Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Office of the Secretary Of Defense	Date: February 2020
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	418.342	75.485	66.157	53.862	-	53.862	49.080	49.974	51.162	52.211	Continuing	Continuing
470: *Strategic Environmental Research and Development Program (SERDP)*	418.342	75.485	66.157	53.862	-	53.862	49.080	49.974	51.162	52.211	Continuing	Continuing

A. Mission Description and Budget Item Justification

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 per- and 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 ‘straining 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. Program Change Summary ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	76.340	66.157	67.942	-	67.942
Current President's Budget	75.485	66.157	53.862	-	53.862
Total Adjustments	-0.855	0.000	-14.080	-	-14.080
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.941	-			
• SBIR/STTR Transfer	-1.783	-			
• Other Program Adjustments	-	-	-6.662	-	-6.662
• Cancelled Acct	-0.013	-	-	-	-
• Economic Assumption	-	-	-0.064	-	-0.064
• Defense Wide Review Adjustment	-	-	-7.354	-	-7.354

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Change Summary Explanation

The decrease of $6.662 million is the result of planned program changes in OUSD(A&S). As a result of the Defense Wide Review, reduction of $7.354 million, the Strategic Environmental Research and Development Program (SERDP) office will work with the Services to scope the Return on Investment and potential overlap of efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense			Date: February 2020
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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
470: *Strategic Environmental Research and Development Program (SERDP)*	418.342	75.485	66.157	53.862	-	53.862	49.080	49.974	51.162	52.211	Continuing	Continuing

A. Mission Description and Budget Item Justification

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 per- and 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 ‘straining 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 2019	FY 2020	FY 2021
Title: Environmental Restoration	21.091	18.485	16.104
Description: Investments in Environmental Restoration (ER) reduces DoD’s environmental cleanup liability ($33B) by developing technologies for the cost-effective detection, characterization, containment, and remediation of contamination in soil, sediments, and water.			
FY 2020 Plans: Continue the research into the detection, quantification, treatment, and bioavailability of PFAS (per- and polyfluoroalkyl substances). New projects will be initiated in "fingerprinting" for PFAS.			
FY 2021 Plans: Continue research on developing improved methodologies and technologies for managing PFAS contamination at DoD sites, further develop technologies to improve sustainability of munitions constituent use on testing and training ranges, and improve methodologies for managing contaminated groundwater.			
FY 2020 to FY 2021 Increase/Decrease Statement: Continue research on developing improved methodologies and technologies for managing PFAS contamination at DoD sites, further develop technologies to improve sustainability of munitions constituent use on testing and training ranges, and improve			

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
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 2019	FY 2020	FY 2021
methodologies for managing contaminated groundwater. The decrease of $2.381 million is the result of planned program changes in OUSD(A&S) and the result of the Defense Wide Review.			
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 2020 Plans:*** Detailed analysis of previously-collected low-frequency acoustic data to maximize value in the detection and identification of unexploded ordnance underwater. Two new projects initiated on the mobility and burial of munitions in muddy sediments (as contrasted to the sandy bottoms previously investigated). ***FY 2021 Plans:*** Completion of engineering-level model of UXO burial, mobility, and re-exposure. Continued development of analysis algorithms for the detection and identification of unexploded ordnance at underwater ranges. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The decrease of $2.227 million is the result of planned program changes in OUSD(A&S) and the result of the Defense Wide Review. Reprioritization of funding to PFAS remediation (ER) and alternative formulations for AFFF (WP).	11.101	9.729	7.502
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 2020 Plans:*** In depth examination of the interplay of fire and threatened and endangered species will be continued. New efforts on the definition of a sustainable installation will be initiated. ***FY 2021 Plans:*** Mature the fire science required for management of DoD test and training ranges. Develop planning tools aimed at resilient installations. ***FY 2020 to FY 2021 Increase/Decrease Statement:***	22.201	19.458	15.505

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
Long-term projects on the impacts of changing climate in regions important to DoD are concluding. The decrease of $3.953 million is the result of planned program change and the result of the Defense Wide Review.			
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 2020 Plans:*** Initiation of a suite of projects on alternatives to Aqueous Fire Fighting Foam (AFFF) that do not contain fluorine. The current AFFF formulation is a major contributor to the PFAS contamination of DoD Installations. ***FY 2021 Plans:*** A supplemental solicitation for replacement AFFF formulations was released on August 1, 2019. We anticipate funding three to six new efforts from this solicitation. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The decrease of $3.734 million is the result of planned program changes in OUSD(A&S) and the result of the Defense Wide Review.	21.092	18.485	14.751
Accomplishments/Planned Programs Subtotals	75.485	66.157	53.862

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A