Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Office of the Secretary Of Defense	Date: April 2022
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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	563.741	79.661	91.571	58.411	-	58.411	60.047	61.618	60.536	61.746	-	-
470: *Strategic Environmental Research and Development Program (SERDP)*	563.741	79.661	91.571	58.411	-	58.411	60.047	61.618	60.536	61.746	-	-

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.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	85.429	51.863	0.000	-	0.000
Current President's Budget	79.661	91.571	58.411	-	58.411
Total Adjustments	-5.768	39.708	58.411	-	58.411
• Congressional General Reductions	-	-0.292			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	40.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-3.750	-			
• SBIR/STTR Transfer	-2.018	-			
• Budget Adjustments	-	-	58.411	-	58.411

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Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Office of the Secretary Of Defense			Date: April 2022
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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
470: *Strategic Environmental Research and Development Program (SERDP)*	563.741	79.661	91.571	58.411	-	58.411	60.047	61.618	60.536	61.746	-	-
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 2021	FY 2022	FY 2023
Title: Environmental Restoration (ER)	35.552	40.940	16.256
Description: Investments in Environmental Restoration (ER) 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 2022 Plans: Emphasis in this Program Area will continue to be heavily focused on PFAS contamination. Efforts addressing potential remediation technologies will continue as projects devoted to understanding destruction technologies, both thermal and non-thermal, will increase. Projects examining the ecological impacts of a variety of PFAS compounds will be initiated. Increased focus on PFAS remediation and disposal in accordance with Congressional direction.			
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 2022 to FY 2023 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Office of the Secretary Of Defense		Date: April 2022
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 2021	FY 2022	FY 2023
Continue emphasis on issues related to PFAS contamination at DoD installations. The increase is the result of planned program growth in support for technologies for PFAS remediation.			
Title: Munitions Response (MR) ***Description:*** Munitions Response (MR) 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 2022 Plans:*** Efforts in FY 2022 will begin to focus on multi-sensor platforms for underwater UXO detection and identification as well as algorithms to fuze multiple data sets collected from different platforms. Initial tests at standardized test sites will be conducted. ***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 2022 to FY 2023 Increase/Decrease Statement:*** The increase is the result of planned program growth to support the development of methods and algorithms to efficiently reduce the output of low-frequency sonar systems to actionable information for site managers.	5.521	6.480	5.510
Title: Resource Conservation and Resiliency (RC) ***Description:*** Resource Conservation and Resiliency (RC) 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 2022 Plans:*** Work will continue on technologies and methods to address wildland fire on DoD installations. Efforts on understanding the impacts of invasive species on strategic mobility will mature as will models for installation infrastructure resilience in response to multiple stressors. New projects will be initiated to understand the impacts of saltwater intrusion on installation infrastructure. ***FY 2023 Plans:*** 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 2022 to FY 2023 Increase/Decrease Statement:***	14.629	20.894	22.593

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
The increase is for 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 (WP) 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 2022 Plans:*** Projects on alternative delivery methods for fire-fighting formulations will mature. Focus on new corrosion resistant coatings as the regulatory and ESOH environment makes current solutions unavailable or dramatically more expensive. Continued work on sustainable energetics with higher performance than existing formulations through the use of advanced computational techniques. Projects to characterize the decomposition products from thermal degradation of polymeric PFAS in munitions will be initiated. ***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 2022 to FY 2023 Increase/Decrease Statement:*** The increase is the result of planned program growth.	23.959	23.257	14.052
Accomplishments/Planned Programs Subtotals	79.661	91.571	58.411

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A