

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>					R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>							
COST (\$ in Millions)	Prior Years	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	231.606	20.254	26.522	27.794	-	27.794	33.033	94.360	100.732	79.299	Continuing	Continuing
2316: <i>Combat Service Support Eng Equip</i>	116.490	6.525	7.734	7.474	-	7.474	5.513	13.846	5.910	6.029	Continuing	Continuing
2509: <i>Motor Transport Mod</i>	56.869	1.089	8.580	11.900	-	11.900	21.463	75.212	84.693	62.938	Continuing	Continuing
2510: <i>MAGTF CSSE & SE</i>	44.926	4.276	9.524	7.714	-	7.714	5.343	4.574	9.389	9.578	Continuing	Continuing
2929: <i>Testing Measuring Diag Equip & SE</i>	13.321	0.641	0.684	0.706	-	0.706	0.714	0.728	0.740	0.754	Continuing	Continuing
9999: <i>Congressional Adds</i>	0.000	7.723	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.723

A. Mission Description and Budget Item Justification

This program element (PE) provides funding for Marine Air-Ground Task Force requirements for Combat Service Support equipment improvement. It will enhance combat breaching capabilities of the ground combat elements, logistics, maintenance and transportation. The PE also provides improvements in all areas of Combat Service Support Equipment Vehicles by determining the replacement for the light fleet of vehicles. This includes projects such as: Alternative Power Sources for Communications Equipment which is a suite of devices that provide the commander with the capability to use existing power to operate his communication equipment, computers and peripheral equipment instead of using batteries or fossil fuel generators; the Marine Corps Family of Automatic Test Systems, formerly TETS, which provides automatic testing capability for use by technicians both in garrison and forward edge of the battlefield; improvements in all areas of the LVSR & MTRV; the High Performance Capabilities for Military Vehicles Project which is dedicated to applying the best practices of the motor sports industry to military vehicles including engineering expertise, equipment, and technology.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	21.185	26.522	27.221	-	27.221
Current President's Budget	20.254	26.522	27.794	-	27.794
Total Adjustments	-0.931	0.000	0.573	-	0.573
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.348	0.000			
• SBIR/STTR Transfer	-0.583	0.000			
• Program Adjustments	0.000	0.000	0.816	-	0.816
• Rate/Misc Adjustments	0.000	0.000	-0.243	-	-0.243

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>
---	--

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

Project: 9999: *Congressional Adds*

Congressional Add: *Field-based airborne power generation systems*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2022	FY 2023
	7.723	0.000
	7.723	0.000
	7.723	0.000

Change Summary Explanation

The increase of \$1.272M from FY 2023 to FY 2024 is primarily attributed to the following programmatic adjustments within the PE:

- 1) Decrease due to Explosive Hazard Defeat Systems (EHDS) re-alignment of funds from BA7 to BA4 to Program Element: 0603635M Project Code: 7400 to allow execution via Office Navy Research (ONR) of GPR development and testing.
- 2) Increase due to MTT prototype development.
- 3) Decrease due to the FMPS completion of product development for small unit power and micro power initiatives in support of EABO concepts repository.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt				Project (Number/Name) 2316 / Combat Service Support Eng Equip			
COST (\$ in Millions)	Prior Years	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
2316: <i>Combat Service Support Eng Equip</i>	116.490	6.525	7.734	7.474	-	7.474	5.513	13.846	5.910	6.029	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Engineer Mods and Tool Kits: The Engineer Mods and Tool Kits line funds modifications and initiatives which are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, product quality deficiencies, and other issues that affect equipment reliability, availability, and readiness. This approach ensures proper equipment sustainment and life cycle management in response to evolving needs of the Marine Corps fleet. Operational needs to provide personnel survivability on engineer equipment is essential to current and future operations. Research and development funding develops and integrates new lighter, compact armor technology, and supports ballistic testing for applications to existing and future acquisitions.

Corrosion Prevention and Control (CPAC): The useful life of Marine Corps assets will be extended through a comprehensive CPAC RDT&E program aimed at identifying and certifying new corrosion control products, materials, processes, and procedures for legacy and new acquisitions. The CPAC RDT&E Program works to standardize and substantially improve strategies, objectives, and processes to prevent, detect, and treat corrosion and its impacts on Marine Corps ground vehicles and weapons systems. This mission responds to the Congressional directives, DoD, and SECNAV instruction to reduce the negative operational effects of corrosion and reduce associated total ownership cost of Marine Corps ground equipment and weapons systems.

Family of Explosive Ordnance Disposal Equipment (FEOD): Funding supports the Rapid Statement of Need (RSON) development, testing, and evaluation of the Littoral Explosive Ordnance Neutralization (LEON) Payload under-water robot systems to locate, identify, and neutralize those threats.

Explosive Hazard Defeat System (EHDS): Funding supports development, testing, and evaluation USMC Full Force Design Enhancements to locate, avoid, or neutralize explosive threats.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Engineer Mods and Tool Kits	0.521	0.478	0.809	0.000	0.809
Articles:	-	-	-	-	-
FY 2023 Plans:					
- Complete development and testing of Mine Clearing Line Charge (MCLC) replacements.					
FY 2024 Base Plans:					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2316 / Combat Service Support Eng Equip

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Initiate the testing and integration of modifications for the Engineer Family of Systems. FY 2024 OCO Plans: N/A FY 2023 to FY 2024 Increase/Decrease Statement: Increase of \$0.331M from FY 2023 to FY 2024 will initiate identifying the highest priority issues during the testing and integration of modifications for the Engineer Family of Systems.					
Title: Family of EOD Equipment Articles:	3.169	1.026	1.027	0.000	1.027
FY 2023 Plans: - Continue testing and development of Amphibious Unmanned Ground Vehicle (AUGV) and Littoral Explosive Ordnance Neutralization (LEON) Payloads. FY 2024 Base Plans: - Continue testing and development of LEON Payloads. FY 2024 OCO Plans: N/A FY 2023 to FY 2024 Increase/Decrease Statement: Increase of \$0.001M from FY 2023 to FY 2024 is due to inflation.	-	-	-	-	-
Title: Explosive Hazard Defeat System (EHDS) Articles:	0.000	3.300	2.625	0.000	2.625
FY 2023 Plans: -Initiate development and testing of Stand-off Radar Imaging Detection System (SoRIDS) sensing and Automatic Target Recognition integration with air/ground unmanned platforms. FY 2024 Base Plans: -Continue development and testing of SoRIDS sensing and Automatic Target Recognition integration with air/ground unmanned platforms. -Initiate testing and development of Future Naval Capabilities (FNC) EHDS Ground Penetrating Radar (GPR) sensing and integration with air/ground unmanned platforms. FY 2024 OCO Plans:	-	-	-	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2316 / Combat Service Support Eng Equip

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease of \$0.675M is due to re-alignment of funds from BA7 to BA4 to Program Element: 0603635M Project Code: 7400 to allow execution via Office Navy Research (ONR) of GPR development and testing.					
Title: Corrosion Prevention and Control (CPAC)	2.835	2.930	3.013	0.000	3.013
Articles:	-	-	-	-	-
FY 2023 Plans: <ul style="list-style-type: none"> - Continue research, test, and evaluation of new corrosion control products, materials, processes, and procedures that improve the corrosion condition of Marine Corps ground equipment through corrosion control Research, Development, Testing, Evaluation (RDT&E) initiatives. These initiatives will support and or improve the corrosion condition of equipment such as the Amphibious Combat Vehicle (ACV), Light Armored Vehicle (LAV), Logistics Vehicle System-Replacement (LVSR), study of cost effective CPCs. - Continue stewardship of CPPMs which provides for vendor product submissions, evaluation, and approved use by the Marine Corps. - Continue field evaluations, product test, and environmental monitoring in advance of fielding to determine suitability. - Continue to support field evaluation of equipment and environmental characterization of equipment at geolocations through the Fleet Marine Force (FMF) and supporting establishment. - Continue to introduce new technologies, processes, and advance materials. - Continue technical publication updates. - Initiate Cooperative Research and Development Agreement (CRADA) with CHEMEON. 					
FY 2024 Base Plans: <ul style="list-style-type: none"> - Complete research, test, and evaluation of new corrosion control products, materials, processes, and procedures that improve the corrosion condition of Marine Corps ground equipment through corrosion control Research, Development, Testing, Evaluation (RDT&E) initiatives. These initiatives will support and or improve the corrosion condition of equipment such as the Amphibious Combat Vehicle (ACV), Light Armored Vehicle (LAV), Logistics Vehicle System-Replacement (LVSR), study of cost effective CPCs. - Initiate corrosion prevention engineering guidance to new and legacy Marine Corps ground equipment programs such as the Ultra-Light Tactical Vehicle (ULTV), Joint Light Tactical Vehicle (JLTV), and Medium Tactical Vehicle Replacement (MTVR). 					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2316 / <i>Combat Service Support Eng Equip</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<ul style="list-style-type: none"> - Continue research, test, and evaluation of vendor product submissions for new corrosion control products, materials, processes, and procedures that improve the corrosion condition of Marine Corps ground equipment through the Corrosion Preventive Products and Materials (CPPM) program. - Continue field evaluations, product test, and environmental monitoring in advance of implementing new corrosion prevention products to determine suitability. - Continue to support field evaluations of equipment and environmental characterization of equipment at various geo-locations throughout the Fleet Marine Force (FMF) and supporting establishments. - Continue to conduct studies and update corrosion technology roadmap with new technologies, processes, and advanced materials for military utility. - Continue technical publication updates. - Complete Cooperative Research and Development Agreement (CRADA) with CHEMEON. <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase of \$0.083M from FY 2023 to FY 2024 is due to the projected labor rates to improve corrosion condition of Marine Corps ground equipment.</p>					
Accomplishments/Planned Programs Subtotals	6.525	7.734	7.474	0.000	7.474

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/6670: <i>Items Less Than \$5 Million</i>	4.402	3.550	3.875	-	3.875	3.714	4.052	4.141	4.224	Continuing	Continuing
• PMC/6520: <i>Family of EOD Equipment</i>	17.192	40.799	41.200	-	41.200	32.453	25.660	22.070	22.437	Continuing	Continuing

Remarks

D. Acquisition Strategy
(U) Engineer Mods and Tool Kits: This is a roll-up line of various engineering efforts, modifications, and other related items less than \$5 Million each. This program provides for significant improvements to various pieces of engineering equipment by enhancing their capabilities and improving readiness.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2316 / <i>Combat Service Support Eng Equip</i>
<p>(U) Corrosion Prevention and Control (CPAC) Program: The Program will execute the RDT&E Program with engineering support and test & evaluation services from the Naval Surface Warfare Center - Carderock Division, Corrosion Research and Engineering Branch for a comprehensive program aimed at identifying, evaluating, and certifying new corrosion control products, materials, processes, and procedures for legacy Marine Corps equipment and new acquisitions.</p> <p>(U) Family of Explosive Ordnance Disposal Equipment (FEOD): The program will execute the RDT&E with product development and testing and evaluation support with Naval Information Warfare Center Pacific LEON Payload under-water robot systems to locate, identify, and neutralize those threats.</p> <p>(U) Explosive Hazard Defeat System (EHDS): The program will execute the RDT&E with product development, testing, and evaluation in conjunction with Office of Naval Research (ONR) Future Naval Capabilities (FNC) for USMC Full Force Design Enhancements to conduct stand-off detection, marking, and reporting of buried, on/off -route explosive obstacles (mines, IEDs, and UXOs) from the beach exit zone to the inland objective and in wide area clearance to avoid or neutralize explosive threats.</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2316 / Combat Service Support Eng Equip
--	---	---

Product Development (\$ in Millions)				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			
FEOD	C/CPFF	DIU : Arlington, VA	0.000	2.911	May 2022	0.182	May 2023	0.000		-		0.000	0.000	3.093	-
FEOD	WR	various : various	0.000	0.000	Aug 2022	0.000		0.500	Feb 2024	-		0.500	0.000	0.500	-
EHDS	WR	Lawrence Livermore : Livermore, CA	0.000	0.000		3.300	Mar 2023	1.000	Dec 2023	-		1.000	0.000	4.300	-
Prior Year Cumulative Funding	C/BA	Various : Various	77.673	0.000		0.000		0.000		-		0.000	0.000	77.673	-
Subtotal			77.673	2.911		3.482		1.500		-		1.500	0.000	85.566	N/A

Remarks
Overall decrease is primarily due to re-alignment of funds from BA7 to BA4 to Program Element: 0603635M Project Code: 7400 to allow execution via Office Navy Research (ONR) of GPR development and testing.

Support (\$ in Millions)				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			
CPAC	MIPR	NSWC-CD : Bethesda, MD	0.147	0.062	May 2022	0.072	Feb 2023	0.074	Feb 2024	-		0.074	Continuing	Continuing	Continuing
CPAC	C/FFP	NSWC-CD : Bethesda, MD	6.188	1.060	Apr 2022	1.358	Mar 2023	1.339	Mar 2024	-		1.339	Continuing	Continuing	Continuing
Subtotal			6.335	1.122		1.430		1.413		-		1.413	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				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			
Developmental Test & Evaluation (DT&E)	Various	Various : Various	5.640	0.521	Feb 2022	0.478	Feb 2023	0.809	Feb 2024	-		0.809	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	MIPR	NSWC-CD : Bethesda, MD	17.818	1.713	Apr 2022	1.500	Mar 2023	1.600	Mar 2024	-		1.600	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2316 / Combat Service Support Eng Equip
--	---	---

Test and Evaluation (\$ in Millions)				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			
Developmental Test & Evaluation (DT&E)	WR	NIWC-PAC : San Diego, CA	0.000	0.192	Aug 2022	0.747	Jan 2023	0.527	Jan 2024	-		0.527	0.000	1.466	-
Developmental Test & Evaluation (DT&E)	WR	NSWC-PCD : Panama City, FL	0.000	0.066	Apr 2022	0.097	Feb 2023	0.000		-		0.000	0.000	0.163	-
Developmental Test & Evaluation (DT&E)	WR	Lawrence Livermore : Livermore, CA	0.000	0.000		0.000		1.625	Jan 2024	-		1.625	0.000	1.625	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	C/BA	Various : Various	9.024	0.000		0.000		0.000		-		0.000	0.000	9.024	-
Subtotal			32.482	2.492		2.822		4.561		-		4.561	Continuing	Continuing	N/A

Remarks
Overall increase is primarily attributed to EHDS continued product development, testing, and evaluation of Automatic Target Recognition integrated with air/ground platforms.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	116.490	6.525	7.734	7.474	-	7.474	Continuing	Continuing	N/A

Remarks
Overall decrease is primarily due to EHDS re-alignment of funds from BA7 to BA4 to Program Element: 0603635M Project Code: 7400 to allow execution via Office Navy Research (ONR) of GPR development and testing.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2316 / Combat Service Support Eng Equip
--	---	---

CPAC	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
NSWC Carderock																												
CPPM Product Review and Test Plan Development	CPPM & Test Plan																											
Technical Publication review and update	Tech Pubs																											
CARC Compatibility	CARC																											
NSWC Carderock																												
Corrosion Repair Process Review (CRPR)	CRPR																											
Cooperative Research and Development Agreement (CRADA)					CRADA																							

2024PB - 0206624M - 2316

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2316 / Combat Service Support Eng Equip
--	---	---

FEOD	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
NIWC-PAC																												
LEON Payload Development and Integration	LEON Development & Integration																											
DIU																												
AUGV Development	AUGV Development																											

2024PB - 0206624M - 2316

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy																						Date: March 2023					
Appropriation/Budget Activity 1319 / 7												R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt								Project (Number/Name) 2316 / Combat Service Support Eng Equip							

EHDS	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028											
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q								
Lawrence Livermore																																				
Development and Integration									SoDEH Development/Full Force Design Enhancements																											
Testing and Evaluation									SoDEH Testing/Full Force Design Enhancements																											

2024PB - 0206624M - 2316

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2316 / Combat Service Support Eng Equip

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CPAC				
NSWC Carderock: CPPM Product Review and Test Plan Development: Schedule Detail	2	2022	4	2028
NSWC Carderock: Technical Publication review and update: Schedule Detail	1	2022	4	2028
NSWC Carderock: CARC Compatibility: Schedule Detail	1	2022	4	2022
NSWC Carderock: Corrosion Repair Process Review (CRPR): Schedule Detail	1	2022	4	2022
NSWC Carderock: Cooperative Research and Development Agreement (CRADA): Schedule Detail	2	2023	1	2024
FEOD				
NIWC-PAC: LEON Payload Development and Integration: Schedule Detail	3	2022	3	2027
DIU: AUGV Development: Schedule Detail	3	2022	3	2023
EHDS				
Lawrence Livermore: Development and Integration: Schedule Detail	2	2023	2	2027
Lawrence Livermore: Testing and Evaluation: Schedule Detail	1	2024	2	2027

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>				Project (Number/Name) 2509 / <i>Motor Transport Mod</i>			
COST (\$ in Millions)	Prior Years	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
2509: <i>Motor Transport Mod</i>	56.869	1.089	8.580	11.900	-	11.900	21.463	75.212	84.693	62.938	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Medium Tactical Vehicle Replacement (MTVR) Modification program line funds numerous modifications and initiatives required to address operational priorities, engineering change proposals (ECP), safety concerns, support equipment and other issues that affect vehicle reliability, availability, maintainability, readiness, as well as energy efficiency. A proactive and focused approach ensures proper vehicle sustainment and life-cycle management and allows the program office to develop and implement improvements as required to respond to the evolving needs of the Marine Corps. MTVR funding will support Technology Demonstration (TD) efforts for a Medium Tactical Truck (MTT), previously referenced as Medium Tactical Vehicle (MTV) in budget exhibits, that will determine maturity of technology advancements within the scope of industry production capabilities and address DoD Energy Efficiency goals while maintaining effectiveness and suitability in operational environments. The intended purpose of the TD effort is informing requirements and cost in support of a MTVR replacement program.

The Marine Corps Tactical Motor Transport Modification (MTM) Light Tactical Vehicle Modification (LTVM) project manages life cycle sustainment for the light fleet vehicle and tactical trailer principal end items. A sustained effort is maintained in the Marine Corps for development and testing in support of the light tactical vehicle quality deficiency resolutions, technology and safety initiatives and environmental/state transportation mandated vehicle changes.

The Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV) provides tactical mobility for Warfighters with multi-mission vehicles designed to support operational needs and protect personnel from the effects of improvised explosive devices (IEDs), underbody mines and small arms fire threats. Multiple vehicle categories (CATs) have been procured, fielded and sustained: Category I - Urban combat operations, ambulance; Category II - Multi-mission ops-convoy lead, troop transport, ambulance, utility vehicle; and, Category III - Mine/IED clearance ops, explosive ordnance disposal. Operational needs to provide personnel survivability is essential to current and future operations.

The Family of Medium/Heavy Tactical Trailers & Ancillary Equipment (FT&AE) management strategy will use RDT&E funding to explore new technology that can be used to achieve optimum lift within the desired weight and cube constraints in support of the "Lightening the MAGTF" initiative, as well as improving capabilities, to include re-engineering the ground clearance on various trailers to improve off-road mobility. Transportation and expeditionary goals will be considered in the research and development for the medium/heavy trailer fleet to include (but not limited to) the M1076 PLS (Palletized Load System) Trailer, MK1077 Flatrack, MK593 6 Ton Cargo Trailer, M870 40/50 Ton Low Bed, MK970 Tactical Refueler, M149A2 400 Gallon Water Tank Trailer, M353 3.5 Ton General Purpose Trailer, and the Flatrack Refueler Capability (FRC).

The Family of Logistics Vehicle System Replacement (LVSR) is the Marine Air-Ground Task Force (MAGTF) Heavy Lift Capability system. This line funds numerous modifications and initiatives that are required to address operational priorities, engineering change proposals, safety concerns, support equipment and other issues that affect vehicle reliability, availability, maintainability and readiness. A proactive and focused approach ensures proper vehicle sustainment and life-cycle management and allows the flexibility to develop and implement improvements as required to respond to the evolving needs of the Marine Corps.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy	Date: March 2023
--	-------------------------

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2509 / Motor Transport Mod
--	---	--

The Family of P-19 Replacement (P-19R) replaced the obsolete A/S32P-19A Crash Fire Rescue fleet in support of expeditionary airfield operations and the supporting establishment. The vehicle is outfitted with advanced fire suppression equipment. It provides rescue and aircraft firefighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19R is also employed to fight structural fires in support of base camps and as firefighting support to other elements of the Marine Air Ground Task Force (MAGTF), such as ammunition supply points, Petroleum, Oil and Lubricant (POL) distribution points or hazardous material storage facilities.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Medium Tactical Vehicle Replacement (MTVR)	0.102	7.617	11.328	0.000	11.328
Articles:	-	-	-	-	-
FY 2023 Plans:					
- Initiate Medium Tactical Trucks (MTT) competitive prototype efforts. Award agreement(s) for product development and design efforts with a focus on priorities such as technology maturity, operational effectiveness, and energy efficiency considerations.					
- Continue Engineering Change Proposals (ECP)/safety mods of the MTVR as required.					
- Continue Test & Evaluation efforts supporting ECP/safety mods of the MTVR as required to provide survivability upgrades in response to continual changes in the threat environment to protect the warfighter and vehicle from possible catastrophic events, in order to meet current and future operations.					
- Continue addressing ongoing obsolescence issues related to an aging fleet of vehicles through on-going science and engineering support, to include material characterizations, modeling and simulation, root-cause analyses, and design & process improvement recommendations from the Production Quality Deficiency Reports (PQDR).					
FY 2024 Base Plans:					
- Continue Medium Tactical Trucks (MTT) competitive prototype efforts, such as awarding competitive prototypes, focusing on areas such as technology maturity, operational effectiveness, and energy efficiency considerations.					
- Continue ECP/safety mods of the MTVR as required.					
- Continue Test & Evaluation efforts supporting ECP/safety mods of the MTVR as required to provide survivability upgrades in response to continual changes in the threat environment to protect the warfighter and vehicle from possible catastrophic events, in order to meet current and future operations.					
- Continue addressing ongoing obsolescence issues related to an aging fleet of vehicles through on-going science and engineering support, to include material characterizations, modeling and simulation, root-cause					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2509 / <i>Motor Transport Mod</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
analyses, and design & process improvement recommendations from the Production Quality Deficiency Reports (PQDR). FY 2024 OCO Plans: N/A FY 2023 to FY 2024 Increase/Decrease Statement: The increase from FY 2023 to FY 2024 is primarily due to MTT prototype development.					
Title: Light Tactical Vehicle Modification Articles:	0.015 -	0.186 -	0.017 -	0.000 -	0.017 -
FY 2023 Plans: Continue to support the development of engineering change proposals ensuring readiness, safety and reliability of the Light Tactical Family of Vehicles. FY 2024 Base Plans: Continue to support the development of engineering change proposals ensuring readiness, safety and reliability of the Light Tactical Family of Vehicles. FY 2024 OCO Plans: N/A FY 2023 to FY 2024 Increase/Decrease Statement: The decrease from FY 2023 to FY 2024 is attributed to the cumulative replacement of over 30% of the HMMWV fleet with Joint Light Tactical Vehicles (JLTVs). HMMWVs are actively being fully divested of with JLTV fielding.					
Title: Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV) Articles:	0.014 -	0.382 -	0.000 -	0.000 -	0.000 -
FY 2023 Plans: - Complete research and development of Engineering Change Proposals (ECPs) efforts such as "material improvements" to ballistic glass, other safety issues and new armor ballistic testing in support of survivability and mobility upgrades. FY 2024 Base Plans: N/A FY 2024 OCO Plans:					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2509 / <i>Motor Transport Mod</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Continue to support the development of Engineering Change Proposals (ECPs) related to readiness, safety and reliability of the Logistics Vehicle System Replacement (LVSr) Family of Vehicles. FY 2024 Base Plans: - Continue to support the development of Engineering Change Proposals (ECPs) related to readiness, safety and reliability of the Logistics Vehicle System Replacement (LVSr) Family of Vehicles. FY 2024 OCO Plans: N/A FY 2023 to FY 2024 Increase/Decrease Statement: The increase from FY 2023 to FY 2024 is due to the development of ECPs.					
Accomplishments/Planned Programs Subtotals	1.089	8.580	11.900	0.000	11.900

C. Other Program Funding Summary (\$ in Millions)	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
Line Item											
• PMC/5050-01: <i>Motor T Mod/MTVR</i>	9.038	8.662	8.941	-	8.941	8.902	9.063	9.224	9.408	Continuing	Continuing
• PMC/5050-02: <i>Motor T Mod/LVSR</i>	0.910	1.071	1.092	-	1.092	1.113	3.187	3.251	3.316	Continuing	Continuing
• PMC/5050-03: <i>Light Tactical Vehicle Modifications (LTVM)</i>	1.727	3.495	3.565	-	3.565	3.483	3.398	3.466	3.535	Continuing	Continuing
• PMC/5050-04: <i>Motor T Mod/MRAP</i>	0.000	0.991	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	24.795
• PMC/5050-05: <i>Motor T Mod/P19-R</i>	0.687	0.403	0.418	-	0.418	11.505	11.955	12.178	12.421	Continuing	Continuing
• PMC/5050-06: <i>Family of Tactical Trailers</i>	5.285	3.185	3.283	-	3.283	3.296	3.141	3.199	3.263	Continuing	Continuing

Remarks

D. Acquisition Strategy
The Medium Tactical Vehicle Replacement (MTVR) Modification line in support of Medium Tactical Trucks (MTT), will execute a competitive prototype phase through the use of Other Transaction Authority to award multiple agreements. Agreements will seek an incentivized Independent Research and Development (IRAD) cost structure or significant involvement from non-traditional Contractors to meet OTA requirements. Prototypes will be developed, built, and tested during this phase. Based on competitive prototyping efforts, conditions will be in place to support a FY 2026 Milestone B decision. MTT will then transition to an Engineering Manufacturing & Development Phase (FY 2027-FY 2029) followed by a Production & Deployment Phase (FY 2030-FY 2034).

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2509 / <i>Motor Transport Mod</i>
<p>Light Tactical Vehicle Modification (LTVM) focuses on modifications required to increase fleet readiness and to address, safety and environmental/state transportation mandated vehicle changes. LTVM also focuses on System Technical Support efforts (STS) that are led by the Army.</p> <p>The Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV) program will continue divestment and will execute RDT&E funds to research, develop, and evaluate survivability and mobility upgrade efforts such as ECP's, ballistic glass and other safety issues, new armor technology and ballistic testing if required.</p> <p>The Family of Medium/Heavy Tactical Trailers & Ancillary Equipment (FT&AE) management strategy will use RDT&E funding to explore current and new technologies options that can be used to achieve optimum lift within the desired weight and cube constraints in support of the "Lightening the MAGTF" initiative, as well as sustaining and/or improving capabilities, such as re-engineering the ground clearance on various trailers. When available, emphasis for executing the efforts maximize the use of existing Commercial Off The Shelf (COTS), Government Off The Shelf (GOTS), Non Developmental Items (NDI) and Government Furnished Equipment (GFE). Transportation and expeditionary goals will be considered in the research and development for the medium/heavy trailer fleet to include (but not limited to) the M1076 PLS (Palletized Load System) Trailer, MK1077 Flatrack, MK593 6 Ton Cargo Trailer, M870 40/50 Ton Low Bed, MK970 Tactical Refueler, M149A2 400 Gallon Water Tank Trailer, M353 3.5 Ton General Purpose Trailer, and the Flatrack Refueler Capability (FRC).</p> <p>The Family of Logistics Vehicle System Replacement (LVSR) program is currently in sustainment utilizing RDT&E funding to address required Engineering Change Proposals (ECPs) and safety modifications.</p> <p>The Family of P-19 Replacement (P-19R) leverages COTS and NDI components in an effort to minimize costs, test requirements, and reduce development time. P-19R supplants the aging A/S32P-19A fleet in support of expeditionary airfield operations and the supporting establishment. The vehicle is outfitted with advanced fire suppression equipment. It provides rescue and aircraft firefighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19R is employed to fight structure fires in support of base camps and as firefighting support to other elements of the MAGTF, such as ammunition supply points, Petroleum, Oil, and Lubricants (POL) distribution points, or hazardous material storage facilities.</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2509 / Motor Transport Mod
--	---	--

Product Development (\$ in Millions)				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			
MRAP Modifications	Various	Various : Various	0.389	0.000		0.145	Apr 2023	0.000		-		0.000	0.000	0.534	-
MRAP Engineering	Various	Various : Various	0.439	0.000		0.115	Apr 2023	0.000		-		0.000	0.000	0.554	-
MTT Technology Demonstration	Various	Various : Various	0.000	0.000		7.500	Apr 2023	11.208	Mar 2024	-		11.208	0.000	18.708	-
LVSR ECP Modifications	Various	Various : Various	0.000	0.618	Jul 2022	0.215	Jan 2023	0.307	Dec 2023	-		0.307	0.000	1.140	-
Prior Years Cumulative Funding	Various	Various : Various	37.026	0.000		0.000		0.000		-		0.000	0.000	37.026	-
Subtotal			37.854	0.618		7.975		11.515		-		11.515	0.000	57.962	N/A

Remarks
 MRAP - decrease from FY 2023 to FY 2024 due to program divestment.
 MTT - increase from FY 2023 to FY 2024 due to MTT related efforts that focus on additional competitive prototypes.
 LVSR - increase from FY 2023 to FY 2024 due to anti-idle ECP modifications.

Support (\$ in Millions)				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			
Prior Years Cumulative Funding	Various	Various : Various	0.105	0.000		0.000		0.000		-		0.000	0.000	0.105	-
Subtotal			0.105	0.000		0.000		0.000		-		0.000	0.000	0.105	N/A

Test and Evaluation (\$ in Millions)				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			
Operational Test & Evaluation (OT&E)	Various	Various : Various	17.135	0.456	Feb 2022	0.419	Mar 2023	0.368	Dec 2023	-		0.368	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	Various	Various : Various	1.775	0.015	Dec 2021	0.186	Aug 2023	0.017	Dec 2023	-		0.017	Continuing	Continuing	Continuing
Subtotal			18.910	0.471		0.605		0.385		-		0.385	Continuing	Continuing	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2509 / <i>Motor Transport Mod</i>
--	--	---

Test and Evaluation (\$ in Millions)				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			

Remarks
 OT&E - decrease from FY 2023 to FY 2024 primarily due to MRAP program divestment, while partially offset by increases in FT&AE and MTRV for test and analysis efforts.
 DT&E - decrease from FY 2023 to FY 2024 is due to a fewer HMMWVs and light tactical trailers being driven due to the fielding of JLTVs and JLTV-trailers. HMMWVs are actively being fully divested of with JLTV fielding.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	56.869	1.089	8.580	11.900	-	11.900	Continuing	Continuing	N/A

Remarks
 Overall increase from FY 2023 to FY 2024 is largely attributed to MTT prototyping efforts.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy

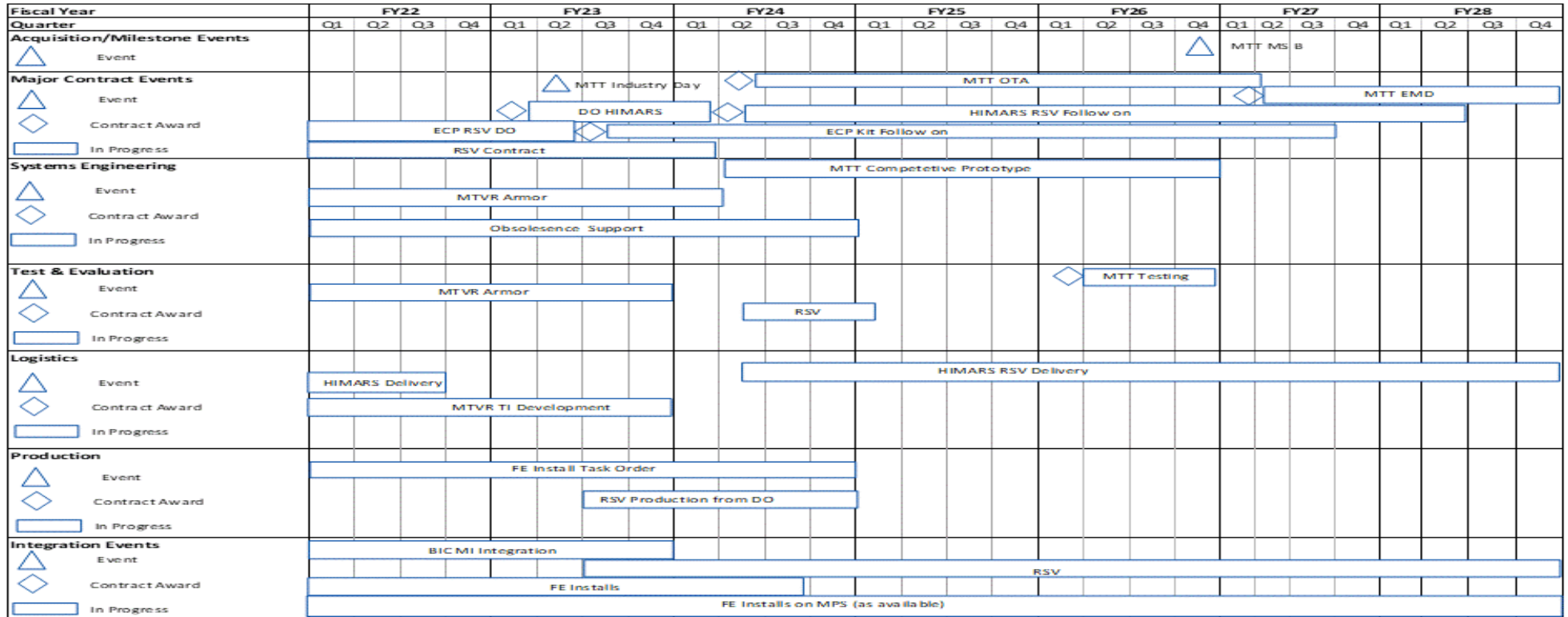
Date: March 2023

Appropriation/Budget Activity
1319 / 7

R-1 Program Element (Number/Name)
PE 0206624M / Marine Corps Cmbt Services Supt

Project (Number/Name)
2509 / Motor Transport Mod

MTVR Integrated Program Plan



UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2509 / <i>Motor Transport Mod</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MTVR				
ECP Safety Mod Testing and Analysis	1	2022	2	2024
MTT - Other Transaction Authority (OTA) / Prototype	2	2024	2	2027
MTT - Milestone B	4	2026	4	2026

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2510 / MAGTF CSSE & SE
--	---	--

COST (\$ in Millions)	Prior Years	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
2510: MAGTF CSSE & SE	44.926	4.276	9.524	7.714	-	7.714	5.343	4.574	9.389	9.578	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

A key enabler in support of Expeditionary Advanced Base Operations, austere base establishment in Littoral Operations in Contested Environments (LOCE), and Indo-Pacific, Environmental Control Equipment, Mobile Power Equipment, and Advanced Power Sources, are a part of Expeditionary Energy Initiatives that will ultimately support Force Design in enabling such systems and operations as Air Defense systems, C2 Degraded environment systems, Close Combat lethality systems, and Information Warfare.

A. Mission Description and Budget Item Justification

Family of Mobile Power Systems

The Family of Mobile Power Systems (MPS) consists of a wide range of current and emerging technologies for mobile power generation, storage, distribution systems, and environmental control equipment necessary to provide continuous, uninterrupted, electrical power and climate control in austere and expeditionary environments. MPS enables the functionality of critical weapons, optics, medical, C5ISR, and life support capabilities required at Advanced Naval and Base sites.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Family of Mobile Power Systems	4.276	9.524	7.714	0.000	7.714
Articles:	-	-	-	-	-
FY 2023 Plans:					
- Continue technology development and system requirement technical reviews for the Energy Storage Unit (ESU) in support of Intelligent Power Management System (IPMS).					
- Continue development of small unit/micro power prototypes and concepts.					
- Continue verification testing of Phase II prototypes for the Small Field Refrigeration System replacements.					
- Initiate prototype development for Energy Storage Unit (ESU) in support of Intelligent Power Management System (IPMS).					
FY 2024 Base Plans:					
- Continue technology development and system requirement technical reviews for the Energy Storage Unit (ESU) in support of Intelligent Power Management System (IPMS).					
- Continue prototype development of the Energy Storage Unit (ESU) in support of Intelligent Power Management System (IPMS).					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2510 / <i>MAGTF CSSE & SE</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Initiate developmental effort to produce a new hybrid Environmental Control Unit (ECU) capability that will consolidate two legacy materiel solutions into a single solution, resulting in lower total ownership costs, reduced fuel consumption, smaller logistics footprint, and utilize refrigerants that are less impactful on the environment. FY 2024 OCO Plans: N/A FY 2023 to FY 2024 Increase/Decrease Statement: Funding decrease from FY 2023 to FY 2024 aligns with the completion of product development for small unit power and micro power initiatives in support of EABO concepts.					
Accomplishments/Planned Programs Subtotals	4.276	9.524	7.714	0.000	7.714

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/6366: <i>Mobile Power Equipment</i>	16.040	5.841	28.899	-	28.899	29.487	30.046	30.617	31.230	0.000	638.282

Remarks

D. Acquisition Strategy

Family of Mobile Power Systems

The Family of Mobile Power System (MPS) acquisition strategy is to participate in Small Business Innovation Research and related programs, award procurement contracts through Marine Corps Systems Command contracting office, and secure services through Navy and Army Warfare Centers needed to develop, modify, procure, and provide life cycle sustainment for a portfolio of power generation, storage, and distribution systems, and environmental control equipment. Multiple developmental, procurement, and sustainment efforts are executed from MPS to ensure hybrid, renewable, scalable, and modular power solutions align with Marine Corps Combat Development Command's Force Design 2030 and Force Modernization directives. These efforts include, but are not limited to, the Mobile Electric Hybrid Power System, Intelligent Power Management System, Environmental Control Units, Field Refrigeration Systems, and Small Unit Power/Micro Power programs.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2510 / MAGTF CSSE & SE
--	---	--

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IPMS Micro Grid Storage	C/FFP	AFLCMC : HANSCOM AFB	5.450	0.320	May 2022	0.538	Jan 2023	0.000		-		0.000	Continuing	Continuing	Continuing
Small Unit Power	MIPR	NSWC-CD : Bethesda, MD	1.654	0.667	Jan 2022	0.000		0.000		-		0.000	0.000	2.321	-
IPMS Energy Storage Unit	C/FFP	DIU : Mountain View, CA	0.000	0.000		7.710	Mar 2023	6.563	Dec 2023	-		6.563	0.000	14.273	-
Hybrid Environmental Control Unit	TBD	TBD : TBD	0.000	0.000		0.000		0.481	Jan 2024	-		0.481	0.000	0.481	-
Small Unit Power - Micro Power Prototype	C/FFP	MCSC : Quantico, VA	0.000	1.274	Feb 2022	0.476	Mar 2023	0.000		-		0.000	0.000	1.750	-
SFRS Replacement	C/FFP	MCSC : Quantico, VA	0.000	0.800	Aug 2022	0.000		0.000		-		0.000	0.000	0.800	-
Prior Years Cumulative Funding	Various	Various : Various	23.534	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			30.638	3.061		8.724		7.044		-		7.044	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IPMS Energy Storage	MIPR	C5ISR-EIO : Aberdeen, MD	0.282	0.080	Apr 2022	0.150	Nov 2022	0.150	Nov 2023	-		0.150	0.000	0.662	-
IPMS Energy Storage	MIPR	ATC : Aberdeen, MD	0.087	0.080	Apr 2022	0.100	Nov 2022	0.100	Nov 2023	-		0.100	0.000	0.367	-
IPMS Energy Storage	C/BA	NSWC-CD : Bethesda, MD	0.000	0.080	Apr 2022	0.100	Nov 2022	0.100	Nov 2023	-		0.100	0.000	0.280	-
Small Unit Power	C/BA	NSWC-CD : Bethesda, MD	0.000	0.357	Jun 2022	0.100	Jun 2023	0.100	Nov 2023	-		0.100	0.000	0.557	-
Prior Years Cumulative Funding	Various	Various : Various	0.759	0.000		0.000		0.000		-		0.000	0.000	0.759	-
Subtotal			1.128	0.597		0.450		0.450		-		0.450	0.000	2.625	N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2510 / MAGTF CSSE & SE
--	---	--

Test and Evaluation (\$ in Millions)				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			
Developmental Test & Evaluation (DT&E)	MIPR	ABERDEEN TEST CENTER : ABERDEEN MD	0.516	0.050	Aug 2022	0.350	Jun 2023	0.220	Jun 2024	-		0.220	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	MIPR	NSWC CARDEROCK : CARDEROCK MD	0.000	0.453	May 2022	0.000		0.000		-		0.000	0.000	0.453	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	10.219	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			10.735	0.503		0.350		0.220		-		0.220	Continuing	Continuing	N/A

Management Services (\$ in Millions)				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			
PM support for development and test mgmt	C/FFP	MCSC : Quantico, VA	2.425	0.115	Sep 2022	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			2.425	0.115		0.000		0.000		-		0.000	Continuing	Continuing	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	
Project Cost Totals		44.926	4.276	9.524	7.714	-	7.714	Continuing	Continuing	N/A

Remarks
Funding decrease from FY 2023 to FY 2024 is due to the completion of product development for small unit power and micro power initiatives in support of EABO concepts.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2510 / MAGTF CSSE & SE
--	---	--

IPMS ESU	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
	SYSTEM REQUIREMENT TECH REVIEWS							CA ▲	DT																							

2024DON - 0206624M - 2510

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2510 / <i>MAGTF CSSE & SE</i>
--	--	---

Marine Portable Wind Energy System (MPWES)	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
	DT																											

2024DON - 0206624M - 2510

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2510 / MAGTF CSSE & SE
--	---	--

Hybrid Environmental Control Unit	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
									SYSTEM REQUIREMENT TECH REVIEWS								DT															

2024DON - 0206624M - 2510

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2510 / <i>MAGTF CSSE & SE</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
SFRS				
TEST & EVALUATION - PHASE II	4	2022	4	2023
MS C	2	2024	2	2024
IPMS ESU				
TECHNICAL REVIEWS	2	2022	2	2023
CONTRACT AWARD (PROTOTYPE)	3	2023	3	2023
DEVELOPMENT TESTING	3	2024	3	2025
SMALL UNIT/MICRO POWER				
TECHNICAL REVIEWS	2	2022	2	2023
CONTRACT AWARD	2	2023	2	2023
DEVELOPMENT TESTING	2	2024	2	2025
Marine Portable Wind Energy System (MPWES)				
DEVELOPMENTAL TESTING	1	2022	4	2022
Hybrid Environmental Control Unit				
TECHNICAL REVIEWS	1	2024	2	2024
CONTRACT AWARD	3	2024	3	2024
DEVELOPMENTAL TESTING	1	2025	1	2025

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy										Date: March 2023		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt				Project (Number/Name) 2929 / Testing Measuring Diag Equip & SE			
COST (\$ in Millions)	Prior Years	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
2929: Testing Measuring Diag Equip & SE	13.321	0.641	0.684	0.706	-	0.706	0.714	0.728	0.740	0.754	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Family of Automatic Test Systems (ATS) provides organic test capabilities for use by Marine Corps maintainers in garrison and deployed environments to support activities aligned to condition/predictive based maintenance, equipment diagnostics, and fault isolation on multiple platforms such as radio test sets that will be employed in the Expeditionary Advanced Base Operations (EABO) and littoral operational environment. ATS funding strategy supports Force Design 2030 initiatives and EABO by providing automatic test capabilities to the lowest level possible in order diagnose/repair as forward as possible.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Automatic Test Systems (ATS)	0.641	0.684	0.706	0.000	0.706
Articles:	-	-	-	-	-
FY 2023 Plans:					
-Initiate development of self test scripts for Hand-Held Radio Test Sets (HHRTS). The HHRTS supports organic testing of software defined crypto-compliment ground radio platforms.					
-Initiate artificial intelligence various Automatic Test Equipment (ATE). Artificial Intelligence will eliminate user interaction for running user test scripts, reducing manpower requirements.					
FY 2024 Base Plans:					
-Continue developmental through phase-approach and testing efforts associated with the General Purpose Automatic Test System Electro Optic Controller. This capability provides Marine Corps maintainers the ability to execute fault diagnostics and test a multitude of ground platforms that contain optics or fiber optic capabilities.					
-Continue development of self-test scripts for Hand-Held Radio Test Sets (HHRTS). The HHRTS supports organic testing of software defined crypto-compliment ground radio platforms.					
-Continue artificial intelligence various Automatic Test Equipment (ATE). Artificial Intelligence will eliminate user interaction for running user test scripts, reducing manpower requirements.					
FY 2024 OCO Plans:					
N/A					
FY 2023 to FY 2024 Increase/Decrease Statement:					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2929 / <i>Testing Measuring Diag Equip & SE</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
The increase from FY 2023 to FY 2024 supports the continuation of artificial intelligence for various Automatic Test Equipment (ATE).					
Accomplishments/Planned Programs Subtotals	0.641	0.684	0.706	0.000	0.706

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

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/4181: <i>Automatic Test Systems (ATS)</i>	1.895	12.030	10.537	-	10.537	10.675	11.987	6.423	6.551	0.000	143.687

Remarks

D. Acquisition Strategy

Automatic Test Systems (ATS) acquisition is being done through U.S. Army Armament Research, Development & Engineering Center (ARDEC), Picatinny, NJ both in-house and contracts; In-house at Marine Corps Logistics Command (MCLC), Albany, GA; In-house at Naval Surface Warfare Center, Crane, and through Marine Corps Systems Command contracts.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2929 / Testing Measuring Diag Equip & SE
--	---	--

Product Development (\$ in Millions)				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			
OT&E ATS Tech Eval & HW Digital Test	WR	MCLC Albany : Albany, GA	3.350	0.641	Feb 2022	0.684	Feb 2023	0.706	Feb 2024	-		0.706	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	Various : Various	5.993	0.000		0.000		0.000		-		0.000	0.000	5.993	-
Subtotal			9.343	0.641		0.684		0.706		-		0.706	Continuing	Continuing	N/A

Remarks
The increase from FY 2023 to FY 2024 supports the continuation of artificial intelligence for various Automatic Test Equipment (ATE).

Support (\$ in Millions)				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			
Prior Years Cumulative Funding	Various	Various : Various	3.978	0.000		0.000		0.000		-		0.000	0.000	3.978	-
Subtotal			3.978	0.000		0.000		0.000		-		0.000	0.000	3.978	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
Project Cost Totals			13.321	0.641	0.684	0.706	-	0.706	Continuing	Continuing	N/A	

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 2929 / Testing Measuring Diag Equip & SE
--	---	--

Proj 2929	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
	ATS Product Development																											

2024DON - 0206624M - 2929

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 2929 / <i>Testing Measuring Diag Equip & SE</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2929				
ATS Product Development	1	2022	4	2028

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>
--	--	--

COST (\$ in Millions)	Prior Years	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
9999: <i>Congressional Adds</i>	0.000	7.723	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.723
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Field-based airborne power generation systems efforts will focus on achieving the Marine Corps goal of lightening the Marine Air-Ground Task Force (MAGTF) through reduced logistical fuel resupply needs. These are Small Business Innovation Research (SBIR) efforts to capture energy at high altitudes utilizing wind energy through unmanned aerial vehicle (UAV) and airborne assets.

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

	FY 2022	FY 2023
Congressional Add: Field-based airborne power generation systems	7.723	0.000
FY 2022 Accomplishments: Field-based airborne power generation system technologies - Continue development of Field-based airborne power generation system technologies		
FY 2023 Plans: N/A		
Congressional Adds Subtotals	7.723	0.000

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

N/A

Remarks

D. Acquisition Strategy

Field-based airborne power generation systems efforts are Small Business Innovation Research (SBIR) efforts and acquisition strategies do not apply to SBIRs.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 9999 / Congressional Adds
--	---	---

Product Development (\$ in Millions)				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			
Field-based airborne power generation systems	TBD	TBD : TBD	0.000	7.723	Sep 2023	0.000		0.000		-		0.000	0.000	7.723	-
Subtotal			0.000	7.723		0.000		0.000		-		0.000	0.000	7.723	N/A

Remarks
Decrease of \$7.723M from FY 2022 to FY 2023 is due to the FY 2022 only congressional add for Field-based airborne power generation system technologies.

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	7.723	0.000	0.000	-	0.000	0.000	7.723	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy **Date:** March 2023

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / Marine Corps Cmbt Services Supt	Project (Number/Name) 9999 / Congressional Adds
--	---	---

Field-based airborne power generation systems	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Contract Award								◆																								

2024DON - 0206624M - 9999

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / <i>Marine Corps Cmbt Services Supt</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Field-based airborne power generation systems</i>				
Contract Award: Contract Award	4	2023	4	2023