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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2024 Office of the Secretary Of Defense **Date:** March 2023

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603851D8Z I <i>Environmental Security Technology Certification Program (ESTCP)</i>
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COST (\$ in Millions)	Prior Years <sup>(+)</sup>	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	598.395	120.120	122.638	117.196	-	117.196	147.654	175.145	185.768	189.192	-	-
514: <i>Environmental Security Technology Certification Program</i>	592.395	120.120	122.638	117.196	-	117.196	147.654	175.145	185.768	189.192	-	-

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

**Note**

New Start (Y/N): Partial - The Sustainable Technologies and Demonstration Program \$3.000; Climate Resilience Technology Demonstration/Validation Program \$13.094

STED is a new start. It was added by Congress the last three years but is in the request this year. The work characterized as Climate Resilience Technology Dem/Val is an increase to existing work that was categorized as Environment previously. This work is scheduled to increase as efforts to support the Administration's priorities so we thought it best to call this out as a separate sub-effort to better communicate the distribution of funds.

**A. Mission Description and Budget Item Justification**

This program supports the Department's initiative for Building Sustainable and Long-Term Advantage.

The Environmental Security Technology Certification Program (ESTCP) demonstrates and validates promising and innovative environmental, resilience, and energy technologies that target the most urgent needs of the Department of Defense (DoD). 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.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	122.737	84.638	113.690	-	113.690
Current President's Budget	120.120	122.638	117.196	-	117.196
Total Adjustments	-2.617	38.000	3.506	-	3.506
• Congressional General Reductions	-0.402	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	38.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.215	-			
• Program Adjustments	-	-	3.506	-	3.506

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 514: *Environmental Security Technology Certification Program*

- Congressional Add: *PFAS remediation and disposal technology*
- Congressional Add: *AFFF replacement, disposal, and cleanup technology*
- Congressional Add: *PFAS on-site remediation technologies*
- Congressional Add: *Sustainable Technologies Evaluation and Demonstration Program*

Congressional Add Subtotals for Project: 514

Congressional Add Totals for all Projects

	<b>FY 2022</b>	<b>FY 2023</b>
	-	5.000
	-	15.000
	-	15.000
	-	3.000
Congressional Add Subtotals for Project: 514	-	38.000
Congressional Add Totals for all Projects	-	38.000

**Change Summary Explanation**

FY 2024 increase to support climate related grid vulnerability and on-base power.

FY 2023 Congressional Adds: (\$15M) Program increase - PFAS remediation and disposal technology, (\$5M) Program increase - AFFF replacement, disposal, and cleanup technology, (\$15M) Program increase - PFAS on-site remediation technologies, and (\$3M) Program increase - sustainable technology evaluation and demonstration program.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Office of the Secretary Of Defense										<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 0400 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603851D8Z / Environmental Security Technology Certification Program (ESTCP)				<b>Project (Number/Name)</b> 514 / Environmental Security Technology Certification Program			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
514: Environmental Security Technology Certification Program	592.395	120.120	122.638	117.196	-	117.196	147.654	175.145	185.768	189.192	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Environmental Security Technology Certification Program (ESTCP) demonstrates and validates promising and innovative environmental and energy technologies that target the 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 the DoD requirements.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> Environmental Technology Demonstration/Validation	77.220	33.693	31.631
<b>Description:</b> 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 the DoD weapon systems by eliminating hazardous materials. Accomplishments/plans are described for each fiscal year below.			
<b>FY 2023 Plans:</b> Continued demonstration of firefighting performance of new PFAS-free Aqueous Film Forming Foam (AFFF) alternatives as they emerge from the Strategic Environmental Research and Development Program (SERDP) and/or are introduced by industry. Demonstration of PFAS destruction technologies for investigation derived wastes. Initial demonstrations of predictive corrosion models. Expansion of efforts to develop tools to guide installation staff as they adapt to the impacts of climate change.			
<b>FY 2024 Plans:</b> Ongoing demonstration of firefighting performance of new PFAS-free AFFF alternatives as they emerge from SERDP and/or are introduced by industry and PFAS destruction technologies for investigation derived wastes. Continued demonstrations of predictive corrosion models and tool development for climate change impacts to installations. Advancing technology for monitoring and assessment natural and cultural resources on DoD lands.			
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b>			

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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603851D8Z / <i>Environmental Security Technology Certification Program (ESTCP)</i>	<b>Project (Number/Name)</b> 514 / <i>Environmental Security Technology Certification Program</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
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 of PFAS remediation and disposal technology and AFFF replacement, disposal, and cleanup technology.				
<b>Title:</b> Energy Technology Demonstration/Validation		39.900	36.704	45.770
<p><b>Description:</b> 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 the 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 the 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.</p> <p><b>FY 2023 Plans:</b> Continued demonstrations of microgrid technologies that show promise at test beds to the DoD installations to collect performance data under real-world conditions. Complete demonstrations of technologies for affordable energy assurance at National Guard installations and moisture control in the DoD buildings. Complete initial projects on effective planning for electric vehicle (EV) infrastructure and maintenance. Renewed emphasis on technology transition through UESCs.</p> <p><b>FY 2024 Plans:</b> Continued demonstrations of innovative technology transfer approaches for energy and water technologies, effective planning for electric vehicle infrastructure and management, and improved installation energy resilience.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> The FY 2023 to FY 2024 growth is the result of planned program growth is in support of continued planning for electric vehicle infrastructure and management and improved installation energy resilience.</p>				
<b>Title:</b> Sustainable Technologies Evaluation and Demonstration Program		3.000	-	3.000
<p><b>Description:</b> The Sustainable Technology Evaluation and Demonstration (STED) Program demonstrates technologies to address climate mitigation and Executive Order 14057, "Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability."</p> <p><b>FY 2024 Plans:</b></p>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Office of the Secretary Of Defense		<b>Date:</b> March 2023		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603851D8Z / <i>Environmental Security Technology Certification Program (ESTCP)</i>	<b>Project (Number/Name)</b> 514 / <i>Environmental Security Technology Certification Program</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
Addressing climate mitigation and Executive Order 14057, "Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability." Continue sustainable technology demonstrations at the DoD installations and other federal facilities to demonstrate and validate performance and cost effectiveness of sustainable alternatives. Expand STED Program awareness and outreach by conducting sustainable technology expos at federal facilities and providing sustainable product training to the DoD personnel.  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> No funding change.				
<b>Title:</b> Installation Climate Resilience Technology Demonstration/Validation  <b>Description:</b> Funds are programmed for investments in projects that address priority resilience needs of Department of Defense installations. Accomplishments/plans are described for each FY below.  <b>FY 2023 Plans:</b> Initiate demonstration projects on Impact of Climate Change on DoD Buildings, Climate Impacts on the DoD Water Infrastructure, Analyzing the Impacts of Weather Events on the DoD Installations, and Improving Climate Resilience of the DoD Installation and Surrounding Community Infrastructure.  <b>FY 2024 Plans:</b> Continue demonstration projects on Impact of Climate Change on DoD Buildings, Climate Impacts on the DoD Water Infrastructure, Analyzing the Impacts of Weather Events on the DoD Installations, and Improving Climate Resilience of the DoD Installation and Surrounding Community Infrastructure. Demonstrate greenhouse gas assessment methodologies for military construction materials, construction, and lifecycles.  <b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> The FY 2023 to FY 2024 increase is the result of planned program growth in support for improving DoD Climate Resilience.		0.000	14.241	36.795
<b>Accomplishments/Planned Programs Subtotals</b>		120.120	84.638	117.196
		<b>FY 2022</b>	<b>FY 2023</b>	
<b>Congressional Add:</b> PFAS remediation and disposal technology  <b>FY 2023 Plans:</b> Demonstration of PFAS destruction technologies for investigation derived wastes. Initial demonstrations of predictive corrosion models.		-	5.000	
<b>Congressional Add:</b> AFFF replacement, disposal, and cleanup technology  <b>FY 2023 Plans:</b> Continued demonstration of firefighting performance of new PFAS-free Aqueous Film Forming Foam (AFFF) alternatives as they emerge from the Strategic Environmental Research and Development		-	15.000	

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	FY 2022	FY 2023
Program (SERDP) and/or are introduced by industry. Demonstration of PFAS destruction technologies for investigation derived wastes. Initial demonstrations of predictive corrosion models.		
<b>Congressional Add:</b> PFAS on-site remediation technologies <b>FY 2023 Plans:</b> Continued demonstration of firefighting performance of new PFAS-free Aqueous Film Forming Foam (AFFF) alternatives as they emerge from the Strategic Environmental Research and Development Program (SERDP) and/or are introduced by industry. Demonstration of PFAS destruction technologies for investigation derived wastes. Initial demonstrations of predictive corrosion models.	-	15.000
<b>Congressional Add:</b> Sustainable Technologies Evaluation and Demonstration Program <b>FY 2023 Plans:</b> Increase the Sustainable Technology Evaluation and Demonstration (STED) Program focus to address climate mitigation and Executive Order 14057, "Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability." Continue sustainable technology demonstrations at the DoD installations and other federal facilities to demonstrate and validate performance and cost effectiveness of sustainable alternatives. Expand STED Program awareness and outreach by conducting sustainable technology expos at federal facilities and providing sustainable product training to the DoD personnel.	-	3.000
<b>Congressional Adds Subtotals</b>	-	38.000

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**D. Acquisition Strategy**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Office of the Secretary Of Defense** **Date:** March 2023

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<b>Support (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support Contract	C/IDDQ	Noblis : Reston, VA	28.611	2.940		4.000	Sep 2022	4.000		0.000		4.000	-	-	32.000
<b>Subtotal</b>			28.611	2.940		4.000		4.000		0.000		4.000	-	-	N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Installation Energy and Water	C/Various	Various : Various	235.879	38.254		34.464		43.530		-		43.530	-	-	-
Weapons Systems and Platforms	C/Various	Various : Various	89.756	17.819		13.387		8.486		-		8.486	-	-	-
Munitions Response	C/Various	Various : Various	62.136	9.878		4.557		4.865		-		4.865	-	-	-
Environmental Restoration	C/Various	Various : Various	117.145	40.287		42.439		9.052		-		9.052	-	-	-
Resource Conservation and Resilience	C/Various	Various : Various	53.868	7.942		6.551		7.468		-		7.468	-	-	-
Sustainable Technologies Evaluation and Demonstration Program	C/Various	Various : Various	5.000	3.000		3.000		3.000		-		3.000	-	-	-
Installation Climate Resilience	C/Various	Various : Various	0.000	0.000		14.240		36.795		-		36.795	-	-	-
<b>Subtotal</b>			563.784	117.180		118.638		113.196		-		113.196	-	-	N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	592.395	120.120	122.638	117.196	0.000	117.196	-	-	N/A

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2024 Office of the Secretary Of Defense** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603851D8Z / Environmental Security Technology Certification Program (ESTCP)	<b>Project (Number/Name)</b> 514 / Environmental Security Technology Certification Program
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ID	Task Name	Start	Finish	2023				2024				2025	
				Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
1	FY 2022 In-Progress Reviews	9/1/2023	11/30/2023										
2	Develop FY 2023 Program	1/1/2023	9/30/2023										
3	FY 2023 In-Progress Reviews	2/1/2024	11/30/2024										
4	Develop FY 2024 Program	1/1/2024	9/30/2024										

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Office of the Secretary Of Defense		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603851D8Z / <i>Environmental Security Technology Certification Program (ESTCP)</i>	<b>Project (Number/Name)</b> 514 / <i>Environmental Security Technology Certification Program</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>In Progress Reviews</i></b>				
FY 2022 In Progress Reviews	2	2023	1	2024
FY 2023 In Progress Reviews	2	2024	1	2025
<b><i>Develop Program</i></b>				
Develop FY 2023 Program	2	2023	4	2023
Develop FY 2024 Program	2	2024	4	2024