Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603716D8Z *I Strategic Environmental Research and Development Program (SERDP)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	643.402	89.518	88.411	60.387	-	60.387	62.046	61.031	62.311	63.622	-	-
470: *Strategic Environmental Research and Development Program (SERDP)*	643.402	89.128	88.411	60.387	-	60.387	62.046	61.031	62.311	63.622	-	-
472: *Strategic Environmental Research and Development Program (SERDP)*	-	0.390	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

New Start (Y/N): No

A. Mission Description and Budget Item Justification

This program supports the Department's initiatives to Defend the Homeland, Build Sustainable and Long-Term Advantage, and Taking Care of People.

The Strategic Environmental Research and Development Program's (SERDP) mission is to improve DoD readiness and environmental performance by providing new scientific knowledge and developing cost-effective technologies. The SERDP does this by addressing high-priority DoD environmental technology requirements such as addressing polyfluoroalkyl substance (PFAS) contamination, developing fluorine-free fire suppression formulations, and improving corrosion resistance for weapons systems and platforms. Technologies developed by SERDP enhance military operations, improve military systems' effectiveness, enhance military training/readiness, sustain DoD‘s training and test ranges and installation infrastructure, and help ensure the safety and welfare of military personnel and their dependents. The keys to the growing list of SERDP technological successes are the ability to respond aggressively and proactively to priority defense environmental needs; the pursuit of world-class technical excellence; and an emphasis on continuous technology transfer.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Office of the Secretary Of Defense	Date: March 2023
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603716D8Z *I Strategic Environmental Research and Development Program (SERDP)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	91.571	58.411	60.047	-	60.047
Current President's Budget	89.518	88.411	60.387	-	60.387
Total Adjustments	-2.053	30.000	0.340	-	0.340
• Congressional General Reductions	-0.292	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	30.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.761	-			
• Program Adjustments	-	-	0.340	-	0.340

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 470: *Strategic Environmental Research and Development Program (SERDP)*		
Congressional Add: *PFAS remediation and disposal technology and program increase*	-	15.000
Congressional Add: *AFFF replacement, disposal, and cleanup technology*	-	15.000
Congressional Add Subtotals for Project: 470	-	30.000
Congressional Add Totals for all Projects	-	30.000

Change Summary Explanation

FY 2024 minimal increase for programmatic, cost related, and inflationary adjustments.
FY 2023 Congressional Adds: ($15M) Program increase· PFAS remediation and disposal technology and ($15M) Program increase - AFFF replacement, disposal, and cleanup technology.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603716D8Z / *Strategic Environmental Research and Development Program (SERDP)*	Project (Number/Name) 470 / *Strategic Environmental Research and Development Program (SERDP)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
470: *Strategic Environmental Research and Development Program (SERDP)*	643.402	89.128	88.411	60.387	-	60.387	62.046	61.031	62.311	63.622	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The SERDP`s mission is to improve DoD mission readiness and environmental performance by providing new scientific knowledge and developing cost-effective technologies. SERDP does this by addressing high-priority DoD environmental technology requirements such as addressing polyfluoroalkyl substance (PFAS) contamination, developing fluorine-free fire suppression formulations, and improving corrosion resistance for weapons systems and platforms. Technologies developed by SERDP enhance military operations, improve military systems' effectiveness, enhance military training/readiness, sustain DoD‘s training and test ranges and installation infrastructure, and help ensure the safety and welfare of military personnel and their dependents. The keys to growing list of SERDP technological successes are the ability to respond aggressively and proactively to priority defense environmental needs; the pursuit of world-class technical excellence; and an emphasis on continuous technology transfer.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Environmental Restoration (ER)	24.203	17.526	16.869
Description: Investments in Environmental Restoration reduce the DoD’s environmental cleanup liability (currently greater than $30B) by developing technologies for the cost-effective detection, characterization, containment, and remediation of contamination in soil, sediments, and water.			
FY 2023 Plans: Development of PFAS destruction technologies, both thermal and non-thermal, will continue. Studies of the ecological impacts of PFAS mixtures initiated in FY 2022 will continue. Increased emphasis on technologies for in situ destruction of PFAS and AFFF residue that avoid the expense of pump and treat methods.			
FY 2024 Plans: New projects will be initiated to transform polyfluoroalkyl substances found in soil and groundwater at AFFF-impacted sites, improve management of stormwater impacts at Department of Defense facilities, improve understanding of concrete and asphalt impacted by historical release of AFFF, and improved understanding of minor components of common groundwater contaminant mixtures. Development of PFAS destruction technologies, both thermal and non-thermal, will continue. Studies will continue on the			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603716D8Z / *Strategic Environmental Research and Development Program (SERDP)*	**Project (Number/Name)** 470 / *Strategic Environmental Research and Development Program (SERDP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
ecological impacts of PFAS mixtures and technology development for in situ destruction of PFAS and AFFF residue that avoid the expense of pump and treat methods. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2023 to FY 2024 decrease is reflective of the Congressional adds of FY 2023. The baseline increase is the result of planned program growth in support for technologies for PFAS remediation, emphasis on issues related to PFAS contamination at DoD installations, and Congressional support PFAS remediation and disposal technology.			
Title: Munitions Response (MR) ***Description:*** Munitions Response develops detection, classification, and remediation technologies for Unexploded Ordnance (UXO) to address the significant DoD liability in the Military Munitions Response Program. Investments are also made to improve active range clearance and to reduce generation of UXO during live fire testing and training operations. ***FY 2023 Plans:*** Continued testing of both acoustic and electromagnetic sensor systems developed over the past three years at standard test sites. These tests will guide continued development of the systems tested as well as point the way to technology gaps to be addressed in coming years. ***FY 2024 Plans:*** New projects will be initiated to detect, localize, classify, and remediate military munitions underwater. Development of PFAS destruction technologies, both thermal and non-thermal, will continue. Studies will conclude on the development of acoustic and electromagnetic sensor systems. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2023 to FY 2024 increase is the result of planned program growth to support the continued development of methods and algorithms to efficiently reduce the output of low-frequency sonar systems to actionable information for site managers.	8.362	5.027	5.730
Title: Resource Conservation and Resilience (RC) ***Description:*** Resource Conservation and Resilience develops the science and technologies required to sustain training and testing ranges. This includes management strategies and tools to enable installation staff to carry out their duties more effectively and development of data and models to enable base planners to increase resilience of their facilities. ***FY 2023 Plans:***	33.938	20.403	23.279

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603716D8Z / *Strategic Environmental Research and Development Program (SERDP)*	**Project (Number/Name)** 470 / *Strategic Environmental Research and Development Program (SERDP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
New projects will be initiated to develop models to aid installation planning staff cope with the rapidly changing threats associated with climate variability. Continued emphasis on the impacts of saltwater intrusion on installation infrastructure. ***FY 2024 Plans:*** New projects will be initiated to advance the understanding and methods of wildland fire management and DoD-relevant threatened, endangered, and at-risk species responses to multiple stressors. Studies will continue to develop models for threats associated with climate variability and the impacts on installation salt-water intrusion. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2023 to FY 2024 increase is the result of planned growth related to installation and training ground resilience in. Additional support of climate adaptation enhancements that will be used for additional projects focusing on climate sustainability of installation infrastructure.			
Title: Weapons Systems and Platforms (WP) ***Description:*** Weapons Systems and Platforms develops technologies and materials that reduce the waste and emissions associated with the manufacturing, maintenance, and use of DoD weapons systems and platforms to reduce future environmental liabilities and their associated costs and impacts. ***FY 2023 Plans:*** Continued efforts on understanding the interactions of fuel molecules with a foam blanket with the goal of developing firefighting foams with improved performance against gasoline fires and in the presence of saltwater. Expanded effort on the development of chromium-free treatments and processes for use in DoD depots and repair facilities. Predictive corrosion models will mature and be ready for transition to demonstration/validation. Increased emphasis on AFFF replacement and disposal in accordance with Congressional direction. ***FY 2024 Plans:*** New studies will be initiated to assess the performance of PFAS-free firefighting formulations, improve fire testing and training methodologies for firefighting formulations, develop sustainable methods for energetic materials production, and develop advanced military coating systems with reduced environmental impact. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The FY 2023 to FY 2024 decrease is reflective of the Congressional adds of FY 2023. The baseline increase is the result of planned program growth to continue the advancement of research into PFAS-free firefighting technologies.	22.625	15.455	14.509
Accomplishments/Planned Programs Subtotals	89.128	58.411	60.387

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense		Date: March 2023
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603716D8Z / *Strategic Environmental Research and Development Program (SERDP)*	**Project (Number/Name)** 470 / *Strategic Environmental Research and Development Program (SERDP)*

	FY 2022	FY 2023
Congressional Add: PFAS remediation and disposal technology and program increase	-	15.000
FY 2023 Plans: PFAS remediation and disposal technology and ($15M) Program increase - AFFF replacement, disposal, and cleanup technology. Development of PFAS destruction technologies, both thermal and non-thermal, will continue. Studies of the ecological impacts of PFAS mixtures initiated in FY 2022 will continue. Increased emphasis on technologies for in situ destruction of PFAS and AFFF residue that avoid the expense of pump and treat methods.		
Congressional Add: AFFF replacement, disposal, and cleanup technology	-	15.000
FY 2023 Plans: Continued efforts on understanding the interactions of fuel molecules with a foam blanket with the goal of developing firefighting foams with improved performance against gasoline fires and in the presence of saltwater. Expanded effort on the development of chromium-free treatments and processes for use in DoD depots and repair facilities. Predictive corrosion models will mature and be ready for transition to demonstration/ validation. Increased emphasis on AFFF replacement and disposal in accordance with Congressional direction.		
Congressional Adds Subtotals	-	30.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Office of the Secretary Of Defense			Date: March 2023
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603716D8Z / *Strategic Environmental Research and Development Program (SERDP)*	Project (Number/Name) 472 / *Strategic Environmental Research and Development Program (SERDP)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
472: *Strategic Environmental Research and Development Program (SERDP)*	-	0.390	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The SERDP`s mission is to improve DoD mission readiness and environmental performance by providing new scientific knowledge and developing cost-effective technologies. SERDP does this by addressing high-priority DoD environmental technology requirements such as addressing polyfluoroalkyl substance (PFAS) contamination, developing fluorine-free fire suppression formulations, and improving corrosion resistance for weapons systems and platforms. Technologies developed by SERDP enhance military operations, improve military systems' effectiveness, enhance military training/readiness, sustain DoD‘s training and test ranges and installation infrastructure, and help ensure the safety and welfare of military personnel and their dependents. The keys to growing list of SERDP technological successes are the ability to respond aggressively and proactively to priority defense environmental needs; the pursuit of world-class technical excellence; and an emphasis on continuous technology transfer.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Validation of PFAS Measurement Methods ***Description:*** SERDP is sponsoring the validation of the novel PFAS measurement method for complex water matrices (e.g., wastewater, surface water, groundwater), solids (e.g., soil, sediment), tissues, biosolids, and landfill leachates. In FY21, IDA calculated summary statistics from the data generated in the single laboratory validation (SLV) study, systematically compiled the statistics and data into specified tables to support subsequent analysis in the first step in the validation process for the novel PFAS method. In FY22, IDA will assist SERDP with a multi-laboratory validation (MLV) study of the PFAS method in the second validation step.	0.390	-	-
Accomplishments/Planned Programs Subtotals	0.390	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A