Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Office of the Secretary Of Defense	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603716D8Z / *Strategic Environmental Research and Development Program (SERDP)*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	292.110	63.177	71.832	76.514	-	76.514	75.088	76.791	78.286	80.007	Continuing	Continuing
470: *Strategic Environmental Research and Development Program (SERDP)*	292.110	63.177	71.832	76.514	-	76.514	75.088	76.791	78.286	80.007	Continuing	Continuing

A. Mission Description and Budget Item Justification

Congress established the Strategic Environmental Research and Development Program (SERDP) in 1990 (10 U.S.C. Section 2901-2904) to address Department of Defense (DoD) and Department of Energy (DOE) environmental concerns. It is conducted as a DoD program, jointly planned and executed by the DoD, DOE, and the Environmental Protection Agency (EPA), with strong participation by other Federal agencies, industry, and academia. SERDP`s objective is to improve DoD mission readiness and environmental performance by providing new scientific knowledge and cost-effective technologies in the areas of Environmental Restoration, Munitions Response, Resource Conservation and Resilience, and Weapons Systems and Platforms. SERDP does this by addressing high priority DoD environmental technology requirements. SERDP enhances military operations, improves military systems` effectiveness, enhances military training/readiness, sustains DoD's training and test ranges and installation infrastructure, and helps ensure the safety and welfare of military personnel and their dependents by eliminating or reducing the generation of pollution and use of hazardous materials and reducing the cost of remedial actions and compliance with environmental laws and regulations. As a secondary benefit, SERDP helps solve significant national and international environmental problems. The keys to a 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 constant technology transfer.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	65.078	71.832	77.756	-	77.756
Current President's Budget	63.177	71.832	76.514	-	76.514
Total Adjustments	-1.901	0.000	-1.242	-	-1.242
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• General Adjustment	-1.901	-	-	-	-
• Economic Adjustment (EA-008)	-	-	-0.630	-	-0.630
• Realignment to O&M (REPI Offset)	-	-	-0.612	-	-0.612

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Change Summary Explanation

Economic Adjustment (EA-008) is the comptroller budget decision that reflected OMB directed inflation adjustments. REPI Offset is an OMB decision that EI&E's REPI program be funded at a higher level.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense			Date: February 2018
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 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
470: *Strategic Environmental Research and Development Program (SERDP)*	292.110	63.177	71.832	76.514	-	76.514	75.088	76.791	78.286	80.007	Continuing	Continuing

A. Mission Description and Budget Item Justification

Congress established the Strategic Environmental Research and Development Program (SERDP) in 1990 (10 U.S.C. Section 2901-2904) to address Department of Defense (DoD) and Department of Energy (DOE) environmental concerns. It is conducted as a DoD program, jointly planned and executed by the DoD, DOE, and the Environmental Protection Agency (EPA), with strong participation by other Federal agencies, industry, and academia. SERDP`s objective is to improve DoD mission readiness and environmental performance by providing new scientific knowledge and cost-effective technologies in the areas of Environmental Restoration, Munitions Response, Resource Conservation and Resilience, and Weapons Systems and Platforms. SERDP does this by addressing high-priority DoD environmental technology requirements. 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 by eliminating or reducing the generation of pollution and use of hazardous materials and by reducing the cost of remedial actions and compliance with environmental laws and regulations. As a secondary benefit, SERDP helps solve significant national and international environmental problems. The keys to a 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 constant technology transfer.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Environmental Restoration	13.342	16.070	20.244
Description: Environmental Restoration (ER) reduces DoD's liabilities by developing technologies for the cost-effective detection, characterization, containment, and remediation of contamination in soil, sediments, and water.			
FY 2018 Plans: New research initiatives will focus on the highest priority DoD requirements to reduce DoD's liabilities by developing technologies for the cost-effective detection, characterization, containment, and remediation of contamination in soil, sediments, and water. Specific Statements of Need were released that address 1) Improved Understanding of Per- and Polyfluoroalkyl Substance Source Zones, 2) In Situ and Ex Situ Remediation of Per- and Polyfluoroalkyl Substance Contaminated Groundwater, 3) Improved Understanding of Stormwater Impacts and Control on Sediment Recontamination and Recovery, and 4) Innovative Approaches for Monitoring and Implementing In Situ Remediation of Contaminated Aquatic Sediments.			
FY 2019 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
New research initiatives will focus on the highest priority DoD requirements to reduce DoD's liabilities by developing technologies for the cost-effective detection, characterization, containment, and remediation of contamination in soil, sediments, and water. The planned increase will support projects related to the detection, quantification, treatment, and bioavailability of per- and polyfluoroalkyl substances. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increased emphasis on PFOS and PFOA contamination on DoD installations.			
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 2018 Plans:*** New research initiatives will focus on the highest priority DoD requirements in underwater UXO detection and protocols to reduce the costs associated with detecting, remediating, or managing UXO underwater. A specific Statement of Need was released that addresses Detection, Classification, and Remediation of Military Munitions Underwater. ***FY 2019 Plans:*** New research initiatives will focus on the highest priority DoD requirements in underwater UXO detection and protocols to reduce the costs associated with detecting, remediating, or managing UXO underwater with a focus on low-frequency acoustic imaging as a detection/classification system. Several projects will also be initiated aimed at constructing a physics-based model of munitions penetration on land to aid DoD project managers assess the suitability of competing remediation technologies. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Several research projects in underwater acoustics have matured to the point of at-sea data collection. Funding increase required for these tests.	6.232	7.835	8.730
Title: Resource Conservation and Resilience (RC) ***Description:*** Resource Conservation and Resilience (RC) develops the science and technologies required to sustain training and testing ranges. ***FY 2018 Plans:*** New research initiatives will focus on the highest priority DoD requirements to develop the science and technologies required to sustain training and testing ranges. Specific Statements of Need were released to address 1) Advanced Approaches for	28.350	30.487	27.193

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Managing Individual Species and Ecosystems Across Jurisdictional Boundaries in a Non-Stationary World and 2) Climate Change Vulnerability Assessment of Major Habitats on and Around DoD lands. ***FY 2019 Plans:*** New research initiatives will focus on understanding wildfire initiation and spread to construct models to be used by installation natural resource managers in planning their managed fire programs, understanding the role of a changing environment on the management of threatened and endangered species, and resiliency initiatives for installations in the Arctic. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** FY-18 is the final year for a suite of projects focused to sustainability to sea-level rise. Reduced funding reflects the end of these projects.			
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 2018 Plans:*** New research initiatives will focus on the highest priority DoD requirements to develop 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. Specific Statements of Need were released to address: 1) Advancing Emulsion Science for Application in Armed Forces Vessels, 2) Non-Chemical, Non-Media Removal Process for Thick, Elastomeric Specialty Coatings Used on DoD Weapon Systems, 3) Systems Approaches in Propulsion and Explosives Toward Replacing Materials Such as Ammonium Perchlorate (AP), RDX, and TNT, and 4) Development of Agile, Novel Expeditionary Battlefield Manufacturing Processes Using Recycled and Reclaimed Materials. ***FY 2019 Plans:*** New research initiatives will focus on jet engine noise measurement and control, additive manufacturing for battlefield applications, sustainable pyrotechnics, and corrosion assessment and prediction applied to DoD weapon systems. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Increased funding reflects the planned jet engine noise projects.	15.253	17.440	20.347
Accomplishments/Planned Programs Subtotals	63.177	71.832	76.514

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C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance in this program is monitored at two levels. At the lowest level, each of the more than 160 individual projects is measured against both technical and financial milestones on a quarterly and annual basis. At a program-wide level, progress is measured against DoD's environmental requirements and the development of technologies that address these requirements as well as the transition of these technologies to either to demonstration and validation programs or to direct use in the field.