Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy											Date: May 2021	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0206624M *I Marine Corps Cmbt Services Supt*							
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	224.483	28.892	10.421	13.185	-	13.185	-	-	-	-	-	-
2316: *Combat Service Support Eng Equip*	110.120	3.275	3.484	6.423	-	6.423	-	-	-	-	-	-
2509: *Motor Transport Mod*	50.271	5.380	1.772	1.706	-	1.706	-	-	-	-	-	-
2510: *MAGTF CSSE & SE*	39.868	1.734	4.539	4.413	-	4.413	-	-	-	-	-	-
2929: *Testing Measuring Diag Equip & SE*	12.149	0.550	0.626	0.643	-	0.643	-	-	-	-	-	-
3776: *Combat Track Vehicles Mod*	12.075	10.230	0.000	0.000	-	0.000	-	-	-	-	-	-
9999: *Congressional Adds*	0.000	7.723	0.000	0.000	-	0.000	-	-	-	-	-	-

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 (APSCE) 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 (ATS), 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 M1A1 main battle tank, LVSR & MTVR; 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy	Date: May 2021
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0206624M *I Marine Corps Cmbt Services Supt*

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	44.528	10.421	10.391	-	10.391
Current President's Budget	28.892	10.421	13.185	-	13.185
Total Adjustments	-15.636	0.000	2.794	-	2.794
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-14.021	0.000			
• SBIR/STTR Transfer	-1.615	0.000			
• Program Adjustments	0.000	0.000	2.910	-	2.910
• Rate/Misc Adjustments	0.000	0.000	-0.116	-	-0.116

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Project: 9999: *Congressional Adds*		
Congressional Add: *UAV alternate power generation technologies*	2.896	0.000
Congressional Add: *Airborne power generation technology*	4.827	0.000
Congressional Add Subtotals for Project: 9999	7.723	0.000
Congressional Add Totals for all Projects	7.723	0.000

Change Summary Explanation

The increase of $2.764M from FY 2021 to FY 2022 is primarily attributed to the initiation of Amphibious Unmanned Ground Vehicle (AUGV) and Littoral Explosive Ordnance Neutralization (LEON) development and testing.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Servic es Supt*	Project (Number/Name) 2316 / *Combat Service Support Eng Equip*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
2316: *Combat Service Support Eng Equip*	110.120	3.275	3.484	6.423	-	6.423	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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 and 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 Amphibious Unmanned Ground Vehicle (AUGV) under-water robot to locate, identify, and neutralize those threats.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Engineer Mods and Tool Kits	0.507	0.528	0.531	0.000	0.531
Articles:	-	-	-	-	-
FY 2021 Plans: - Complete development and testing of ground penetrating capability.					
FY 2022 Base Plans: - Initiate development and testing of Mine Clearing Line Charge (MCLC) replacements.					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Increase of $0.003M from FY 2021 to FY 2022 supports the development and testing of Mine Clearing Line Charge (MCLC) replacements.					
Title: Family of EOD Equipment	0.000	0.000	3.001	0.000	3.001
Articles:	-	-	-	-	-
FY 2021 Plans: N/A ***FY 2022 Base Plans:*** - Initiate development and testing of Amphibious Unmanned Ground Vehicle (AUGV) and Littoral Explosive Ordnance Neutralization (LEON) robots. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase of $3.001M from FY 2021 to FY 2022 supports initiation of AUGV and LEON development and testing. FY 2022 is first year RDT&E,N funding line.					
Title: Corrosion Prevention and Control (CPAC)	2.768	2.956	2.891	0.000	2.891
Articles:	-	-	-	-	-
FY 2021 Plans: - Continue research, test, and evaluation of new corrosion control products, materials, processes and procedures that improve Marine Corps corrosion control through Science and Technology initiatives such as: Thermally Sprayed Metal Coatings (TSMC), evaluation of the Chemical Agent Resistant Coating (CARC) Systems during Re-Paint, Chip Resistant Coatings, Flexible Nonslip Coatings and Corrosion Resistant Insulating Foams, to include assessments of metal rich primer, and metal coating eliminating surface preparation. - Continue stewardship of Corrosion Prevention Products and Materials (CPPM) which provides for vendor submissions to the Marine Corps to perform product qualification for chip and abrasion resistant coatings and other Corrosion Prevention Compounds that retard/arrest corrosion. - 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 storage locations such as Norway and Marine Forces Europe. - Continue to implement new technologies, processes and advance materials.					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Complete technical publication updates. ***FY 2022 Base Plans:*** - Continue research, test, and evaluation of new corrosion control products, materials, processes and procedures that improve Marine Corps corrosion control through Science and Technology (S&T) initiatives such as: Light Armored Vehicle (LAV) Strut Cap, Ultra Light Tactical Vehicle (UTV)-MRZR, CARC Adhesion to Aluminum Roll-Up Doors, Study of Cost Effective Corrosion Preventative Compounds (CPCs), and CARC Failure Analysis. - Continue stewardship of CPPMs which provides for vendor submission and evaluation 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 geo-locations through the Fleet Marine Force (FMF) and supporting establishment. - Continue to introduce new technologies, processes and advance materials. - Initiate technical publication updates. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** FY 2021 to FY 2022 funding decrease of $0.065M aligns with reduced support costs for CPPM Product Review and test plan development at NSWC-Carderock.					
Accomplishments/Planned Programs Subtotals	3.275	3.484	6.423	0.000	6.423

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PMC/6670: *Items Less than $5 Million*	10.956	9.174	4.402	-	4.402	-	-	-	-	-	-
• PMC/6520: *Family of EOD Equipment*	48.370	17.349	94.472	-	94.472	-	-	-	-	-	-

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

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.

(U) Corrosion Prevention and Control (CPAC) Program: The Program will execute the RDT&E Program with engineering support from the Naval Surface Warfare Center - Carderock Division Corrosion Research and Engineering Branch, Naval Research Laboratory, and the Army's Tank and Armaments Command for a comprehensive program aimed at identifying, evaluating, and certifying new corrosion control products, materials, processes and procedures for legacy and new acquisitions.

(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 Integration Warfare Center Pacific for an AUGV under-water robot to locate, identify, and neutralize those threats.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Servic es Supt*	Project (Number/Name) 2316 / *Combat Service Support Eng Equip*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FEOD	WR	NIWC-PAC : San Diego, CA	0.000	0.000		0.000		1.000	Feb 2022	-		1.000	-	-	-
FEOD	C/FFP	MCSC : Quantico, VA	0.000	0.000		0.000		1.500	Mar 2022	-		1.500	-	-	-
Prior Year Cumulative Funding	Various	Various : Various	77.673	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	77.673	0.000		0.000		2.500		-		2.500	-	-	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CPAC	WR	NSWC-CD : Bethesda, MD	0.000	0.075	Jun 2020	0.072	Jan 2021	0.069	Feb 2022	-		0.069	-	-	-
CPAC	C/FFP	NSWC-CD : Bethseda, MD	3.623	1.329	Jul 2020	1.384	Apr 2021	1.222	Feb 2022	-		1.222	-	-	-
CPAC	MIPR	TACOM : Warren,MI	1.573	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	5.196	1.404		1.456		1.291		-		1.291	-	-	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineer Modifcation Kits	Various	Various : Various	3.943	0.507	May 2020	0.528	Feb 2021	0.534	Feb 2022	-		0.534	-	-	-
CPAC	WR	NSWC-CD : Bethseda, MD	14.284	1.364	Apr 2020	1.500	Feb 2021	1.598	Apr 2022	-		1.598	-	-	-
FEOD	WR	NIWC-PAC : San Diego, CA	0.000	0.000		0.000		0.500	May 2022	-		0.500	-	-	-
Prior Year Cumulative Funding	Various	Various : Various	9.024	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	27.251	1.871		2.028		2.632		-		2.632	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Servic es Supt*	Project (Number/Name) 2316 / *Combat Service Support Eng Equip*	

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	110.120	3.275		3.484		6.423		-		6.423	-	-	N/A

Remarks

FY 2022 FEOD first year of RDT&E.

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

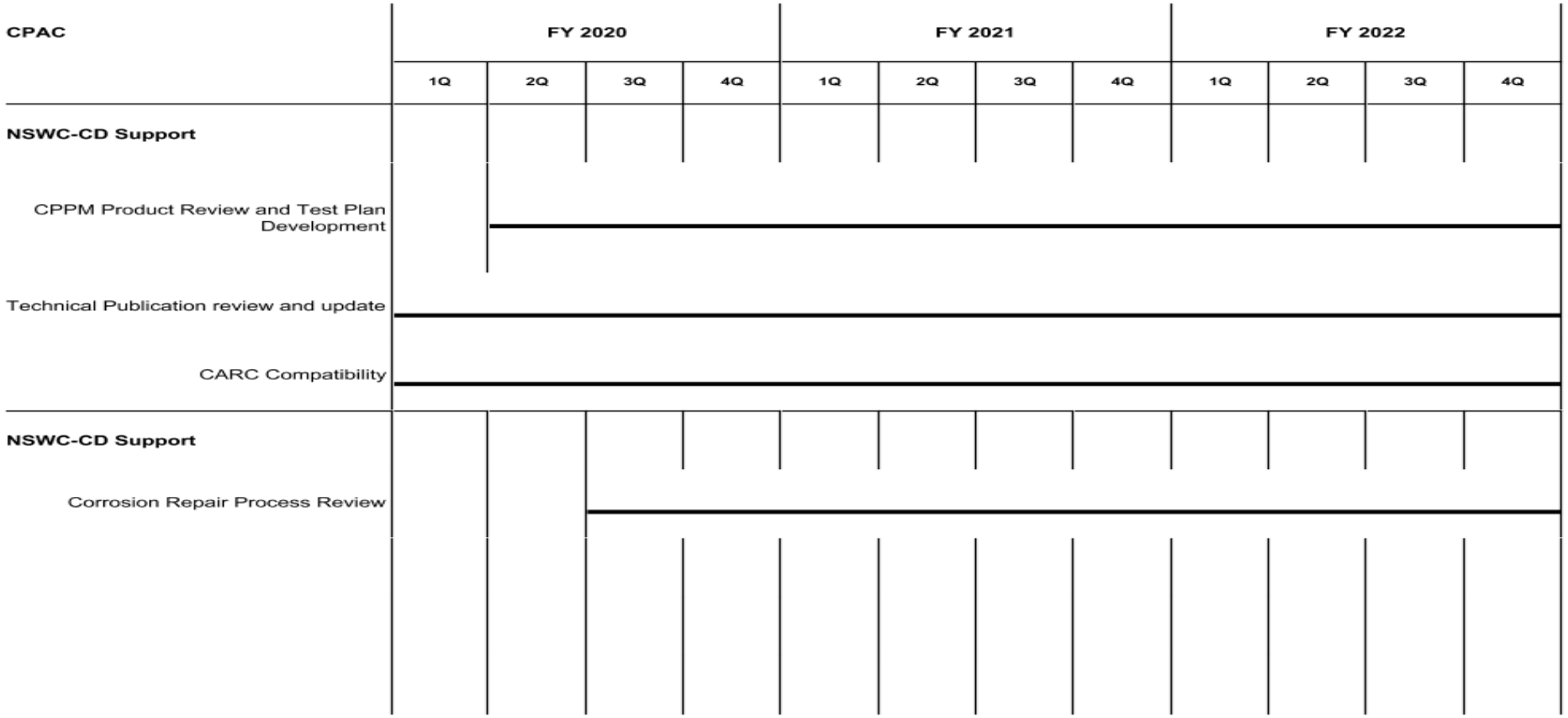

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

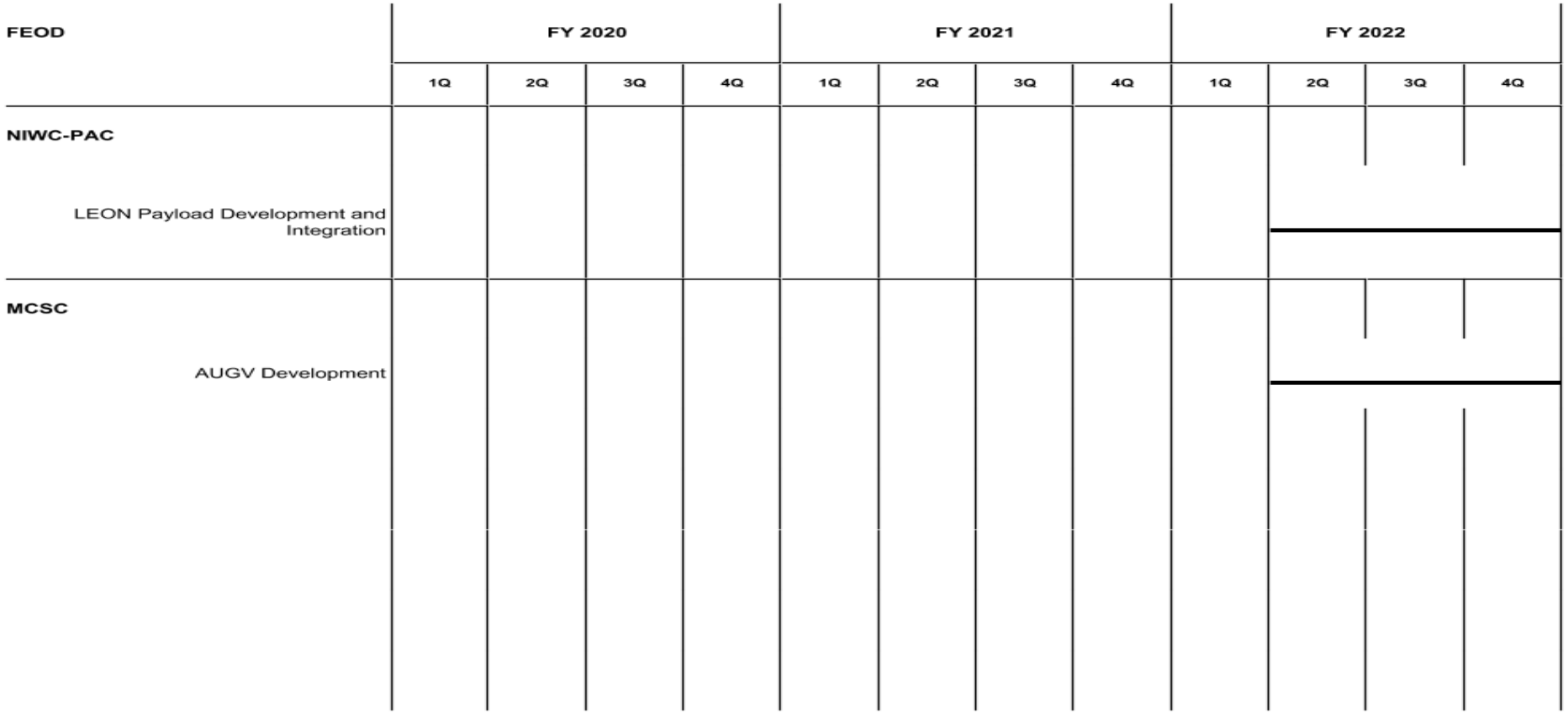

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CPAC				
NSWC-CD Support: CPPM Product Review and Test Plan Development: Schedule Detail	2	2020	4	2022
NSWC-CD Support: Technical Publication review and update: Schedule Detail	1	2020	4	2022
NSWC-CD Support: CARC Compatibility: Schedule Detail	1	2020	4	2022
NSWC-CD Support: Corrosion Repair Process Review: Schedule Detail	3	2020	4	2022
FEOD				
NIWC-PAC: LEON Payload Development and Integration: Schedule Detail	2	2022	4	2022
MCSC: AUGV Development: Schedule Detail	2	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Servic es Supt*	Project (Number/Name) 2509 / *Motor Transport Mod*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
2509: *Motor Transport Mod*	50.271	5.380	1.772	1.706	-	1.706	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Marine Corps Tactical Motor Transport Modification (MTM) Light Tactical Vehicle Modification (LTVM) project manages procurement and life cycle sustainment for more than 15,390 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, safety initiatives, environmental/state transportation mandated vehicle changes, and system component refresh modification efforts. This includes addressing deficiencies of High Mobility Multipurpose Wheeled Vehicles (HMMWVs) due to up armoring and age degradation of the fleet as well as engineering change proposals identified for the Light Tactical Vehicles. Since transportation asset operational availability declines at a steady rate over time, fleet overhauls, and enhanced depot level modifications are essential in maintaining a viable transportation capability in the Marine Corps Operating Forces.

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 fire fighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19 Replacement 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.

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 MTVR Trailer, M870 40/50 Ton Low Bed, MK970 Tactical Refueler and the Flatrack Refueler Capability (FRC).

The Medium Tactical Vehicle Replacement (MTVR) Modification program line funds numerous modifications and initiatives required to address operational priorities, engineering change proposals, 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. For example, the Business Case Analysis (BCA) explored and developed strategies and products to extend the life of the MTVR to 2042 from its original planned exit date of 2024. The program office is developing cost estimates to support a potential service life extension program (SLEP) in the future. The PMO is working with PM Fires to provide additional High Mobility Artillery Rocket System (HIMARS) Resupply vehicles and trailers to 10th Marines in support of force design beginning in FY 2021 - FY 2022.

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

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

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.

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. Research and Development funding allows for the development and integration of efforts such as ballistic glass, other safety issues and ballistic testing. The effort title in the R-2A Section B has been renamed from "Combat Service Support Eng Equip MRAP" to "Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV)" to reflect that efforts are in support of the entire MRAP FoV capability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Light Tactical Vehicle Modification	0.649	0.690	0.604	0.000	0.604
Articles:	-	-	-	-	-
FY 2021 Plans: Continue to support the development of engineering change proposals in support of the Light Tactical Vehicles for efforts such as replacement surge filter analysis and power study identified by the operating forces that will have lasting effects on future light tactical platforms and supported systems. ***FY 2022 Base Plans:*** Will continue to support the development of engineering change proposals in support of the Light Tactical Vehicles for efforts such as tire durability study and HMMWV modifications identified by the operating forces that will have lasting effects on future light tactical platforms and supported systems. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Decrease of $.086M is due to reduced requirement for HMMWV Engineering Change Proposals in FY 2022.					
Title: Medium Tactical Vehicle Replacement (MTVR)	3.647	0.106	0.105	0.000	0.105
Articles:	-	-	-	-	-
FY 2021 Plans: - Continue conducting ECP/Safety mods of the MTVR as required. - Continue Test & Evaluation efforts supporting Engineering Change Proposals (ECP)/safety mods of the MTVR as required to provide survivability upgrades in response to continual changes in the threat environment					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
to protect the warfighter and vehicle from possible catastrophic events, in order to meet current and future operations. - Address ongoing obsolescence issues related to an aging fleet of vehicles. - Distribute HIMARS Resupply Vehicles to 10th Marines in support of Force Design. ***FY 2022 Base Plans:*** - Continue conducting 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. - Continue distribution of HIMARS Resupply Vehicles to 10th Marines in support of Force Design. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** No significant change					
Title: Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV)	0.178	0.545	0.562	0.000	0.562
Articles:	-	-	-	-	-
FY 2021 Plans: - Continue 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 2022 Base Plans:*** - Continue 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 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:***					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
The increase of $0.017M from FY 2021 to FY 2022 reflects ongoing ECP efforts and other safety issues in support of survivability and mobility upgrades.					
Title: Logistics Vehicle System Replacement (LVSR) ***Articles:*** ***FY 2021 Plans:*** - Continue autonomous driver testing and demonstration. - Complete cab armor prototype endurance testing. ***FY 2022 Base Plans:*** - Continue autonomous driver testing and demonstration. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** The increase of $0.002M from FY 2021 to FY 2022 funds the autonomous driver testing and demonstration.	0.705 -	0.218 -	0.220 -	0.000 -	0.220 -
Title: Family of Medium/Heavy Tactical Trailers & Ancillary Equipment (FT&AE) ***Articles:*** ***FY 2021 Plans:*** - Continue M870 testing efforts to ensure effectiveness of the Medium/Heavy Tactical Trailers designed for the Medium Tactical Vehicle Replacement (MTVR)/Logistics Vehicle System Replacement (LVSR), enabling the fleet to meet increased mobility requirements. ***FY 2022 Base Plans:*** - Continue M870 testing efforts to ensure effectiveness of the Medium/Heavy Tactical Trailers designed for the Medium Tactical Vehicle Replacement (MTVR)/Logistics Vehicle System Replacement (LVSR), enabling the fleet to meet increased mobility requirements. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** The increase in funding of $0.002M from FY 2021 to FY 2022 supports the fleet mobility requirements.	0.201 -	0.213 -	0.215 -	0.000 -	0.215 -
Accomplishments/Planned Programs Subtotals	5.380	1.772	1.706	0.000	1.706

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PMC/5097: *Family of Tactical Trailers*	2.693	2.963	0.000	-	0.000	-	-	-	-	-	-
• PMC/2061-01: *M88A2 HERCULES Mod*	2.621	0.000	0.000	-	0.000	-	-	-	-	-	-
• PMC/5050-01: *Motor T Mod/MTVR*	14.493	23.566	7.907	-	7.907	-	-	-	-	-	-
• RDTE,N/C3776: *M88A2 HERCULES Mod*	0.353	0.000	0.000	-	0.000	-	-	-	-	-	-
• PMC/5050-02: *Motor T Mod/LVSR*	3.445	1.397	0.923	-	0.923	-	-	-	-	-	-
• PMC/5050-03: *Light Tactical Vehicle Modifications (LTVM)*	0.542	0.496	3.425	-	3.425	-	-	-	-	-	-
• PMC/5050-04: *Motor T Mod/MRAP*	0.360	1.096	1.173	-	1.173	-	-	-	-	-	-
• PMC/5050-05: *Motor T Mod/P19-R*	0.774	0.367	0.373	-	0.373	-	-	-	-	-	-
• PMC/5050-06: *Family of Tactical Trailers*	0.000	0.000	9.562	-	9.562	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Light Tactical Vehicle Modification (LTVM) focuses on streamlined acquisitions of Commercial-Off-The-Shelf/Non-Developmental Items (COTS/NDI) that can be identified, integrated, and tested in a short amount of time. Modifications are required to increase fleet readiness, safety and reliability. LTVM also focuses on System Technical Support efforts (STS) that are lead by the Army. Successful modifications and tests are intended for follow-on procurement and incorporation into existing system component upgrades, or rapid COTS/NDI fielding for the Fleet Marine Forces (FMF).

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 fire fighting 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.

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. Transportation and expeditionary goals will be considered in the research

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
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and development for the light and medium/heavy trailer fleet to include (but not limited to) the M1076 PLS (Palletized Load System) Trailer, MK1077 Flatrack, MK593 MTVR Trailer, M870 40/50 Ton Low Bed, MK970 Tactical Refueler and the Flatrack Refueler Capability (FRC).

The Medium Tactical Vehicle Replacement (MTVR) program line funds numerous modifications and initiatives required to address operational priorities, engineering change proposals, 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. For example, Business Case Analysis was conducted and developed multiple courses of action to extend the life of the MTVR to 2042 from its original planned exit date of 2024. Beginning in FY 2021, the PMO in conjunction with PM Fires will continue to convert MTVRs into HIMARS Resupply vehicles for 10th Marines in support of Force Design.

The Family of Logistics Vehicle System Replacement (LVSR) program is currently in sustainment utilizing RDT&E funding to address required Engineering Change Proposals (ECPs) for the autonomous driver testing and demonstration to maintain relevancy on the battlefield and implement system requirements.

The Mine Resistant Ambush Protected (MRAP) FoV program executes 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. Work will be accomplished through centers of excellence, such as Aberdeen Test Center, Aberdeen, MD, as well as the private sector to conduct research and analysis associated with the development of modifications and modeling and simulation efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MRAP Modifications	WR	Various : Various	0.178	0.022	Dec 2019	0.189	Dec 2020	0.191	Dec 2021	-		0.191	-	-	-
MRAP Engineering	WR	ATC : ATC	0.143	0.156	Dec 2019	0.140	Dec 2020	0.150	Dec 2021	-		0.150	-	-	-
LVSR Leader/Follower	MIPR	Various : Various	0.432	0.705	Feb 2020	0.218	Feb 2021	0.000		-		0.000	-	-	-
MTVR Semi Autonomous	Various	GVSC : Various	0.000	2.250	Dec 2019	0.000		0.000		-		0.000	-	-	-
Prior Years Cumulative Funding	Various	Various : Various	33.387	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	34.140	3.133		0.547		0.341		-		0.341	-	-	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support MTVR	C/CPFF	DTIC : AECOM	0.000	0.105	Mar 2020	0.000		0.000		-		0.000	-	-	-
		Subtotal	0.000	0.105		0.000		0.000		-		0.000	-	-	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FT&AE Test/Analysis	WR	NRL : Washington, DC	0.572	0.201	Dec 2019	0.213	Dec 2020	0.215	Dec 2021	-		0.215	-	-	-
MRAP FoV Ballistic Evaluations	MIPR	ATC : ATC	0.209	0.000	Dec 2019	0.216	Dec 2020	0.221	Dec 2021	-		0.221	-	-	-
LTVM (Light) ECPs	Various	Various : Various	0.981	0.649	Feb 2020	0.690	Feb 2021	0.604	Dec 2021	-		0.604	-	-	-
MTVR Armor prototype testing	MIPR	ATC : Aberdeen,MD	0.226	0.492	Dec 2019	0.000		0.000		-		0.000	-	-	-
MTVR ECP Test & Evaluation	Various	Various : Various	2.453	0.000	Dec 2019	0.106	May 2021	0.105	Dec 2021	-		0.105	-	-	-
MTVR GVSC (Army) Testing	MIPR	GVSC : GVSC	0.400	0.800	Dec 2019	0.000		0.000		-		0.000	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LVSR Test/Analysis	MIPR	ATC : ATC	0.000	0.000		0.000		0.220	Feb 2022	-		0.220	-	-	-
Prior Years Cumulative Funding	Various	Various : Various	11.290	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	16.131	2.142		1.225		1.365		-		1.365	-	-	N/A

Remarks

LTVM - decrease of $0.086M in FY 2022 due to reduced developmental requirements associated with changes to the HMMWV.
MTVR - decrease of $0.001M in FY 2022 due to reduced cost estimate.
LVSR - increase of $0.220M in FY 2022 due to autonomous driver testing and demonstration (Leader/Follower).

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	50.271	5.380		1.772		1.706		-		1.706	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

MTVR Integrated Program Plan

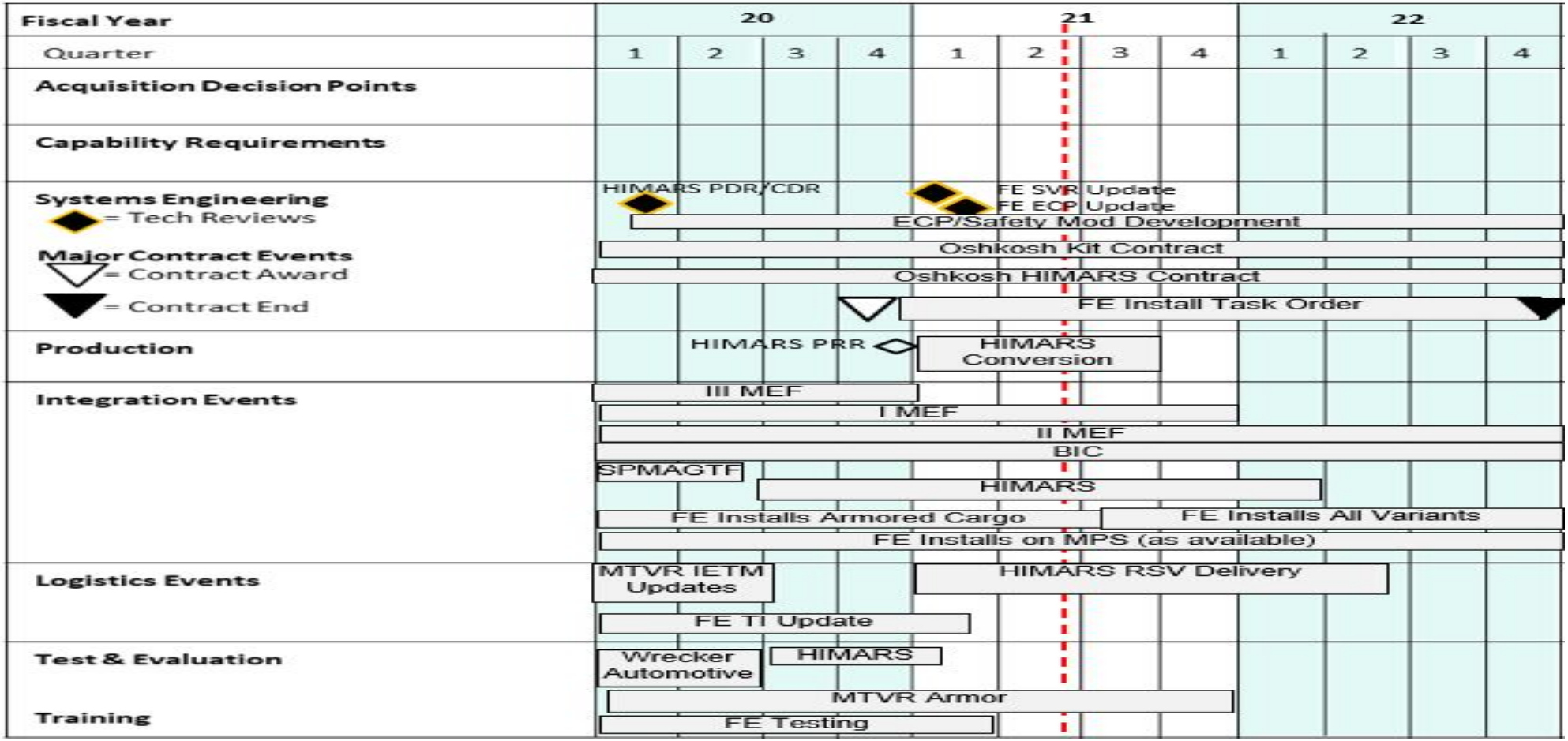

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MTVR				
Fuel Efficient Modifications (Install S/W) Armored Cargo	1	2020	3	2021
ECP/Safety Mod Development	1	2020	4	2022
Fuel Efficient Modifications (Install S/W) All Variants	3	2021	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy											Date: May 2021	
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COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
2510: *MAGTF CSSE & SE*	39.868	1.734	4.539	4.413	-	4.413	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

A key enabler in support of Expeditionary Advanced Base Operations (EABO) and 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 Degraged 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, and distribution systems and environmental control equipment necessary to provide continuous, uninterrupted electrical power and climate control in austere environments. MPS enables the functionality of critical weapon, optic, sensor, medical, intelligence, communication, and life support capabilities required at Advanced Naval Bases and Advanced Base sites.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Environmental Control Equipment	0.000	0.549	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2021 Plans: - Continue developmental testing of phase II prototypes for the Small Field Refrigeration System replacement. - Initiate verification testing of phase II prototypes for the Small Field Refrigeration System replacement.					
FY 2022 Base Plans: N/A					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Funding decreases from $0.549M to $0.000M because starting in FY 2022 Environmental Control Equipment merges into Family of Mobile Power Systems. See project note section above.					
Title: Family of Mobile Power Systems	1.384	0.759	4.413	0.000	4.413
Articles:	-	-	-	-	-
FY 2021 Plans: - Continue technology development and technical support for the Intelligent Power Management System (IPMS). - Initiate system requirement technical reviews for the Energy Storage Unit (ESU) in support of Intelligent Power Management System (IPMS). - Initiate development of small unit power prototypes and concepts in support of Expeditionary Advanced Based Operations (EABO) environment.					
FY 2022 Base Plans: - Continue technology development and technical support for the Intelligent Power Management System (IPMS). - Continue system requirement technical reviews for the Energy Storage Unit (ESU) in support of Intelligent Power Management System (IPMS). - 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. - Continue development of small unit power prototypes and concepts. - Initiate development of Unmanned Aerial Vehicle(UAV) alternate power generation technologies and Airborne power generation technologies (Marine Portable Wind Energy System) following FY 2020 congressional add in support of Expeditionary Advanced Base Operations.					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: Funding increases from $0.759M to $4.427M because starting in FY 2022 Advanced Power Sources and Environmental Control Equipment merge into Family of Mobile Power Systems. See project note section above.					
Title: Advanced Power Sources	0.350	3.231	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2021 Plans: MOBILE ELECTRIC HYBRID POWER SOURCES (MEHPS)					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
- Initiate battery certification testing for MEHPS - Initiate small unit power prototypes and concepts ***FY 2022 Base Plans:*** N/A ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Funding decreases from $3.231M to $0.000M because starting in FY 2022 Advanced Power Sources merges into Family of Mobile Power Systems. See project note section above.					
Accomplishments/Planned Programs Subtotals	1.734	4.539	4.413	0.000	4.413

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PMC/6054: *Environmental Control Equipment*	0.500	0.385	0.000	-	0.000	-	-	-	-	-	-
• PMC/6366-1: *Mobile Power Equipment*	16.587	10.703	26.625	-	26.625	-	-	-	-	-	-
• PMC/6366-2: *Advanced Power Sources*	5.849	12.727	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Family of Mobile Power Systems

The Family of Mobile Power System (MPS) acquisition strategy is to develop, procure, and provide life cycle sustainment for a portfolio of power generation, storage, and distribution systems and environmental control equipment. The acquisition strategy provides the engineering, software, and logistics resources necessary to equip the Warfighter with required power systems and environmental control equipment that enables the functionality of critical weapon, optic, sensor, medical, intelligence, communication, and life support capabilities required at Advanced Naval Bases and Advanced Base sites. Multiple developmental, procurement, and sustainment efforts are executed from MPS to support and enhance hybrid, renewable, scalable, and modular solutions that will power tomorrow's battlefield. These efforts include, but are not limited to, the Mobile Electric Hybrid Power Sources, Intelligent Power Management System, Environmental Control Units, and Small Unit Power programs.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MPE Micro Grid Storage/ IPMS	C/FFP	AFLCMC : HANSCOM AFB	4.336	0.529	Apr 2020	0.000	Jan 2021	0.493	Jan 2022	-		0.493	-	-	-
MPE IPD EMD	C/FFP	MCSC : Quantico, VA	2.014	0.058	Jan 2020	0.000		0.000		-		0.000	-	-	-
MPE IPD Prototype Testing	C/FFP	ATC : Aberdeen, MD	0.867	0.000		0.000	Nov 2020	0.000		-		0.000	-	-	-
ECE SFRS Replacement	MIPR	NSRDEC : NATICK, MA	0.768	0.000		0.549	Mar 2021	0.000		-		0.000	-	-	-
MPS/APS Small Unit Power	TBD	TBD : TBD	0.000	0.000		3.990	Mar 2021	0.462	Jan 2022	-		0.462	-	-	-
APS MEHPS Solar Power	C/CPFF	UEC : CHARLESTON, SC	0.000	0.000	Apr 2020	0.000		0.000		-		0.000	-	-	-
MPE Metering & Monitoring Dashboard	WR	DOTC : Picatinny, NJ	0.000	0.106	Jan 2020	0.000		0.000		-		0.000	-	-	-
MPE Metering & Monitoring	WR	C5ISR-EIO : Aberdeen, MD	0.000	0.100	Jan 2020	0.000		0.000		-		0.000	-	-	-
MPE Environmental Storage Unit IPMS	TBD	TBD : TBD	0.000	0.000		0.000		1.945	Jun 2022	-		1.945	-	-	-
MPS/ECE Hybrid Environmental Control Unit	TBD	TBD : TBD	0.000	0.000		0.000		0.556	Jan 2022	-		0.556	-	-	-
Prior Years Cumulative Funding	Various	Various : Various	19.605	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	27.590	0.793		4.539		3.456		-		3.456	-	-	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Marine Portable Wind Energy System	WR	NRL : Washington, DC	0.000	0.000		0.000		0.957	Dec 2021	-		0.957	-	-	-
Prior Years Cumulative Funding	Various	Various : Various	0.059	0.000		0.000		0.000		-		0.000	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.059	0.000		0.000		0.957		-		0.957	-	-	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ECE SFRS Replacement Test & Evaluation	MIPR	ABERDEEN TEST CENTER : ABERDEEN MD	0.516	0.000	Nov 2019	0.000	Mar 2021	0.000		-		0.000	-	-	-
APS MEHPS User Evaluation	MIPR	NSWC CARDEROCK : CARDEROCK MD	0.410	0.350	Jan 2020	0.000		0.000		-		0.000	-	-	-
APS MEHPS Lithium Battery Testing	WR	NSWC : CARDERROCK, MD	0.000	0.000		0.000	Apr 2021	0.000		-		0.000	-	-	-
MPE IPD Developmental Testing	WR	ABERDEEN TEST CENTER : ABERDEEN MD	0.000	0.591	Jan 2020	0.000		0.000		-		0.000	-	-	-
Prior Years Cumulative Funding	Various	Various : Various	8.868	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	9.794	0.941		0.000		0.000		-		0.000	-	-	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MPE PM support for development and test mgmt	C/FFP	MCSC : Quantico, VA	2.425	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	2.425	0.000		0.000		0.000		-		0.000	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy			Date: May 2021
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	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	39.868	1.734		4.539		4.413		-		4.413	-	-	N/A

Remarks

Environmental Control Equipment, Mobile Power Equipment and Advanced Power Sources are part of Expeditionary Energy Initiatives.

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
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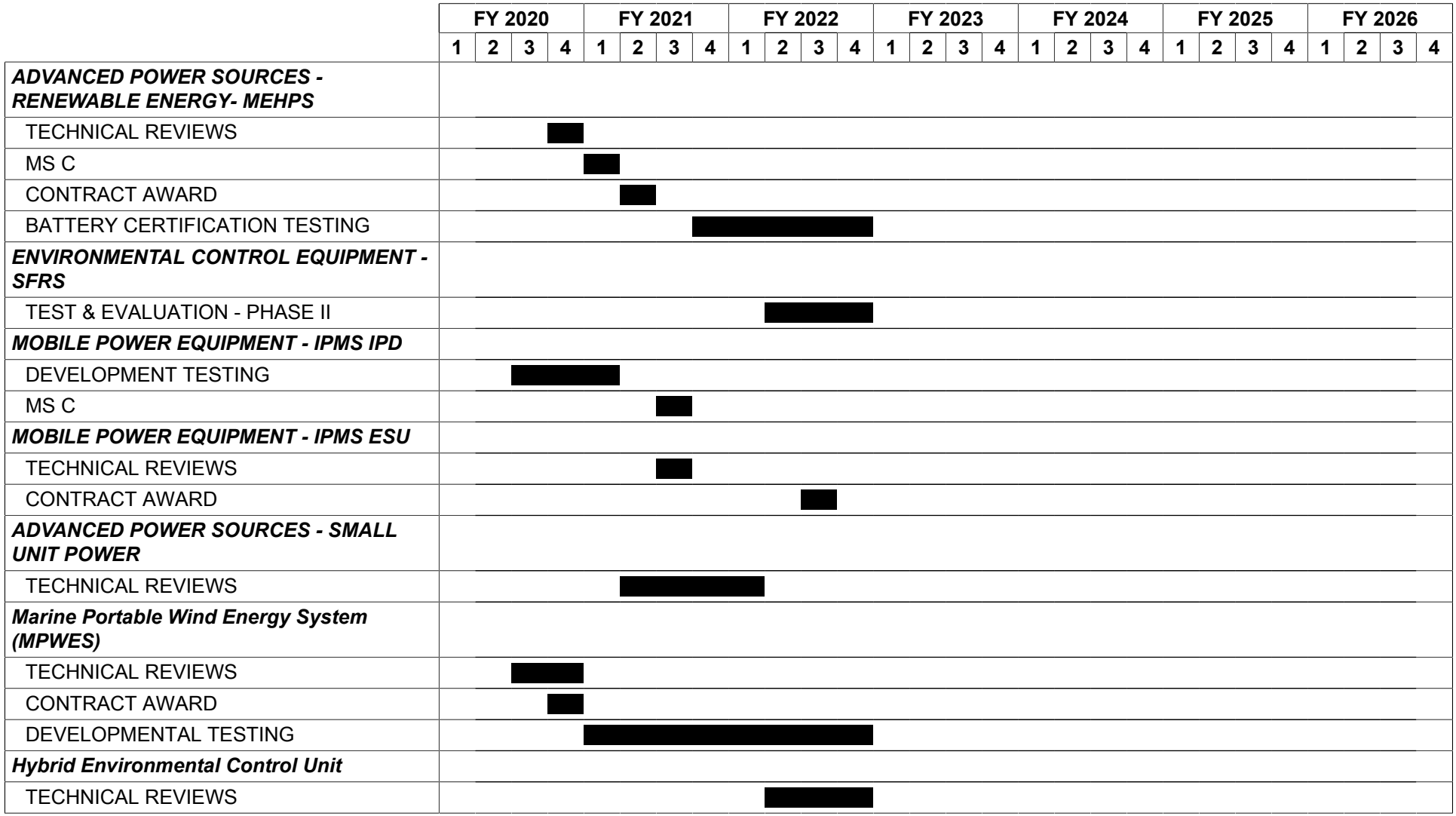

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ADVANCED POWER SOURCES -RENEWABLE ENERGY- MEHPS				
TECHNICAL REVIEWS	4	2020	4	2020
MS C	1	2021	1	2021
CONTRACT AWARD	2	2021	2	2021
BATTERY CERTIFICATION TESTING	4	2021	4	2022
ENVIRONMENTAL CONTROL EQUIPMENT - SFRS				
TEST & EVALUATION - PHASE II	2	2022	4	2022
MOBILE POWER EQUIPMENT - IPMS IPD				
DEVELOPMENT TESTING	3	2020	1	2021
MS C	3	2021	3	2021
MOBILE POWER EQUIPMENT - IPMS ESU				
TECHNICAL REVIEWS	3	2021	3	2021
CONTRACT AWARD	3	2022	3	2022
ADVANCED POWER SOURCES - SMALL UNIT POWER				
TECHNICAL REVIEWS	2	2021	1	2022
Marine Portable Wind Energy System (MPWES)				
TECHNICAL REVIEWS	3	2020	4	2020
CONTRACT AWARD	4	2020	4	2020
DEVELOPMENTAL TESTING	1	2021	4	2022
Hybrid Environmental Control Unit				
TECHNICAL REVIEWS	2	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy											Date: May 2021	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Servic es Supt*				Project (Number/Name) 2929 / *Testing Measuring Diag Equip & SE*			
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
2929: *Testing Measuring Diag Equip & SE*	12.149	0.550	0.626	0.643	-	0.643	-	-	-	-	-	-
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Automatic Test Systems (ATS)	0.550	0.626	0.643	0.000	0.643
Articles:	-	-	-	-	-
FY 2021 Plans: -Complete integration of the Hardware Abstraction Layer (HAL) into the General Purpose Automatic Test System as a critical Software Update. The HAL serves as a transition layer between the automatic test equipment and multiple test platforms.					
FY 2022 Base Plans: -Initiate developmental 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.					
FY 2022 OCO Plans: N/A					
FY 2021 to FY 2022 Increase/Decrease Statement: Increase of $0.017M from FY 2021 to FY 2022 supports developmental and testing efforts associated with the General Purpose Automatic Test System Electro Optic Controller.					
Accomplishments/Planned Programs Subtotals	0.550	0.626	0.643	0.000	0.643

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & SE*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PMC/4181: *Automatic Test Systems (ATS)*	9.046	4.602	4.644	-	4.644	-	-	-	-	-	-

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & SE*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ATS Tech Eval & HW Digital Test	WR	MCLC Albany : Albany, GA	2.178	0.550	Feb 2020	0.626	Feb 2021	0.643	Feb 2022	-		0.643	-	-	-
Prior Years Cumulative Funding	Various	Various : Various	5.993	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	8.171	0.550		0.626		0.643		-		0.643	-	-	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	Various : Various	3.978	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	3.978	0.000		0.000		0.000		-		0.000	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.149	0.550		0.626		0.643		-		0.643	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & SE*

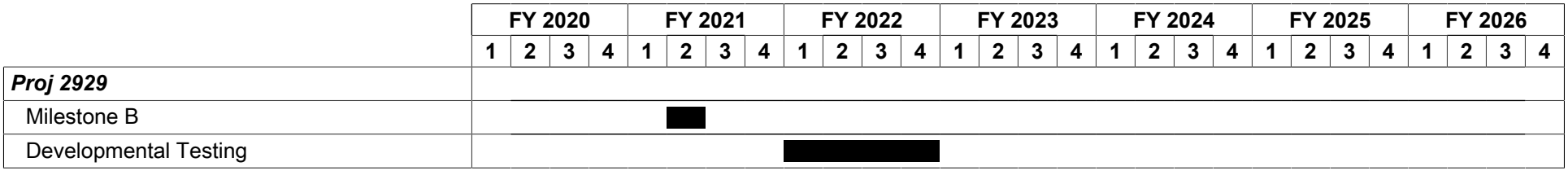

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & SE*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2929				
Milestone B	2	2021	2	2021
Developmental Testing	1	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Servic es Supt*	Project (Number/Name) 3776 / *Combat Track Vehicles Mod*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
3776: *Combat Track Vehicles Mod*	12.075	10.230	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Funding in this line item has been reprioritized while ensuring the Marine Corps continues to evolve toward a Force that is aligned with the National Defense Strategy.

A. Mission Description and Budget Item Justification

The Combat Track Vehicles Mod effort provides armor-protected mobile firepower to include improvements in all areas of the M1A1 main battle tank, Improved Recovery Vehicle (IRV), and Armored Vehicle Launched Bridge (AVLB). Efforts under the Mod line pertaining to the M1A1 include improvements such as: lethality systems, to increase armament accuracy and provide for off-board targeting improvements; survivability systems (including active and passive); communications and command and control; and mobility, increasing the crew's situational awareness through sensor enhancements and intra-vehicular data sharing; and environmental testing of components. The IRV (also known as the M88A2) provides heavy armor-protected recovery capability to the MAGTF. The Mod line funds research, development, and testing of improvements in all areas of the IRV. This funding addresses obsolescence and Engineering Change Proposals (ECPs) to improve performance and develop safety related ECPs to correct hazards noted during the day to day operation of the M88A2 IRV.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: M1A1 Modifications	0.293	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2021 Plans: N/A					
FY 2022 Base Plans: N/A					
FY 2022 OCO Plans: N/A					
Title: OMNIBUS ATR	9.937	0.000	0.000	0.000	0.000
Articles:	-	-	-	-	-
FY 2021 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 3776 / *Combat Track Vehicles Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
N/A ***FY 2022 Base Plans:*** -Funding used to execute the OMNIBUS ATR ***FY 2022 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	10.230	0.000	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• PMC/2061: *M1A1 Modification Kit*	22.760	0.000	0.000	-	0.000	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

The M1A1 Modification Kits and IRV program will initiate the service decision to transition the M1A1 program to full divestment beginning in FY 2021.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 3776 / *Combat Track Vehicles Mod*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
M1A1 Mod- APS B-Kit	C/FFP	TACOM : Warren, MI	3.737	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod- APS A-Kit	C/CPFF	TACOM : Warren, MI	5.382	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod- APS / IMOD	MIPR	TACOM : Warren, MI	0.000	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod- APS Eng Spt	MIPR	APG : Aberdeen, MD	1.032	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod - Electro-Optic Spt	MIPR	NVESD : Ft. Belvoir, VA	0.281	0.281	Jan 2020	0.000		0.000		-		0.000	-	-	-
M1A1 Mod- TCM	WR	Benet labs : Watervaliet, NY	0.358	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod- ADL II	MIPR	ARDEC : Picatinny, NJ	0.048	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod- FEP STS	C/FFP	Raytheon : McKinney, TX	0.000	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod- TWMP	C/FFP	MCSC : Quantico, VA	0.000	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod- MAPS	MIPR	TACOM : Warren, MI	0.000	0.000		0.000		0.000		-		0.000	-	-	-
M88A2 HERCULES	MIPR	TACOM : Warren, MI	0.000	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	10.838	0.281		0.000		0.000		-		0.000	-	-	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OMNIBUS ATR	C/BA	Not Specified : Not Specified	0.000	9.949	Sep 2020	0.000		0.000		-		0.000	-	-	-
		Subtotal	0.000	9.949		0.000		0.000		-		0.000	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 3776 / *Combat Track Vehicles Mod*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
M1A1 Mod- Survivability Layered Systems	MIPR	TARDEC : Warren, MI	0.000	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod- BMS	MIPR	TACOM : Warren, MI	0.000	0.000		0.000		0.000		-		0.000	-	-	-
M1A1 Mod- APS Test Spt	MIPR	TACOM : Warren, MI	1.237	0.000		0.000		0.000		-		0.000	-	-	-
		Subtotal	1.237	0.000		0.000		0.000		-		0.000	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.075	10.230		0.000		0.000		-		0.000	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 3776 / *Combat Track Vehicles Mod*

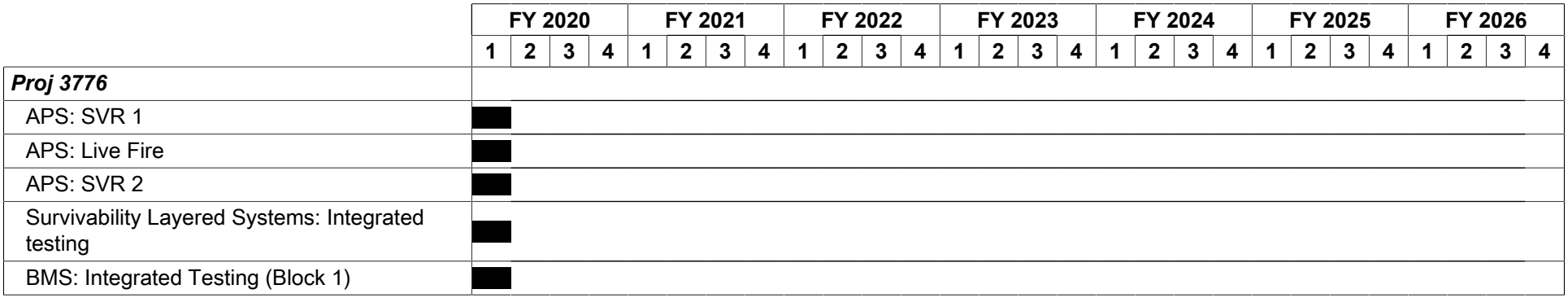

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 3776 / *Combat Track Vehicles Mod*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3776				
APS: SVR 1	1	2020	1	2020
APS: Live Fire	1	2020	1	2020
APS: SVR 2	1	2020	1	2020
Survivability Layered Systems: Integrated testing	1	2020	1	2020
BMS: Integrated Testing (Block 1)	1	2020	1	2020

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Servic es Supt*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	7.723	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The UAV alternate power generation technologies and Airborne power generation technology 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 2020	FY 2021
Congressional Add: UAV alternate power generation technologies ***FY 2020 Accomplishments:*** N/A ***FY 2021 Plans:*** N/A	2.896	0.000
Congressional Add: Airborne power generation technology ***FY 2020 Accomplishments:*** N/A ***FY 2021 Plans:*** N/A	4.827	0.000
Congressional Adds Subtotals	7.723	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

UAV alternate power generation technologies and Airborne power generation technology efforts are both Small Business Innovation Research (SBIR) efforts and acquisition strategies do not apply to SBIRs.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 9999 / *Congressional Adds*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UAV alternate power generation technologies	C/FFP	NRL : Washington, DC	0.000	2.896	Sep 2020	0.000		0.000		-		0.000	-	-	-
Airborne power generation technology	C/CPFF	NRL : Washington, DC	0.000	3.375	Sep 2020	0.000		0.000		-		0.000	-	-	-
		Subtotal	0.000	6.271		0.000		0.000		-		0.000	-	-	N/A

Remarks

*FY 2020 Power generation technologies encompasses both UAV alternate power generation technologies $2.896 and Airborne power generation technology $4.827M

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Airborne power generation technology Support	WR	NRL : Washington, DC	0.000	1.452	Apr 2020	0.000		0.000		-		0.000	-	-	-
		Subtotal	0.000	1.452		0.000		0.000		-		0.000	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	7.723		0.000		0.000		-		0.000	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 9999 / *Congressional Adds*

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UAV alternate power generation technologies																												
Contract Award				■																								
Airborne power generation technology																												
Contract Award				■																								

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Servic es Supt*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
UAV alternate power generation technologies				
Contract Award	4	2020	4	2020
Airborne power generation technology				
Contract Award	4	2020	4	2020