

House Appropriations Committee
Subcommittee on Defense

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Chairwoman McCollum, Ranking Member Calvert, and distinguished members of the Subcommittee: Thank you for the opportunity to discuss the Department of Defense environmental restoration program. The Department is committed to addressing our releases of chemicals under the federal cleanup laws, and protecting the health of our personnel, their families, and the communities in which we serve. We must also protect the environmental resources that the country has entrusted in our care.

Thanks to strong and consistent support from Congress, the Department has been able to establish and maintain a mature, effective cleanup program. This program follows best available science to address the highest risks first, successfully addressing risks to human health and the environment and mitigating impacts from DoD activities. Nonetheless, all should understand that cleanup is a long-term endeavor, requiring sustained funding and persistent attention.

Many of the hardest clean-up challenges remain to be addressed. We are committed to continuously improving the responsiveness of the program, incorporating advanced technologies, best practice and new knowledge as rapidly as possible. And, while this program is both legally and technically complex, its underlying purpose is simple; to address the releases we made and keep the American people informed.

Defense Environmental Restoration Program: Structure and Cleanup Progress to Date

The Defense Environmental Restoration Program (DERP) (10 United States Code §§ 2700-2711) provides authorities to DoD to perform and fund its cleanup actions, and requires they be carried out in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. Our response is further guided by U.S. Environmental Protection Agency (EPA) regulations and the best available science in the areas of toxicology, chemical detection/propagation, and remediation techniques. While the Department establishes overall goals and guidelines for the program, implementation is the responsibility of the individual DoD Components. Each Component is responsible for planning, execution, and oversight of clean-up activities on their respective installations. These activities reflect a long-standing commitment to follow a nation-wide risk-based framework to apply available funding to highest risk sites first.

The Defense Environmental Restoration Program addresses two categories of sites—the Installation Restoration Program (IRP) which manages the cleanup of chemicals released to the

environment, and the Military Munitions Response Program (MMRP) which addresses former military range sites known or suspected to contain unexploded ordnance, discarded military munitions, or munitions constituents. Our cleanup program includes response actions at active military bases, locations closed through the Base Realignment and Closure (BRAC)¹ process, and Formerly Used Defense Sites (FUDS)² properties within the United States.

By the end of Fiscal Year (FY) 2019, the Department, in cooperation with state agencies and the U.S. Environmental Protection Agency, has completed cleanup activities at 89% percent of IRP sites – out of a total of 34,066 sites – and is now monitoring the results to ensure these completed cleanups remain protective. For Munitions Response Sites (MRSs)³, DoD has completed cleanup at 64 percent out of a total of 5,500 sites. While we have made significant progress, the remaining sites represent more complex cleanups requiring more time, a remedy based on more advanced technology, or sites impacted by chemicals of emerging concern, such as Per- and Polyfluoroalkyl Substances (PFAS).

DoD Environmental Restoration Funding

Since the Defense Environmental Restoration Account(s) (DERA) were established in the 1980's, the Department has invested approximately \$45B to clean up environmental sites on our active bases and Formerly Used Defense Sites (FUDS), \$13B in the last 10 years alone. Of this amount over the last decade, approximately \$10B has gone to sites on active bases, and nearly \$3B has gone to sites on FUDS properties. Approximately 80% of this funding supported IRP, while 20% supported MMRP. Despite these investments, as of the FY2020 Annual Financial Report, the Department has an Environmental Liability of nearly \$28B in these areas, \$17B on active installations and \$11B on FUDS properties. These liability numbers may increase as emerging chemicals of concern are identified and their cleanup included.

In FY2021 the final Congressional authorization for the DERA was \$1.5B, including Congressional adds exceeding \$400M. Congress has generously added funding to the DoD Component Environmental Restoration accounts, increasing our President Budget requests for the DoD Environmental Restoration Accounts by more than \$1B since 2018 alone. This has allowed us to address impacts from hazardous substances or pollutant or contaminants, such as chemicals of emerging concern, including PFAS. We appreciate this investment that is essential in developing and executing a cleanup that takes several years.

The table below provides DoD's planned Environmental Restoration Account obligations from FY 2019 through FY 2021 as well as FY 2019 actual obligations. The table includes the President's Budget (PB) request (total and breakdown for IRP, MMRP, and Program Management (PM)), Congressional-adds, Funding Allocated, and Funding Obligated (total and breakdown for IRP and MMRP).

¹ BRAC locations were authorized for closure or realignment by Congress under one of the five BRAC rounds.

² FUDS are properties that were formerly owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense prior to October 17, 1986.

³ A discrete location within a munitions response area that is known to require a munitions response (32 CFR 179).

**Table: DoD Environmental Restoration Account Funding History from
FY 2019 – FY 2021**

(\$M) ¹	PB	IRP	MMRP	PM ²	Plus-up	Allocated	Obligated ³	IRP	MMRP	PM ²
FY 2021⁴	1,073.0	676.0	253.0	144.1	430.4	1,503.7	TBD	TBD	TBD	TBD
FY 2020⁵	1,071.7	623.3	256.6	191.9	344.0	1,415.7	TBD	TBD	TBD	TBD
FY 2019	1,050.8	672.8	220.0	157.9	184.3	1,235.2	1,199.9	850.3	214.1	135.4

¹ Numbers may not add due to rounding.

² Includes PM and other support costs that cannot be allocated to individual sites, as well as funding for investigations (i.e., preliminary assessments and site inspections) of known or suspected releases of per- and polyfluoroalkyl substances.

³ FY 2019 obligated amounts are less than the allocated amounts because Army did not obligate approximately \$21M and returned it to the central account; Navy did not obligate approximately \$0.4M; Air Force did not obligate approximately \$2M; Defense Logistics Agency (DLA) did not obligate approximately \$0.9M; and the Office of the Secretary of Defense (OSD) did not obligate approximately \$10M.

⁴ FY 2021 obligated amounts will be available during the FY 2023 President’s Budget cycle.

⁵ FY 2020 obligated amounts will be available during the FY 2022 President’s Budget cycle.

The CERCLA Cleanup Process

DoD follows the existing Federal cleanup law, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, and long-standing EPA regulations for all chemicals in our cleanup program. CERCLA provides a consistent, science-based approach across the nation for cleanup and includes environmental regulators and public participation. The DERP statute 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” as well as chemicals designated as a CERCLA hazardous substance. DoD works in collaboration with EPA, other Federal agencies, and communities throughout this process.

Some of the key steps in the CERCLA process for carrying out remedial actions, and the approximate time it takes DoD to complete each step, are shown in the figure below:

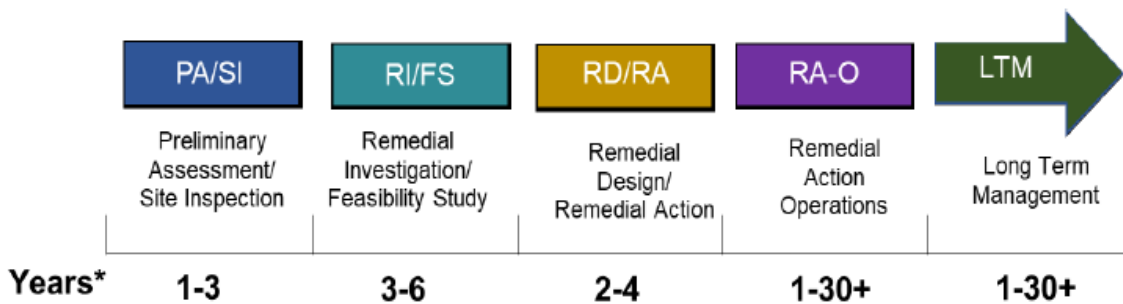


Figure: CERCLA Process and Estimated Timeline

In addition to CERCLA remedial actions, DoD can undertake removal actions which are shorter-term actions to address immediate threats to public health.

Risk-Based Prioritization throughout the Cleanup Process

DoD follows the CERCLA process to fully investigate a release and determine the appropriate cleanup actions based on risk. DoD's cleanup program is premised on prioritizing sites for cleanup using a risk-based process—essentially worst first. Risk-based prioritization and cleanup occurs throughout DoD's cleanup process. DoD uses the most appropriate and relevant toxicity information when assessing risk to human health under CERCLA. Under the CERCLA process, risk-based toxicity information is used nationwide to determine if a response is required. The CERCLA regulations provide a federal blueprint for the CERCLA program and include a cancer risk range and hazard index for non-carcinogens; these, together with federal and state standards, are then used as part of the process for establishing remediation goals. DoD prioritizes its cleanup response at its IRP sites and Munition Response sites based on the highest risk to address worse sites first to efficiently and effectively use DERP funding.

Because munition response sites have the potential for acute explosives safety risk different from the typical chemical exposure risk assessments covered by EPA regulations and long-standing guidance, DoD developed the Munitions Response Site Prioritization Protocol (MRSPP) to prioritize its munitions response sites. For munitions sites, risk is determined by the explosives hazard of the unexploded ordnance and discarded military munitions; the unique, acute physiological effects of any chemical warfare material; as well as chronic health and environmental hazards posed by munitions constituents and any incidental environmental contaminants. The Department developed the MRSPP in consultation with regulators and stakeholders to provide a consistent approach to prioritize munitions response actions for cleanup.

DoD also uses risk-based prioritization to sequence the start of Remedial Investigations (RI) for all cleanup sites. DoD's RI sequencing framework is called the Relative Risk Site Evaluation (RRSE). The RRSE groups sites into high, medium, and low categories based on an evaluation of site information using three factors: the contaminant hazard or source (i.e., where the release occurred and in what environment media), the migration pathway (i.e., how the release traveled through the environment), and the possible receptor (i.e., human and ecological receptors that may be exposed). The Department developed the RRSE framework in consultation with regulators and stakeholders to provide a consistent approach to prioritize the start/sequencing of Remedial Investigations.

Community Engagement throughout the Cleanup Process

Another fundamental tenet of DoD's cleanup program is community engagement. Throughout the cleanup process, we engage with the communities in which we serve. There are several opportunities for public participation as we move through the cleanup process, and DoD shares information on the status of the cleanup and site-specific cleanup data through several outreach practices. For example, before DoD selects the remedy in a decision document, it issues a proposed plan for the cleanup action, and provides an opportunity for public comment. DoD may

also hold public meetings to discuss the proposed cleanup action, post information about the cleanup on the installation website, and is required to have an information repository with the supporting cleanup data available to the community (often located at a local public library).

In addition to the traditional public participation opportunities mentioned above, DoD also has some DoD-unique community engagement practices for our cleanup sites. One of our key community engagement tools is the Restoration Advisory Board (RAB), which provides communities or individuals affected by DoD cleanup activities with a forum for focused dialogue on the installation's cleanup program. DoD establishes a RAB when there is sufficient and sustained community interest in the installation's on-going cleanup efforts. RABs are community-oriented forums that encourage and facilitate communication between citizens and installation decision-makers regarding cleanup at active or BRAC installations and formerly used defense site (FUDS) properties. RAB participants may include representatives from the community, installation, State, local or tribal governments, local activities, and federal, State or local regulatory agencies. Participants review cleanup progress and provide comments and advice to the installation's decision-makers.

Because the Department values this tool and its benefits so highly, we provide administrative and financial support for RABs to ensure they are sufficiently resourced to create effective partnerships. In addition, RAB members can use the Technical Assistance for Public Participation (TAPP) grant program to obtain private sector, independent technical assistance to help them better understand the scientific and engineering issues underlying an installation's environmental cleanup activities. RABs may use TAPP funding to translate crucial public documents and prepare documents using non-technical language. RABs are eligible to receive TAPP funding when they need support reviewing human health risks, assessing technology, interpreting technical documents, and participating in relative risk evaluations.

As of the end of FY2019, DoD was working with 244 RABs on active installations, BRAC locations, and FUDS properties. DoD has supported a relatively consistent number of RABs since it established the program in 1994. In FY2019, DoD obligated \$2.9 million to support RABs. Obligations vary from year to year based on community interest and participation, as well as cleanup requirements.

Issue of Concern: PFAS

The Department recognizes the growing Congressional and Public interest in addressing requirements related to the cleanup of Per and Polyfluoroalkyl Substances or PFAS. For this reason, we have invested significant effort into understanding and addressing the challenges posed by this particular class of chemicals.

PFAS are a large class of chemicals found in many consumer products, industrial products, as well as in a certain firefighting foam called aqueous film forming foam (AFFF). AFFF is mission critical to DoD because it quickly extinguishes petroleum-based fires, thus minimizing loss of life and valuable equipment. While DoD is only one of many users of AFFF, there is significant attention on DoD's use and the subsequent potential impact to human health and the environment.

The Department established a PFAS Task Force in July 2019. This Task Force, which includes all the representatives here today, provides strategic leadership and direction to ensure a coordinated, aggressive, and holistic approach on DoD-wide efforts to address PFAS. The Task Force continues unchanged and is postured to be responsive to the direction of this Administration. The PFAS Task Force continues to focus on three main goals:

- Mitigating and eliminating the use of the current aqueous film forming foam (AFFF);
- Fulfilling our cleanup responsibilities, and
- Understanding the impacts of PFAS on human health

Cleanup. One of the top priorities of the PFAS Task Force is cleanup, and DoD is committed to addressing DoD's PFAS releases under the Federal cleanup law, CERCLA, and sharing information with our DoD families and community members in an open and transparent manner. In May 2016, the Environmental Protection Agency (EPA) issued a drinking water lifetime health advisory (HA) of 70 parts per trillion for two PFAS, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). Since that time, DoD has followed the federal cleanup law, CERCLA, to address its releases of PFAS. DoD is performing an assessment at nearly 700 installations, where DoD may have used or potentially released PFAS. As part of the CERCLA process, DoD is addressing both drinking water (short-term action) and groundwater (long-term action) and works in collaboration with EPA, other Federal agencies, and communities throughout this process.

Drinking Water: DoD takes quick action to address drinking water and provides alternative water when PFOS or PFOA from DoD activities is found off-base in drinking water at levels above EPA's HA. DoD's actions are consistent with EPA's recommended actions, which include treatment of drinking water or providing alternative water supplies, such as bottled water or connecting residents served by private wells to public drinking water systems. No one is drinking water, whether on or off base, with PFOS and PFOA above EPA's HA level where DoD is the known source.

Ground Water: The remaining cleanup efforts are primarily to address PFAS in groundwater, which can be technically complex and take a long time to complete.

In total, DoD has obligated over \$1.2 billion to address PFAS releases through FY2020 and current estimates for FY2021 and beyond exceed \$2 billion. These estimates are expected to grow as ongoing assessments are completed.

The Department has been addressing PFAS responsibly, following the science and direction of Congress, for a number of years. Congress has provided the Department with significant additional funds to address PFAS clean-up as well as a clear set of requirements to guide our actions. The most notable of these cleanup-related National Defense Authorization Act (NDAA) requirements being:

- Addition of National Guard PFOS/PFOA sites to DERP (section 316 of the FY20 NDAA, section 314 of FY21 NDAA)
- Disposal of Materials Containing PFAS or AFFF (section 330 of the FY20 NDAA)
- Agreements to Share Monitoring Data (section 331 of FY20 NDAA)
- Cooperative Agreements with States to Address PFAS (section 332 of FY20 NDAA)

- Provision of Uncontaminated Water for Agricultural Purposes (section 343 of FY20 NDAA)
- Submission of a Remediation Plan for PFOS/PFOA & related funding requests (section 345 of FY20 NDAA)
- Notification to Agricultural Operations Located in Areas Exposed to DoD PFAS Use (section 335 of FY21 NDAA)
- AFFF spill and usage reporting to Congress (section 318 of the FY21 NDAA)

Issue of Concern: Military Munitions Response Program

Implementing the Department’s Military Munitions Response Program (MMRP) continues to be technically and legally complex. DERP includes a specific provision concerning munitions response at our closed military ranges and use of the CERCLA process remains our preferred process. EPA issued regulations under the Resource Conservation and Recovery Act (RCRA) addressing military munitions in the late 1990s. Issues remain with parity of results and integration of this hazardous waste law’s cleanup process and CERCLA.

Cleanup at munition response sites may also take longer because of technical challenges. For example, the potential acute explosives safety hazards from unexploded ordnance creates a unique situation for assessing risk and determining future land use restrictions. This is especially difficult given the variety of munitions used, site-specific conditions including that sites with military munitions may have been transferred out of DoD control, and technological challenges in distinguishing unexploded ordnance from munition debris without explosives safety concerns. To meet this challenge, DoD developed the Advanced Geophysical Classification process to determine whether a buried metal object is a military munitions or harmless debris. This technology allows DoD to focus resources on areas with potential explosives risks and collect high-quality data in order to make risk-based decisions. DoD worked in collaboration with federal and state regulators to build confidence in the process and decisions.

Because the MMRP generally takes longer to implement, the Department has focused on interim risk management activities to reduce the potential risk to human health and the environment where munition investigations are still ongoing or expected to occur in the future. These activities may include making explosives safety education materials available to stakeholders (e.g., property owners or users, representatives from communities surrounding the site). For example, at FUDS sites, DoD informs landowners at least every five years about the hazards that may remain on the property and actions to take if they come across potential munitions-related hazards.

Conclusion

DoD is taking deliberative and sustained action to address risks to human health and the environment resulting from DoD activities by following the CERCLA process. The DoD Components prioritize resources to meet cleanup goals in a risk-based manner. Our commitment is seen by the fact that DoD has completed cleanup at nearly 34,000 sites (85 percent). DoD will continue to address the effects of its releases to ensure that it protects the health of its DoD personnel, their families, and the communities in which they serve, as well as protect the environment.