House Appropriations Committee
Subcommittee on Military Construction, Veterans Affairs, and Related Agencies

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Chairwoman Wasserman Schultz and distinguished members of the Sub-Committee. Thank you for the opportunity to discuss DoD's actions related to perfluorinated chemicals.

Background:

Perfluoroalkyl substances (PFAS) refers to the entire class of poly- and per-fluoronated alkyl substances, of which perfluorooctane sulfonate (PFOS) and perfluorooctanic acid (PFOA) are the most well-studied substances. These substances are ubiquitous in many industrial and consumer products because they increase a product's resistance to heat, stains, water, and grease. As such, they are not uniquely attributable to Department of Defense (DoD) activities.

DoD's use of PFAS started in the 1970s, with the introduction of aqueous film forming foam (AFFF) for aircraft fuel fire-fighting purposes. DoD is one of many users of AFFF, with other major users including commercial airports, the oil and gas industry, and local fire departments. AFFF is mission critical because it quickly extinguishes petroleum-based fires, thus minimizing loss of life.

In July 2019, as his first act as Secretary, Secretary Esper stood up a task force to provide strategic leadership and direction to ensure a coordinated, aggressive, and holistic approach on DoD-wide efforts to proactively address PFAS. The Task Force has focused on three goals: Mitigating and eliminating the use of the current AFFF; Understanding the impacts of PFAS on human health; and Fulfilling our cleanup responsibility related to PFAS.

To accomplish these goals and support the Department's commitment to the health and safety of our Service members, their families, the DoD civilian workforce, and the communities in which DoD serves, priority Task Force actions include:

- Researching a PFAS-free firefighting foam;
- Providing information on health effects to DoD stakeholders;
- Ensuring consistent investigation and cleanup of past releases; and
- Coordinating DoD efforts with other Federal agencies.

Drinking Water On-Base:

On May 19, 2016, the Environmental Protection Agency (EPA) issued Safe Drinking Water Act (SDWA) lifetime Health Advisories (HA) and recommended actions for drinking water systems with individual or combined levels of PFOS and PFOA greater than 70 parts per

trillion (ppt). DoD began proactively taking action to address drinking water impacted by DoD releases of PFOS and PFOA, even though the lifetime HAs are not regulations under the SDWA and not an enforceable drinking water standard.

DoD provides drinking water to approximately 2 million people on its installations worldwide. The Department began testing DoD-operated drinking water systems worldwide in June 2016 to identify drinking water that exceeded EPA's HA. DoD completed testing of all 524 DoD-owned drinking water systems worldwide in August 2017. These tests determined that twenty-four DoD drinking water systems contained PFOS and PFOA above EPA's HA. These DoD installations followed the EPA recommendations issued with the HA, to include providing consumers with bottled water or additional water treatment. In cases where DoD purchases drinking water, the Department identified 12 drinking water systems where the results were above the EPA HA level. These installations worked with the drinking water supplier(s) to encourage appropriate actions. To ensure we maintain this information, this sampling data has been archived in a centralized DoD database.

The Department recently issued a new policy for continued periodic testing of DoD-operated drinking water systems for certain PFAS, including PFOS and PFOA. Enhancing our vigilance, the Military Departments will resample any DoD-operated drinking water systems that have not been tested within the last year, by December 31, 2020. DoD will resample periodically based on the results. For example, if PFOS and PFOA are detected, but are below EPA's HA, DoD will resample quarterly for one year and once every two years thereafter until results are below the method reporting limit.

Remediation:

DoD has also addressed PFOS and PFOA in drinking water off our installations under the federal cleanup law, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 USC § 9601 et seq.). CERCLA provides a consistent, science-based approach across the Nation for cleanup and includes environmental regulators and public participation. DoD follows the CERCLA process to fully investigate a release and determine the appropriate cleanup actions based on risk. The Department addresses on-base and off-base migration of its PFAS releases to protect human health and appropriately spend taxpayer dollars. The Defense Environmental Restoration Program (DERP) (10 USC 2701-2711) provides authorities to DoD to perform and fund these actions, and requires they be carried out in accordance with CERCLA. DoD, like other Federal agencies, is specifically authorized under CERCLA Section 104 to take cleanup action to address "pollutants or contaminants" like PFAS. DoD is thus taking cleanup actions, even though PFAS are not designated as a CERCLA hazardous substances.

DoD's priority is to quickly address PFOS and PFOA in drinking water above EPA's HA from DoD activities, under the CERCLA process. DoD's actions are consistent with EPA's recommended actions, which include treatment of drinking water or closing drinking water wells and providing alternative water supplies, such as bottled water or connecting private residents to public drinking water systems.

DoD prioritizes its PFAS sites for cleanup actions using the well-established CERCLA risk-based process. Under this, the Military Departments will address sites that pose a greater potential risk to human health and the environment first. DoD uses the toxicity information from EPA's HA when assessing risk to human health under CERCLA. Under the EPA's longstanding risk assessment and hierarchy of toxicity value policies, the HA toxicity information is used to determine a site-specific risk-based cleanup level. In October 2019, the Department issued clarifying technical guidance to the Military Departments to ensure the consistent use of screening levels at DoD cleanup sites to determine if advancing to the remedial investigation phase is warranted. As the Military Departments move through the CERCLA process, we will follow the December 19, 2019, EPA "Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS."

The Department recognizes the importance of addressing PFAS in a consistent manner across DoD. To that end, we evaluated and established policies and reporting requirements to track progress toward and ensure a proactive and consistent approach to investigating and cleaning up PFAS. As a result of the DoD PFAS Task Force's efforts, the Assistant Secretary of Defense for Sustainment issued the following:

- Clarifying technical guidance to ensure a consistent approach to investigating PFAS within the DoD cleanup program;
- Guidance on the use of analytical methods for analyzing PFAS concentrations in media other than drinking water;
- A requirement for the DoD Components to report actual and planned obligations and estimated costs to investigate and clean up PFAS; and
- A requirement for the DoD Components to report quarterly on cleanup progress and drinking water responses at installations with known or suspected PFAS releases.

These policies and guidance documents will ensure consistency across the DoD Components and help DoD track its PFAS cleanup progress and investments. DoD works in collaboration with EPA, other Federal agencies, and communities as we move through the CERCLA process.

Research and Development:

The Department has invested in research and development of technologies to enhance our response to PFAS through DoD's Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program (ESTCP). SERDP initiated research into the fate, transport, and remediation of PFOS and PFOA shortly after EPA released the 2009 Provisional Health Advisories for these compounds. Beginning in 2014, follow-on research has targeted developing several approaches for treating groundwater containing PFOS and PFOA. These efforts have matured from the small scale to field demonstrations that began under ESTCP in 2017 and have continued into 2019 as new technologies mature and are ready for field demonstration.

We began with what we thought would be fairly straightforward research to develop treatment technologies, but we soon realized that it was a much more complex issue, and our

research expanded into a number of areas. We've funded research to better understand how to sample and analyze soil and water so we would have a more accurate assessment of which PFAS chemicals were present and at what concentration. We've also funded research to understand which PFAS chemicals are most likely to be present and how they break down naturally in the environment. And we've funded a large amount of research and demonstrations to develop treatment technologies, both new technologies as well as improvements to existing ones such as granular activated carbon.

The Department is investing over $89 million in this effort. We are making significant progress on several fronts. Currently there are final EPA-approved analytical methods for measuring PFAS in drinking water and we're working closely with the EPA to develop new methodologies for PFAS analysis of soil, groundwater, wastewater, and several other materials. We expect these draft methods to be available later this year. We also have several field demonstrations in place of treatment methods for PFAS in soil and water; these demonstrations should be near completion within the next 18-24 months.

AFFF Replacement:

To protect our Service members and prevent releases to the environment, DoD issued a policy in January 2016 requiring the Military Departments to limit uses of Aqueous Film-Forming Foam (AFFF) to respond to emergency events and no longer use it for land-based testing and training. The Department treats each release of AFFF as a spill response, to limit environmental effects. The policy also requires the Military Departments to remove and properly dispose of local warehouse supplies of AFFF containing PFOS (other than for shipboard use), where practical. Each Military Department is taking actions to remove this AFFF containing PFOS from its inventory. Furthermore, in May 2019 DoD updated the Military Specification (MILSPEC) for AFFF to ensure that new supplies available for emergency firefighting responses do not contain detectable levels of PFOS or PFOA. We have also established a policy—issued in January of this year—requiring the DoD Components to track and report usage and releases of AFFF. The requirement is for annual reporting, with an additional requirement to report any usage or release that exceeds 10 gallons of AFFF concentrate or 300 gallons of mixed foam.

Today's currently available AFFF do not contain detectable amounts of PFOS or PFOA, but they still contain other PFAS. None of the commercially available PFAS-free foams meet DoD's strict safety standards to rapidly extinguish dangerous fuel fires. One of the Department's top priorities is finding an effective firefighting alternative that meets the life-saving performance standards of AFFF and does not have negative health or environmental effects. As part of this effort, the Task Force hosted a summit on "AFFF Alternatives: The Art of the Possible" on November 15, 2019, where representatives from the research community, industry, academia, and international organizations discussed the challenges with finding a fluorine-free alternative to AFFF and potential research opportunities. At a follow-up workshop in January focused on technical details of the issue, participants focused on the barriers to development of an alternative in the areas of formulations, delivery systems, and ecotoxicology.

The Department is investing over $49 million through Fiscal Year (FY) 2025 in research, development, testing, and evaluation to identify alternative firefighting material and practices. SERDP and ESTCP are working to increase the world-wide investigator capacity through outreach efforts and technical workshops.

Exposure Assessment and Health Study:

We are working with the Agency for Toxic Substances and Disease Registry (ATSDR) to support their efforts to conduct an exposure assessment at not less than 8 military installations and a multi-site health study, as required by the FY2018 NDAA. To date, we have provided ATSDR $30M to begin conducting the exposure assessment and health study. Another $10M will be transferred in FY2020.

Conclusion

As the Department addresses its part in responding to this national issue, we continue to work in collaboration with regulatory agencies and communities to ensure our resources are applied effectively to protect human health as part of a national effort. We must ensure our response and clean-up resources are effectively applied to result in a reduced risk and exposure of personnel on our installations and in our surrounding communities. We are prioritizing our investments to those actions in order to address the greatest degree of risk. DoD has taken the lead in protecting the health of persons on and near DoD installations by following the CERCLA process to fully investigate releases and determine the appropriate cleanup actions based on risk. This is a national problem involving a wide array of industries and commercial applications, as well as many Federal and state agencies. Therefore, it needs a nation-wide solution.

In summary, DoD is proactively taking action to reduce the risks posed by PFOS and PFOA to human health. The Department is committed to mitigating PFOS and PFOA in the drinking water it supplies, as well as addressing releases to the environment under CERCLA that are the direct result of DoD's AFFF use. DoD is also investing in research to develop fluorine-free substitutes for AFFF that meet the military's stringent performance criteria, and to develop technologies to quantify and clean up PFOS and PFOA and related PFAS chemicals. These combined efforts reinforce DoD's commitment to meeting critical mission requirements while protecting human health.