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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Office of the Secretary Of Defense **Date:** February 2019

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603851D8Z / <i>Environmental Security Technology Certification Program</i>
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COST (\$ in Millions)	Prior Years ⁽⁺⁾	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	366.844	53.342	41.925	66.572	-	66.572	64.283	58.308	59.447	60.629	Continuing	Continuing
514: <i>Environmental Security Technology Certification Program</i>	360.844	53.342	41.925	66.572	-	66.572	64.283	58.308	59.447	60.629	Continuing	Continuing

⁽⁺⁾ The sum of all Prior Years is \$6.000 million less than the represented total due to several projects ending

Note
The FY2020 funding request was increased by \$9.5 million as a result of rephrasing of FY2019 funds.

A. Mission Description and Budget Item Justification

(U) The Environmental Security Technology Certification Program (ESTCP) demonstrates and validates promising and innovative environmental and energy technologies that target DoD's most urgent needs. Technologies selected are projected to provide a return on the investment through cost savings and improved efficiencies. The program responds to: (1) Congressional concern over the slow pace of remediation of environmentally polluted sites on military installations, (2) Congressional direction to conduct demonstrations specifically focused on emerging new technologies, and (3) the need to improve defense readiness by reducing the drain on the Department's operation and maintenance dollars caused by environmental restoration, waste management, and the cost of energy. Preference for demonstrations is given to technologies that have successfully completed all necessary research and development objectives, and address the highest priority DoD requirements.

B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	54.583	40.016	59.520	-	59.520
Current President's Budget	53.342	41.925	66.572	-	66.572
Total Adjustments	-1.241	1.909	7.052	-	7.052
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	0.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	2.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.136	0.000			
• FFRDC	-0.105	-0.091		-	-
• Rephasing	-	0.000	9.548	-	9.548
• Canceled	-	0.000	-	-	-

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Appropriation/Budget Activity	R-1 Program Element (Number/Name)
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> / BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	PE 0603851D8Z / <i>Environmental Security Technology Certification Program</i>

• Realign for A&S Core Mission	-	-	-2.496	-	-2.496
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Change Summary Explanation

Funds rephase from FY19 to FY20 and FY21 to aid in increasing program execution rates closer to the DoD benchmarks. Congressional Adds for PFAS Demonstration Projects. Realignment of funding in support of A&S's core mission requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Office of the Secretary Of Defense										Date: February 2019		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603851D8Z / Environmental Security Technology Certification Program				Project (Number/Name) 514 / Environmental Security Technology Certification Program			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
514: Environmental Security Technology Certification Program	360.844	53.342	41.925	66.572	-	66.572	64.283	58.308	59.447	60.629	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

(U) The Environmental Security Technology Certification Program (ESTCP) demonstrates and validates promising and innovative environmental and energy technologies that target DoD's most urgent needs. Technologies selected are projected to provide a return on the investment through cost savings and improved efficiencies. The program responds to: (1) Congressional concern over the slow pace of remediation of environmentally polluted sites on military installations, (2) Congressional direction to conduct demonstrations specifically focused on emerging new technologies, and (3) the need to improve defense readiness by reducing the drain on the Department's operation and maintenance dollars caused by environmental restoration, waste management, and the cost of energy. Preference for demonstrations is given to technologies that have successfully completed all necessary research and development objectives, and address the highest priority DoD requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2018	FY 2019	FY 2020
Title: Environmental Technology Demonstration/Validation	31.382	24.710	39.226
Description: Funds are programmed for investments in projects that address priority DoD environmental requirements. The focus of the program is on live site unexploded ordnance (UXO) in the underwater environment, addressing emerging and recalcitrant cleanup issues, range sustainment technologies, and reducing life cycle costs of DoD weapon systems by eliminating hazardous materials. Accomplishments/plans are described for each FY below.			
FY 2019 Plans: New investments in detection, quantification and remediation of per- and polyfluorinated substances, large-scale demonstration of low-frequency acoustic systems for underwater UXO detection and classification, monitoring technologies to facilitate the management of threatened and endangered species, and surface preparation for corrosion control.			
FY 2020 Plans: Continued investments in detection, quantification and remediation of per- and polyfluorinated substances, large-scale demonstration of low-frequency acoustic systems for underwater UXO detection and classification, monitoring technologies to facilitate the management of threatened and endangered species, and surface preparation for corrosion control. New investments in fore management technologies for DoD Installations and demonstration of alternative formulations for Aqueous Fire Fighting Foam.			
FY 2019 to FY 2020 Increase/Decrease Statement:			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020
Increase reflects rephrasing of resources from FY 2019..				
Title: Energy Technology Demonstration/Validation		21.960	17.215	27.346
Description: Funds are programmed for investments in energy projects that constitute the Installation Energy Test Bed Initiative. This initiative responds to Congressional direction for the Department to increase energy efficiency, reduce installation energy intensity, increase the use of renewable energy, and improve energy security. Emerging energy technologies offer DoD a cost effective opportunity to meet these requirements on its installations while reducing energy and operational costs. The DoD test bed program validates and tests the operational cost and performance of innovative energy technologies in a real-world integrated building environment so as to reduce risk, overcome the barriers to deployment, and facilitate wide-scale deployment. The test bed program exploits the Department's existing built infrastructure to evaluate energy efficiency and renewable energy technologies under the varied climatic conditions and building types DoD manages. The test bed's key elements are: 1) competitive selection of new technologies, 2) systematic and consistent evaluation to determine performance, operational readiness and life cycle costs, and 3) development of guidance and design information for future deployment across installations.				
FY 2019 Plans: Demonstration in FY-19 will continue the emphasis on cyber-security as it relates to installation energy savings and security. Reaping the advantages of modern energy monitoring tools has proven difficult for the DoD because of the need to limit access to base IT networks. ESTCP continues to demonstrate technologies and monitoring schemes that are able to obtain Authority-to-Operate on DoD networks.				
FY 2020 Plans: Demonstration in FY-20 will continue the emphasis on cyber-security as it relates to installation energy savings and security. ESTCP continues to demonstrate technologies and monitoring schemes that are able to obtain Authority-to-Operate on DoD networks and develops a Department-wide strategy for implementation.				
FY 2019 to FY 2020 Increase/Decrease Statement: Increase reflects rephrasing of resources due to execution delays.				
Accomplishments/Planned Programs Subtotals		53.342	41.925	66.572
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

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D. Acquisition Strategy

ESTCP solicits proposals from all DoD organizations, other Federal Agencies, and the commercial sector. Projects are selected based on an annual competitive process through reviews by multi-agency panels.

E. Performance Metrics

Performance in this program is monitored at two levels. At the lowest level, each individual project is measured against 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 demonstration and transition of technologies that address these requirements.

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Office of the Secretary Of Defense **Date:** February 2019

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ID	Task Name	Start	Finish	2019				2020				2021		
				Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	
1	FY-19 In-Progress Reviews	09/01/19	11/30/19											
2	Develop FY-20 Program	01/01/19	09/30/19											
3	FY-20 In-Progress Reviews	02/01/20	11/30/20											
4	Develop FY-21 Program	01/01/20	09/30/20											

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Office of the Secretary Of Defense		Date: February 2019
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>In Progress Reviews</i>				
FY 2018 In Progress Reviews	2	2019	1	2020
FY 2019 In Progress Reviews	2	2020	1	2021
<i>Develop Program</i>				
Develop FY 2019 Program	2	2019	4	2019
Develop FY 2020 Program	2	2020	4	2020