to report 90 days after the date of the enactment and quarterly thereafter to Congress on the activities of the task force. This report responds to both the first reporting requirement and the initial quarterly report and provides an update on the DoD PFAS Task Force's activities during the first and second quarters of FY 2022.

PFAS are a large class of chemicals found in many consumer products, as well as in a type firefighting foam called "aqueous film forming foam" (AFFF). While DoD is only one of many users of AFFF, there is significant attention on DoD's usage and the potential impacts to human health and the environment. In July 2019, the Secretary of Defense stood up a Task Force to ensure a consistent and coordinated approach to DoD-wide efforts to address PFAS. The Department is committed to continuing to address its PFAS releases under the federal cleanup law (i.e., the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, also known as "Superfund") and to aggressively pursuing a PFAS-free firefighting solution.

To support the Department's commitment to the health and safety of its service members, their families, the DoD civilian workforce, and the communities in which DoD serves, the Task Force has focused on four goals:

- Mitigating and eliminating the use of the current AFFF;
- Understanding the impacts of PFAS on human health;
- Fulfilling DoD's cleanup responsibility related to PFAS; and
- Expanding PFAS-related public outreach.

## **II. DOD PFAS TASK FORCE ACTIVITIES**

The PFAS Task Force strategically prioritized actions and is aggressively working to complete them by evaluating and establishing policy positions and reporting requirements, encouraging and accelerating research and development, and ensuring the DoD Components are addressing and communicating about PFAS in a consistent, open, and transparent manner.

As the PFAS Task Force continues its work to address PFAS across the Department, some highlights of activities accomplished during the first two quarters of FY 2022 include:

- Hosting Deputy Assistant Secretary PFAS Public Outreach Events;
- Providing a PFAS-related briefing to Congress;
- Issuing PFAS-related policies/data calls/guidance;
- Completing over 100 preliminary assessments/site inspections at installations being assessed for PFAS use or potential release;
- Initiating development of a more comprehensive and user-friendly PFAS website;

- Continuing to expand outreach and increase communications and transparency in cleanup; and
- Conducting research on more than 100 projects, including alternatives to AFFF.

Appendix A contains detailed information about the PFAS Task Force’s activities during the first quarter of FY 2022 and Appendix B contains detailed information about its activities during the second quarter of FY 2022. The information in this report does not account for additional work that may be required as the U.S. Environmental Protection Agency issues new guidance and regulations, concerning PFAS, (e.g., regional screening levels in May 2022, and interim drinking water health advisories for PFOS and PFOA in June 2022).

### **III. CONCLUSION**

DoD’s PFAS Task Force is working to address PFAS issues in a cohesive, consistent manner while coordinating and communicating with external stakeholders. The Task Force has made significant progress toward understanding and limiting the Department’s use of AFFF and researching fluorine-free alternatives to AFFF; monitoring and communicating information about the health effects of human exposure to PFAS; establishing policies and collecting data to track PFAS cleanup progress and costs; and supporting research and development efforts. The Task Force will continue to identify and provide DoD with the tools needed to address the effects of its PFAS releases, and to ensure that the Department continues to protect the health of its service members, their families, the DoD civilian workforce, and the communities in which DoD serves.

# **Appendix A: Per- and Polyfluoroalkyl Substances Task Force Activities During the First Quarter of Fiscal Year 2022**

Appendix A describes the Department of Defense's Per- and Polyfluoroalkyl Substances Task Force's activities during the first quarter of Fiscal Year 2022.

## **Appendix A: Per- and Polyfluoroalkyl Substances (PFAS) Task Force Activities During the First Quarter of Fiscal Year (FY) 2022**

Section 341 of the FY 2022 National Defense Authorization Act (NDAA) identifies the following duties of the DoD PFAS Task Force:

- Monitoring the health aspects of exposure to PFAS as found by the Secretary of Health and Human Services;
- Identifying, and funding the procurement of an effective alternative to firefighting foam containing PFAS;
- Mitigating the effects of DoD releases of PFAS; and
- Assessing the perceptions of Congress and the public of DoD's efforts to mitigate PFAS effects from DoD activities.

### **Monitoring health aspects of PFAS exposure**

For the past several years, DoD has been monitoring the impacts of PFAS on human health, especially the studies conducted by the Agency for Toxic Substances and Disease Registry (ATSDR) within the Department of Health and Human Services. We are supporting and monitoring research and development efforts to better understand the potential health effects of PFAS exposure, and communicating this health risk information to our employees. DoD continues to fund ATSDR for PFAS-related studies and has provided \$15M this fiscal year.

### **AFFF Alternative Research and Development**

During the first quarter of FY 2022, the Department continued development of an aqueous film forming foam (AFFF) replacement. DoD transitioned from a foam performance testing phase to Military Specification (MILSPEC) drafting, completed the first draft of a MILSPEC for PFAS-free firefighting agents, and sent it out for limited stakeholder review. DoD also initiated the first test of the Health Hazard Assessment using proprietary business information from the foam manufacturer to consider occupational health implications.

Additionally, DoD conducted large-scale testing of firefighting capability with PFAS-free formulations and an Aircraft Rescue Fire Fighting (ARFF) Vehicle. Approximately 20 large-scale, up to 4,000-square-foot spill fires were extinguished using a representative ARFF vehicle at the China Lake Naval Air Warfare Center Weapons Division. The testing was successful and DoD developed and documented techniques and tactics. DoD also tested compressed air foam systems and ultra-high pressure systems at Tyndall Air Force Base.

The Strategic Environmental Research and Development Program (SERDP) previously launched the AFFF Challenge to demonstrate innovative AFFF alternatives to replace legacy AFFF in firefighting foams. During the first quarter of FY 2022, DoD selected AFFF Challenge winners and the Naval Research Laboratory analyzed and tested samples of their formulations.

### **Mitigating the effects of DoD releases of PFAS**

- ***Cleanup Progress Status.*** DoD has identified 700 active military installations, Base Realignment and Closure (BRAC) locations, National Guard facilities, and Formerly Used Defense Sites (FUDS) properties where it is conducting or has completed an

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assessment of PFAS use or potential release. During the first quarter of FY 2022, DoD completed the preliminary assessment/site inspection (PA/SI) phase at 36 installations; the Department determined that six of these installations require no further action, while 30 are proceeding to the next step in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, the remedial investigation (RI) phase. Through the end of the first quarter of FY 2022, DoD has completed the PA/SI phase at a total of 224 installations (32 percent); the Department determined that no further action is required at 80 of these installations, while 144 are proceeding to the next step in the CERCLA process. DoD initiated the RI phase at five installations during the first quarter of FY 2022. The RI phase is underway at a total of 153 installations as of the end of the first quarter of FY 2022. The Department is monitoring and providing alternative water in the communities surrounding the 52 installations where DoD has identified levels of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) above U.S. Environmental Protection Agency's (EPA's) 2016 lifetime drinking water Health Advisory.

- ***Addressing On-base Drinking Water.*** DoD is ensuring a consistent approach to continued testing and monitoring of on-base drinking water across DoD to ensure no one on-base is exposed to PFOS or PFOA in drinking water above the EPA 2016 lifetime drinking water HA. In furtherance of its March 2020 policy, DoD has continued periodic testing of DoD-operated drinking water systems for certain PFAS, including PFOS and PFOA, and resamples these systems periodically based on the results. Additionally, DoD is continuing to monitor drinking water it purchases for use on its installations to prevent and address exposure to certain PFAS per its July 2020 policy.
- ***Policies/Data Calls/Guidance Issued:***
  - ***Agricultural Operations Notifications and Reporting Requirement, November 5, 2021.*** Section 335 of the NDAA for FY 2021 requires DoD, in consultation with the U.S. Department of Agriculture, to provide notification to certain agricultural operations where covered PFAS have been detected in groundwater. This memorandum provides clarifying guidance for the DoD Components to inform these agricultural operations of any pertinent updated information, defined as new data that exceed initial notification results for covered PFAS, within 15 days of receiving validated results. Additionally, to ensure consistency across the Department, the memorandum establishes a policy requiring notifications to agricultural operations similar to those required by Section 335(a) of the NDAA for FY 2021, but based on groundwater sampling performed after the NDAA for FY 2021 was enacted. The memorandum also establishes a requirement for the DoD Components to submit notification data to the Office of the Deputy Assistant Secretary of Defense for Environment and Energy Resilience (DASD(E&ER)) for the annual report required by Section 335(d) of the NDAA for FY 2021.
  - ***Update for Establishing a Consistent Methodology for the Analysis of PFAS in Media Other than Drinking Water, December 7, 2021.*** This memorandum encourages existing projects to use Draft Method 1633 for PFAS analysis in matrices

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other than drinking water when DoD Environmental Laboratory Accreditation Program (ELAP)-accredited laboratories become available. The memorandum also requires all projects initiated after December 31, 2021, to use Draft Method 1633 for PFAS analysis in matrices other than drinking water using a laboratory accredited to the method/matrix/analyte by the DoD ELAP.

- ***DoD Guidance on Using State PFAS Drinking Water Standards in Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Removal Actions, December 22, 2021.*** This memorandum clarifies that DoD may initiate a removal action where DoD is responsible for a confirmed release with PFOS/PFOA concentrations above the EPA 2016 lifetime HA levels in drinking water (i.e., groundwater currently used for drinking water). The memorandum also clarifies that once initiation of a removal action is triggered, and DoD as the lead agency identifies a properly promulgated, consistently implemented State PFAS drinking water standard as applicable or relevant and appropriate for the specific removal action, DoD may use the State PFAS drinking water standard when determining the cleanup level to be attained at the completion of the removal action.
- ***Research and Development.*** Also during the first quarter of FY 2022, the Department conducted three technical sessions at the SERDP and Environmental Security Technology Certification Program (ESTCP) Symposium to present promising technologies for PFAS characterization and treatment and the understanding of PFAS ecotoxicity. DoD also finalized selection of SERDP and ESTCP PFAS projects for FY 2022, including 27 SERDP research projects on PFAS treatment, 13 SERDP research projects on PFAS ecotoxicity, six ESTCP field demonstration projects on PFAS treatment, and two ESTCP field demonstration projects on PFAS monitoring.

DoD also released the FY 2023 SERDP research solicitation during the first quarter of FY 2022, soliciting for research in the following areas: Transformation of Polyfluoroalkyl Substances Found in Soil and Groundwater at AFFF-Impacted Sites, Improved Management of Stormwater Impacts at Department of Defense Facilities, and Improved Understanding of Concrete and Asphalt Impacted by Historical Releases of AFFF.

Research and demonstrations continued among 11 research projects addressing ecotoxicity of PFAS, more than 85 SERDP and ESTCP projects addressing treatment technologies, and more than 20 SERDP and ESTCP projects addressing sampling, analysis, and monitoring during the first quarter of FY 2022.

### **Assessing the perceptions of Congress and the public of DoD's efforts to mitigate PFAS effects from DoD activities.**

- ***Deputy Assistant Secretary (DAS) PFAS Public Outreach Events.*** On October 14, 2021, the DASD(E&ER) hosted a PFAS Public Outreach Event. The event allowed for an open and transparent dialogue between the Department and stakeholders affected by the presence of PFAS. The event focused on the Department's efforts to identify PFAS-



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free firefighting solutions through its SERDP and ESTCP. DoD's responses to questions stakeholders raised during the event are available on the Department's PFAS website (<https://media.defense.gov/2022/Jan/25/2002927334/-1/-1/0/Public-Outreach-Oct-14-Advance-Questions-DoD-responses.PDF>).

- ***Congressional Reports/Briefings/Testimony Submitted.*** The DoD PFAS Task Force did not submit any formal congressional reports or briefings during the first quarter of FY 2022. DoD participated in a Senate Committee on Homeland Security and Governmental Affairs hearing on December 9, 2021 entitled "Examining Federal Efforts to Address PFAS Contamination", and responded to Questions or the Record. DoD regularly answered Congressional inquiries as well as discussed DoD's PFAS efforts with House Armed Services Committee and Senate Armed Services Committee staffers.
- ***PFAS Website.*** To improve communication and public outreach, the Department is beginning development of a new comprehensive and user-friendly PFAS website. The website will include PFAS-related information and a searchable database of PFAS sampling data and PFAS cleanup status by installation as part of an interactive map. The website will analyze PFAS data and present the results in a useful and clear format. The goal is to provide a platform that promotes transparency and better communicates information to the public. The Department plans to release the new website in the fourth quarter of FY 2022.

## **Appendix B: Per- and Polyfluoroalkyl Substances Task Force Activities During the Second Quarter of Fiscal Year 2022**

Appendix B describes the Department of Defense's Per- and Polyfluoroalkyl Substances Task Force's activities during the second quarter of Fiscal Year 2022.

## **Appendix B: Per- and Polyfluoroalkyl Substances (PFAS) Task Force Activities During the Second Quarter of Fiscal Year (FY) 2022**

Section 341 of the FY2022 National Defense Authorization Act (NDAA) identifies the following duties of the DoD PFAS Task Force:

- Monitoring the health aspects of exposure to PFAS as found by the Secretary of Health and Human Services;
- Identifying, and funding the procurement of an effective alternative to firefighting foam containing PFAS;
- Mitigating the effects of DoD releases of PFAS; and
- Assessing the perceptions of Congress and the public of DoD's efforts to mitigate PFAS effects from DoD activities.

### **Monitoring health aspects of PFAS exposure**

For the past several years, DoD has been monitoring the impacts of PFAS on human health, especially the studies conducted by the Agency for Toxic Substances and Disease Registry (ATSDR) within the Department of Health and Human Services. We are supporting and monitoring research and development efforts to better understand the potential health effects of PFAS exposure, and communicating this health risk information to our employees. DoD continues to fund ATSDR for PFAS-related studies and has provided \$15M this fiscal year.

### **AFFF Alternative Research and Development**

During the second quarter of FY 2022, the Department continued development of an aqueous film forming foam (AFFF) replacement. DoD adjudicated comments received from the limited stakeholder review of the draft Military Specification (MILSPEC), added an Environmental Assessment to address comments about environmental implications, and continued work on a test method to measure 1 part per billion total PFAS.

Additionally, DoD selected the winners of the AFFF Challenge, a challenge to find innovative AFFF alternatives to replace legacy AFFF in firefighting foams; the next step in the process is for the winners to submit research and development proposals. During the second quarter of FY 2022, DoD continued qualification scale testing of PFAS-free formulations at the Naval Research Laboratory and compressed air foam systems and ultra-high pressure systems at Tyndall Air Force Base.

- ***Policies/Data Calls/Guidance Issued:***
  - The PFAS Task Force also issued "Guidance to the Department of the Navy Concerning Fuel Type and Viscosity Considerations for the Military Specification (MILSPEC) for PFAS-Free Firefighting Agents", on January 19, 2022. Section 332 of the NDAA for FY 2020 requires the Secretary of the Navy to publish a new MILSPEC for PFAS-free firefighting agents by January 31, 2023. The PFAS Task Force directed the Department of the Navy to focus the MILSPEC for PFAS-free firefighting agents on jet fuel fire performance and low-viscosity agents. Specifically, the memorandum stated that during the MILSPEC development the Department of the Navy should:

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- Recognize the maximum credible event is an aircraft crash involving a Jet-A fuel fire, and establish primary performance criteria that minimize the safety risk to firefighters, flight crew, and passengers in the conversion from AFFF to PFAS-free agents;
- Recognize gasoline fires as probable, but less time-critical events, and establish secondary criteria to ensure PFAS-free agents can still effectively extinguish gasoline fires; and
- Establish criteria to ensure qualified PFAS-free agents have viscosities similar to AFFF to minimize the time and cost necessary to change from AFFF to PFAS-free agents in existing systems.

### Mitigating the effects of DoD releases of PFAS

- **Cleanup Progress Status.** DoD has identified 700 active military installations, Base Realignment and Closure (BRAC) locations, National Guard facilities, and Formerly Used Defense Sites (FUDS) properties where it is conducting or has completed an assessment of PFAS use or potential release. During the second quarter of FY 2022, DoD completed the preliminary assessment/site inspection (PA/SI) phase at 86 installations; the Department determined that 16 of these installations require no further action, while 70 are proceeding to the next step in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, the remedial investigation (RI) phase. Through the end of the second quarter of FY 2022, DoD has completed the PA/SI phase at a total of 305 installations (44 percent); the Department determined that no further action is required at 96 of these installations, while 209 are proceeding to the next step in the CERCLA process. DoD initiated the RI phase at 16 installations during the second quarter of FY 2022. The RI phase is underway at a total of 168 installations as of the end of the second quarter of FY 2022.

The Department is monitoring and providing alternative water in the communities surrounding the 53 installations where DoD has identified levels of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) above the U.S. Environmental Protection Agency's (EPA's) 2016 lifetime drinking water Health Advisory (HA).

- **Addressing On-base Drinking Water.** DoD is ensuring a consistent approach to continued testing and monitoring of on-base drinking water across DoD to ensure no one on-base is exposed to PFOS or PFOA in drinking water above the EPA 2016 lifetime drinking water HA. In furtherance of its March 2020 policy, DoD has continued periodic testing of DoD-operated drinking water systems for certain PFAS, including PFOS and PFOA, and resamples these systems periodically based on the results. Additionally, DoD is continuing to monitor drinking water it purchases for use on its installations to prevent and address exposure to certain PFAS per its July 2020 policy.
- **Research and Development.** Also during the second quarter of FY 2022, the Department conducted a three-day strategic workshop on managing PFAS in the environment. More

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than 60 experts attended, representing DoD, EPA, the National Institute of Science and Technology, academia, and industry.

DoD released the FY 2023 Strategic Environmental Research and Development Program (SERDP) research solicitation during the second quarter of FY 2022, soliciting demonstration of technologies focused on PFAS treatment and monitoring. The Department received more than 150 initial pre-proposals for the FY 2023 SERDP solicitation and initiated peer review of select full proposals received in the following areas: Transformation of Polyfluoroalkyl Substances Found in Soil and Groundwater at AFFF-Impacted Sites, Improved Management of Stormwater Impacts at Department of Defense Facilities, and Improved Understanding of Concrete and Asphalt Impacted by Historical Releases of AFFF.

Research and demonstrations continued among 11 research projects addressing ecotoxicity of PFAS, more than 85 SERDP and Environmental Security Technology Certification Program (ESTCP) projects addressing treatment technologies, and more than 20 SERDP and ESTCP projects addressing sampling, analysis, and monitoring during the second quarter of FY 2022.

### **Assessing the perceptions of Congress and the public of DoD's efforts to mitigate PFAS effects from DoD activities.**

- ***Deputy Assistant Secretary (DAS) PFAS Public Outreach Events.*** On January 26, 2022, Mr. Richard Kidd, the Deputy Assistant Secretary of Defense for Environment and Energy Resilience, hosted a PFAS Public Outreach Event. The event allowed for an open and transparent dialogue between the Department and stakeholders affected by the presence of PFAS. During the event, Mr. Kidd discussed DoD's efforts to address its PFAS releases and provided an overview of the PFAS-related provisions in the NDAA for FY 2022.

Ms. Amy Borman, DAS of the Army Environment, Safety, and Occupational Health, Mr. Karnig Ohannessian, DAS of the Navy for Environment and Mission Readiness, and Mr. Jim Sample, Acting DAS of the Air Force for Environment, Safety, and Infrastructure provided remarks on their Military Departments' experiences and efforts to mitigate PFAS.

DoD's responses to questions stakeholders raised during the event are available on the Department's PFAS website (<https://media.defense.gov/2022/Apr/26/2002984739/-1/-1/1/DOD-JANUARY-26TH-OUTREACH-EVENT-ENGAGEMENT-WITH-PFAS-STAKEHOLDERS-QUESTIONS-ANSWERS.PDF>).

- ***Congressional Reports/Briefings/Testimony Submitted.*** Pursuant to the requirements in Section 331 of the NDAA for FY 2021 (Public Law 116-283), the Department delivered the *Aqueous Film Forming Foam (AFFF) Replacements and Alternatives* briefing to Congress in February 2022. The briefing describes technologies DoD evaluated for replacing fluorinated AFFF and a summary of the results. The Department evaluated the

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technologies based on criteria such as fire control and extinguishing performance, cost, and potential environmental impacts. DoD concluded that no single technology will work in all situations. The Department is still considering all available technologies to determine the best solution based on the needs of specific mission requirements.

DoD did not participate in any Congressional hearings on PFAS this quarter. DoD regularly answered Congressional inquiries as well as discussed DoD's PFAS efforts with House Armed Services Committee and Senate Armed Services Committee staffers.

- ***PFAS Website.*** To improve communication and public outreach, the Department continued development of a new comprehensive and user-friendly PFAS website. The website will include PFAS-related information and a searchable database of PFAS sampling data and PFAS cleanup status by installation as part of an interactive map. The website will analyze PFAS data and present the results in a useful and clear format. The goal is to provide a platform that promotes transparency and better communicates information to the public. The Department plans to release the new website in the fourth quarter of FY 2022.