Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy											Date: March 2019	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0604320M *I (U)Rapid Technology Capability Prototype*							
COST ($ in Millions)	**Prior Years**	**FY 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	16.443	7.107	4.558	-	4.558	9.049	8.662	7.732	7.887	Continuing	Continuing
0386: *Rapid Prototype Development, Marine Corps*	0.000	6.786	7.107	4.558	-	4.558	9.049	8.662	7.732	7.887	Continuing	Continuing
9999: *Congressional Adds*	0.000	9.657	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.657

A. Mission Description and Budget Item Justification

The Commandant of the Marine Corps (CMC) directed the formation of the Marine Corps Rapid Capabilities Office (MCRCO) to accelerate the identification, development and assessment of capabilities that appear to offer significant military utility. The MCRCO will seek emergent and disruptive technology to rapidly develop and deliver operational prototypes that increase Operating Forces' survivability and lethality, and that will inform requirement development and investment planning. Prototypes to be assessed will be at a Technology Readiness Level 7 or higher and can be either non developmental government off the shelf, non-developmental commercial off the shelf, or developmental items.

FY18 efforts include, but are not limited to, product development and operational forces assessment for Tactical Electro-Magnetic Signature Operations and Support (TEMSOS) and Organic Precision Fires (formerly Long Range Precision Fires). TEMSOS will provide enhanced uninterruptable intra-unit communications, alternate precision navigation, friendly force electromagnetic signature monitoring, enhanced situational awareness, and tactical advantage through electronic attack. Organic Precision Fires will provide long-range guided anti-armor precision fires with both on-board and meshed data links for enhanced targeting accuracy for this small unmanned aircraft munition. These capabilities have been identified as key immediate operational force survivability and lethality enablers to counter current enemy capabilities. 26 March General Officer Board of Directors (GOBoD) decision moved the planned SWARM effort into the FY19 Autonomous Vehicle focus area.

FY19 efforts include Autonomous Vehicles, Tactical Information Warfare, and Urban Engagement Systems.

Autonomous Vehicles: This effort will identify, prototype, and assess the use in a variety of combat and supporting use employments, vehicles capable of sensing their environment, while navigating and functioning independently without human conduction to take evasive or defensive action and avoid detection, tracking, targeting or attack, provide an alternative reconnoiter capability in non-permissive settings for the purpose of mapping and patrolling for the purpose of intensifying combat power and reducing risk to the force.

Tactical Information Warfare: This effort will identify, prototype, and assess various informations systems that provide small unit ability to undermine local opposing force information quality, while ensuring friendly forces a timely, accurate, superior capability to automatically correlate relevant active and passive information from organic and non-organic sensors that will increase their combat effectiveness in this emerging warfighting discipline.

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy	Date: March 2019
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604320M *I (U)Rapid Technology Capability Prototype*

Urban Engagement Systems: This effort will identify, prototype and assess small unit systems to provide them enhanced situational awareness to locate and track opposing forces in tall buildings, narrow alleys, sewage tunnels and subway systems in order to minimize friendly force exposure, reduce potential collateral damage, and offer increased force protection measures by means of amplified lethality, improved discrimination ability, and enhances survivability.

FY20 efforts include Fight the Naval Force Forward, Human Performance Augmentation, and Organic Resource Generation. These efforts are linked to USMC specific warfighting strategies, the National Defense Strategy, the Marine Operating Concept, and the Marine Corps Warfighting Lab Campaign Plan. These policy and strategy linkages insure these efforts will be focused on the proper priorities.

The Fight the Naval Force Forward effort will identify, prototype, and assess systems that provide critical capabilities for small task organized units operating as the forward edge of an inside force. Efforts includes active and passive systems that operate with resilience in a Network-Contested Environment (NCE) and smaller, dispersed, and resilient systems which operate from diverse platforms.

The Human Performance Augmentation effort will identify, prototype, and assess various wearables that enhance physical and or cognitive capabilities of the individual Marine that will increase their combat effectiveness. System efforts include exoskeletons, man-machine, and artificial intelligence interfaces to enhance performance including close combat lethality in complex terrain.

The Organic Resource Generation effort will identify, prototype and assess personal and small unit systems in optionally mounted configurations that enable creation of various classes of supply to extend operational endurance and reduce logistical reliance. Organic Resource Generation efforts include decentralized energy generation, water recycling and desalination, energy storage, increase deployed energy efficiency, bio-fuels, and non-commercially dependent distributed logistics.

B. Program Change Summary ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	7.055	7.107	7.271	-	7.271
Current President's Budget	16.443	7.107	4.558	-	4.558
Total Adjustments	9.388	0.000	-2.713	-	-2.713
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.612	0.000			
• Program Adjustments	0.000	0.000	-2.712	-	-2.712
• Rate/Misc Adjustments	0.000	0.000	-0.001	-	-0.001
• Congressional Add Adjustments	10.000	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy	Date: March 2019
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604320M *I (U)Rapid Technology Capability Prototype*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2018	FY 2019
Project: 9999: *Congressional Adds*		
Congressional Add: *Increase Rapid Acquisition Capability for MC Warfighting Lab*	9.657	0.000
Congressional Add Subtotals for Project: 9999	9.657	0.000
Congressional Add Totals for all Projects	9.657	0.000

Change Summary Explanation

The FY2020 funding request was reduced by $2.71M to account for the availability of prior year execution balances.

The decrease from FY19 to FY20 is due primarily to the reduced requirement for product development required to initiate the Fight the Naval Force Forward, Human Performance Augmentation, and Organic Resource Generation projects relative to those conducted in FY19.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy												Date: March 2019
Appropriation/Budget Activity 1319 / 4					R-1 Program Element (Number/Name) PE 0604320M / *(U)Rapid Technology Capability Prototype*				Project (Number/Name) 0386 / *Rapid Prototype Development, Marine Corps*			
COST ($ in Millions)	**Prior Years**	**FY 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
0386: *Rapid Prototype Development, Marine Corps*	0.000	6.786	7.107	4.558	-	4.558	9.049	8.662	7.732	7.887	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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FY18 efforts included, but were not limited to, product development and operational forces assessment for Tactical Electro-Magnetic Signature Operations and Support (TEMSOS) and Organic Precision Fires (formerly Long Range Precision Fires). TEMSOS will provide enhanced uninterruptable intra-unit communications, alternate precision navigation, friendly force electromagnetic signature monitoring, enhanced situational awareness, and tactical advantage through electronic attack. Organic Precision Fires will provide long-range guided anti-armor precision fires with both on-board and meshed data links for enhanced targeting accuracy for this small unmanned aircraft munition. These capabilities have been identified as key immediate operational force survivability and lethality enablers to counter current enemy capabilities. 26 March General Officer Board of Directors (GOBoD) decision moved the planned SWARM effort into the FY19 Autonomous Vehicle focus area. Initial Autonomy & Artificial Intelligence (AAI) Explosive Ordnance Disposal (EOD) efforts and Augmented Reality (AR) software development were also FY18 efforts.

FY19 efforts include Autonomous Vehicles, Tactical Information Warfare, and Urban Engagement Systems. Autonomous Vehicles will identify, prototype, and assess the use in a variety of combat and supporting use employments, vehicles capable of sensing their environment, while navigating and functioning independently without human conduction. Tactical Information Warfare will identify, prototype, and assess systems that allow small units to undermine local opposing force information, while ensuring friendly force superior command and control. Effort will correlate relevant active and passive sensors that increase combat effectiveness. Urban Engagement Systems will prototype and assess small unit enhanced situational awareness systems to locate and track opposing forces in tall buildings, narrow alleys, sewage tunnels and subway systems. Goal is to minimize friendly force exposure, reduce potential collateral damage, and enhance survivability.

Autonomous Vehicles: effort will identify, prototype, and assess the use in a variety of combat and supporting use employments, vehicles capable of sensing their environment, while navigating and functioning independently without human conduction to take evasive or defensive action and avoid detection, tracking, targeting or attack, provide an alternative reconnoiter capability in non-permissive settings for the purpose of mapping and patrolling for the purpose of intensifying combat power and reducing risk to the force.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 0386 / *Rapid Prototype Development, Marine Corps*

Tactical Information Warfare: effort will identify, prototype, and assess various information systems that provide small unit ability to undermine local opposing force information quality, while ensuring friendly forces a timely, accurate, superior capability to automatically correlate relevant active and passive information from organic and non-organic sensors that will increase their combat effectiveness in this emerging war-fighting discipline.

Urban Engagement Systems: effort will identify, prototype and assess small unit systems to provide them enhanced situational awareness to locate and track opposing forces in tall buildings, narrow alleys, sewage tunnels and subway systems in order to minimize friendly force exposure, reduce potential collateral damage, and offer increased force protection measures by means of amplified lethality, improved discrimination ability, and enhances survivability.

FY20 efforts include Fight the Naval Force Forward, Human Performance Augmentation, and Organic Resource Generation. These efforts are linked to USMC specific warfighting strategies, the National Defense Strategy, the Marine Operating Concept, and the Marine Corps Warfighting Lab Campaign Plan. These policy and strategy linkages insure these efforts will be focused on the proper priorities.

The Fight the Naval Force Forward effort will identify, prototype, and assess systems that provide critical capabilities for small task organized units operating as the forward edge of an inside force. Efforts includes active and passive systems that operate with resilience in a Network-Contested Environment (NCE) and smaller, dispersed, and resilient systems which operate from diverse platforms.

The Human Performance Augmentation effort will identify, prototype, and assess various wearables that enhance physical and or cognitive capabilities of the individual Marine that will increase their combat effectiveness. System efforts include exoskeletons, man-machine, and artificial intelligence interfaces to enhance performance including close combat lethality in complex terrain.

The Organic Resource Generation effort will identify, prototype and assess personal and small unit systems in optionally mounted configurations that enable creation of various classes of supply to extend operational endurance and reduce logistical reliance. Organic Resource Generation efforts include decentralized energy generation, water recycling and desalination, energy storage, increase deployed energy efficiency, bio-fuels, and non-commercially dependent distributed logistics.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Product Development	3.064	5.878	3.250	0.000	3.250
Articles:	-	-	-	-	-
FY 2019 Plans: FY19 Product Development Autonomous Vehicles: Initiate efforts to identify, prototype, and assess the use in a variety of combat and supporting use employments, vehicles capable of sensing their environment, while navigating and functioning independently without human conduction to take evasive or defensive action and avoid detection, tracking, targeting or attack, provide an alternative reconnoiter capability in non-permissive settings for the purpose of mapping and patrolling for the purpose of intensifying combat power and reducing risk to the force.					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 0386 / *Rapid Prototype Development, Marine Corps*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
FY19 Product Development Tactical Information Warfare: Initiate efforts to identify, prototype, and assess various information systems that provide small unit ability to undermine local opposing force information quality, while ensuring friendly forces a timely, accurate, superior capability to automatically correlate relevant active and passive information from organic and non-organic sensors that will increase their combat effectiveness in this emerging war-fighting discipline. FY19 Product Development Urban Engagement Systems: Initiate efforts to identify, prototype and assess small unit systems to provide them enhanced situational awareness to locate and track opposing forces in tall buildings, narrow alleys, sewage tunnels and subway systems in order to minimize friendly force exposure, reduce potential collateral damage, and offer increased force protection measures by means of amplified lethality, improved discrimination ability, and enhances survivability. ***FY 2020 Base Plans:*** FY20 efforts include Fight the Naval Force Forward, Human Performance Augmentation, and Organic Resource Generation. These efforts are linked to USMC specific warfighting strategies, the National Defense Strategy, the Marine Operating Concept, and the Marine Corps Warfighting Lab Campaign Plan. These policy and strategy linkages insure these efforts will be focused on the proper priorities. The Fight the Naval Force Forward effort will identify, prototype, and assess systems that provide critical capabilities for small task organized units operating as the forward edge of an inside force. Efforts includes active and passive systems that operate with resilience in a Network-Contested Environment (NCE) and smaller, dispersed, and resilient systems which operate from diverse platforms. The Human Performance Augmentation effort will identify, prototype, and assess various wearables that enhance physical and or cognitive capabilities of the individual Marine that will increase their combat effectiveness. System efforts include exoskeletons, man-machine, and artificial intelligence interfaces to enhance performance including close combat lethality in complex terrain. The Organic Resource Generation effort will identify, prototype and assess personal and small unit systems in optionally mounted configurations that enable creation of various classes of supply to extend operational endurance and reduce logistical reliance. Organic Resource Generation efforts include decentralized energy					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 0386 / *Rapid Prototype Development, Marine Corps*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
generation, water recycling and desalination, energy storage, increase deployed energy efficiency, bio-fuels, and non-commercially dependent distributed logistics. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The decrease of $2.578M (from $5.878M in FY19 to $3.3M in FY20) in FY 2020 product development is due to reduction in the scope of development required for the Fight the Naval Force Forward, Human Performance Augmentation, and Organic Resource Generation projects as compared to those conducted in FY19.					
Title: Support ***Articles:*** ***FY 2019 Plans:*** Initiate support efforts to include development of a innovation portal and other data collection efforts. ***FY 2020 Base Plans:*** Continue support efforts to include development of a innovation portal, modeling and simulation, and other data collection efforts. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The increase of $36K in FY2020 from $566K to $602K reflects a slight increase in the scope of support.	0.000 -	0.566 -	0.602 -	0.000 -	0.602 -
Title: Management ***Articles:*** ***FY 2019 Plans:*** N/A ***FY 2020 Base Plans:*** N/A ***FY 2020 OCO Plans:*** N/A	3.722 -	0.000 -	0.000 -	0.000 -	0.000 -
Title: Test & Evaluation	0.000	0.663	0.706	0.000	0.706

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 0386 / *Rapid Prototype Development, Marine Corps*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Articles:	-	-	-	-	-
FY 2019 Plans: FY19 Autonomous Vehicles: Initiate efforts to test and evaluate prototypes to assess their use in a variety of combat and supporting use employments. Vehicles tested will be capable of sensing their environment, while navigating and functioning independently without human conduction, taking evasive or defensive action, avoiding detection, tracking, targeting, attacking, provide an alternative reconnoiter capability in non-permissive settings for the purpose of mapping and patrolling for the purpose of intensifying combat power. The purpose of this effort is to reduce risk to the force. FY19 Operations Forces (OPFOR) Assessment Information Warfare: Initiate efforts to test and evaluate prototypes to assess various information systems that provide small unit ability to undermine local opposing force information quality, while ensuring friendly forces a timely, accurate, superior capability to automatically correlate relevant active and passive information from organic and non-organic sensors. FY19 Operations Forces (OPFOR) Assessment Urban Engagement Systems: Initiate efforts to test and evaluate prototypes to assess a state of the art urban range with appropriate buildings and streets that properly reflect an urban environment. Systems must locate and track opposing forces in tall buildings, narrow alleys, sewage tunnels and subway systems in order to minimize friendly force exposure, reduce potential collateral damage, and offer increased force protection.					
FY 2020 Base Plans: FY20 efforts include testing and evaluation of the Fight the Naval Force Forward, Human Performance Augmentation, and Organic Resource Generation efforts which are linked to USMC specific warfighting strategies, the National Defense Strategy, the Marine Operating Concept, and the Marine Corps Warfighting Lab Campaign Plan. These policy and strategy linkages insure these testing and evaluation efforts will be focused on the proper priorities. The Fight the Naval Force Forward effort will assess systems that provide critical capabilities for small task organized units operating as the forward edge of an inside force. Testing efforts include active and passive systems that operate with resilience in a Network-Contested Environment (NCE) and smaller, dispersed, and resilient systems which operate from diverse platforms.					

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 0386 / *Rapid Prototype Development, Marine Corps*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
The Human Performance Augmentation effort will assess various wearables that enhance physical and or cognitive capabilities of the individual Marine that will increase their combat effectiveness. Testing efforts include exoskeletons, man-machine, and artificial intelligence interfaces to enhance performance including close combat lethality in complex terrain. The Organic Resource Generation effort will assess personal and small unit systems in optionally mounted configurations that enable creation of various classes of supply to extend operational endurance and reduce logistical reliance. Organic Resource Generation testing efforts include decentralized energy generation, water recycling and desalination, energy storage, increase deployed energy efficiency, bio-fuels, and non-commercially dependent distributed logistics. ***FY 2020 OCO Plans:*** N/A ***FY 2019 to FY 2020 Increase/Decrease Statement:*** The increase in testing efforts of $43K (from $663K to $706K) reflect a slight increase in testing requirements.					
Accomplishments/Planned Programs Subtotals	6.786	7.107	4.558	0.000	4.558

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The MCRCO Process consists of three phases, Identify, Assess, and Inform, where each have unique function support of the mission. All MCRCO projects will align to this phased approach. In the Identify Phase the MCRCO undertakes a continuous process of investigation and compiling of technologies, concepts, and prototypes for various capability areas. Activities in this phase include but are not limited to research, war gaming/lectures/and external experiment attendance, industry and Federally Funded Research and Development Center (FFRDC) engagements, Innovation Portal Challenges and Forums, gap identification, and emerging technology analysis. This phase is where the MCRCO portfolio of projects are determined and approved for execution. In the second Phase, Assess, the operational assessments are performed. The Assess Phase has three utility focuses that prototypes must demonstrate prior to being assessed: Military Utility, Enabling Competition, and Lifecycle Affordability. The Inform Phase provides the results of the assessment event and includes transition to a program office if applicable.

E. Performance Metrics

All reviews will be documented in the Capability Assessment Report.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604320M / *(U)Rapid Technology Capability Prototype*	Project (Number/Name) 0386 / *Rapid Prototype Development, Marine Corps*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TEMSOS Prototype Purchase, Development, and Integration_Fires	C/CPFF	ACC/Ft Belvior, VA : Durham, NC	0.000	1.040	Sep 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Organic Precision Fires	C/FP	MCSC : Quantico, VA	0.000	0.355	Sep 2018	0.000		0.000		-		0.000	0.000	0.355	-
AR Software Development	Grant	WHS Pentagon : Arilington, VA	0.000	0.300	Aug 2018	0.000		0.000		-		0.000	0.000	0.300	-
OPF Software Development	C/CPIF	DTIC : Ft Belvoir, VA	0.000	0.043	Mar 2019	0.000		0.000		-		0.000	0.000	0.043	-
Autonomous Vehicles Development	WR	NSWC : Panama City, FL	0.000	0.000		0.250	Mar 2019	0.000		-		0.000	0.000	0.250	-
Information Warfare Development	WR	NSWC : Crane, IN	0.000	0.000		0.250	Mar 2019	0.000		-		0.000	0.000	0.250	-
Urban Engagement Systems Development	WR	NSWC : Corona, CA	0.000	0.000		0.130	Mar 2019	0.000		-		0.000	0.000	0.130	-
Autonomous Vehicle Contract Award	C/CPIF	MCSC : Quantico, VA	0.000	0.000		2.248	Mar 2019	0.000		-		0.000	0.000	2.248	-
Information Warfare Contract Award	C/CPIF	MCSC : Quantico, VA	0.000	0.000		2.000	Mar 2019	0.000		-		0.000	0.000	2.000	-
Urban Engagement Systems Contract Award	C/CPIF	MCSC : Quantico, VA	0.000	0.000		1.000	Mar 2019	0.000		-		0.000	0.000	1.000	-
Naval Force Forward	Various	Not Specified : Not Specified	0.000	0.000		0.000		1.000	May 2020	-		1.000	0.000	1.000	-
Human Performance Augmentation	Various	Not Specified : Not Specified	0.000	0.000		0.000		0.750	May 2020	-		0.750	0.000	0.750	-
Organic Resource Generation	Various	Not Specified : Not Specified	0.000	0.000		0.000		1.500	May 2020	-		1.500	0.000	1.500	-
		Subtotal	0.000	1.738		5.878		3.250		-		3.250	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604320M / *(U)Rapid Technology Capability Prototype*	Project (Number/Name) 0386 / *Rapid Prototype Development, Marine Corps*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Analysis and program office support	C/FFP	MCSC : Quantico, VA	0.000	0.000		0.566	Mar 2019	0.602	Mar 2020	-		0.602	0.000	1.168	-
		Subtotal	0.000	0.000		0.566		0.602		-		0.602	0.000	1.168	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OPF Testing	MIPR	Dugway Proving Ground : Dugway, UT	0.000	0.600	Feb 2019	0.000		0.000		-		0.000	0.000	0.600	-
TEMSOS Testing	MIPR	Yuma Proving Grounds : Yuma, AZ	0.000	0.126	Mar 2019	0.000		0.000		-		0.000	0.000	0.126	-
Autonomous Vehicles OPFOR Assessment	MIPR	Yuma Proving Grounds : Yuma, AZ	0.000	0.000		0.250	Mar 2019	0.000		-		0.000	0.000	0.250	-
Information Warfare OPFOR Assessment	MIPR	Electronic Proving Ground (EPG) : Ft Huachuca, AZ	0.000	0.000		0.263	Mar 2019	0.000		-		0.000	0.000	0.263	-
Urban Engagement Systems OPFOR Assessment	MIPR	Muscatatuck : Bulerville, IN	0.000	0.000		0.150	Mar 2019	0.000		-		0.000	0.000	0.150	-
Naval Force Forward	MIPR	Yuma Proving Grounds : Yuma, AZ	0.000	0.000		0.000		0.290	Jan 2020	-		0.290	0.000	0.290	-
Human Performance Augmentation	MIPR	Human Performance Augmentation : Bulerville, IN	0.000	0.000		0.000		0.102	Jan 2020	-		0.102	0.000	0.102	-
Organic Resource Generation	C/BA	Electronic Proving Ground (EPG) : Ft Huachuca, AZ	0.000	0.000		0.000		0.314	Jan 2020	-		0.314	0.000	0.314	-
		Subtotal	0.000	0.726		0.663		0.706		-		0.706	0.000	2.095	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604320M / *(U)Rapid Technology Capability Prototype*	Project (Number/Name) 0386 / *Rapid Prototype Development, Marine Corps*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TEMSOS Government Engineering	WR	NSWC Crane : Crane, IN	0.000	1.143	May 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Management Support	WR	NSWC Crane : Crane, IN	0.000	0.402	May 2018	0.000		0.000		-		0.000	0.000	0.402	-
TEMSOS Government Engineering	WR	SSC LANT : Charleston, SC	0.000	0.748	Jul 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
OPF Contract Engineering	C/FP	DTIC : Fort Belvoir, VA	0.000	0.506	Jun 2018	0.000		0.000		-		0.000	0.000	0.506	-
TEMSOS Engineering Analysis Services	WR	MCSIL : Point Mugu, CA	0.000	0.745	Jul 2018	0.000		0.000		-		0.000	0.000	0.745	-
TEMSOS Contract Engineering	TBD	NSWC Crane : Crane, IN	0.000	0.178	Sep 2018	0.000		0.000		-		0.000	0.000	0.178	-
AAI EOD Engineering	WR	SSC PAC : San Diego, CA	0.000	0.600	Sep 2018	0.000		0.000		-		0.000	0.000	0.600	-
		Subtotal	0.000	4.322		0.000		0.000		-		0.000	Continuing	Continuing	N/A

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	6.786		7.107		4.558		-		4.558	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 0386 / *Rapid Prototype Development, Marine Corps*

MCRCO Schedule Framework

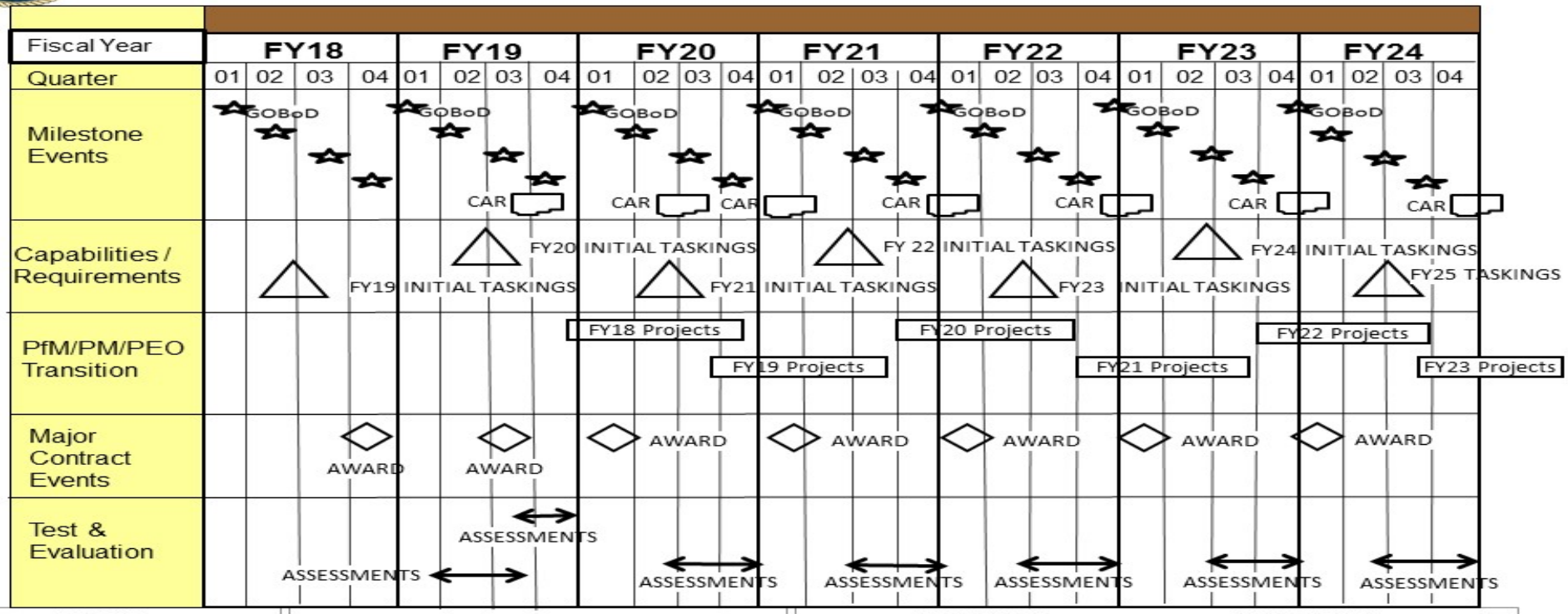

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 0386 / *Rapid Prototype Development, Marine Corps*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0386				
Contract Award	1	2020	1	2020
Operations Forces (OPFOR) Assessments	2	2020	4	2020
Capability Assessment Review (CAR)	2	2020	3	2020

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0604320M / *(U)Rapid Technology Capability Prototype*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	9.657	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.657
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Commandant of the Marine Corps (CMC) directed the formation of the Marine Corps Rapid Capabilities Office (MCRCO) to accelerate the identification, development and assessment of capabilities that appear to offer significant military utility. The MCRCO will seek emergent and disruptive technology to rapidly develop and deliver operational prototypes that increase operating forces' survivability and lethality, and that will inform requirement development and investment planning. Prototypes to be assessed will be at a Technology Readiness Level 7 (TRL-7) or higher and can be either non developmental government off the shelf, non-developmental commercial off the shelf, or developmental items.

FY18 efforts include, but are not limited to, product development and operational forces assessment for Tactical Electro-Magnetic Signature Operations and Support (TEMSOS), Organic Precision Fires (formerly Long Range Precision Fires), initial Autonomy & Artificial Intelligence (AAI) Explosive Ordnance Disposal (EOD) analysis, and Augmented Reality (AR) software development.

TEMSOS will provide enhanced uninterruptable intra-unit communications, alternate precision navigation, friendly force electromagnetic signature monitoring, enhanced situational awareness, and tactical advantage through electronic attack.

Organic Precision Fires will provide long-range guided anti-armor precision fires with both on-board and meshed data links for enhanced targeting accuracy for this small unmanned aircraft munition.

These capabilities have been identified as key immediate operational force survivability and lethality enablers to counter current enemy capabilities. 26 March General Officer Board of Directors (GOBoD) decision moved the planned FY18 SWARM effort into the FY19 Autonomous Vehicle focus area.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019
Congressional Add: Increase Rapid Acquisition Capability for MC Warfighting Lab	9.657	0.000
FY 2018 Accomplishments: Initiated product development and operational forces assessment of Tactical Electro-Magnetic Spectrum and Organic Precision Fires (formerly Long Range Precision Fires) capabilities. TEMSOS will provide enhanced uninterruptable intra-unit communications, alternate precision navigation, friendly force electromagnetic signature monitoring, enhanced situational awareness, and tactical advantage through electronic attack. Organic Precision Fires will provide long-range guided anti-armor precision fires with both on-board and meshed data links for enhanced targeting accuracy for this small unmanned aircraft munition. These capabilities have been identified as key immediate operational force survivability and lethality enablers to		

Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 9999 / *Congressional Adds*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019
counter current enemy capabilities. 26 March General Officer Board of Directors (GOBoD) decision moved the planned SWARM effort into the FY19 Autonomous Vehicle focus area. But FY18 includes Autonomy & Artificial Intelligence (AAI) Explosive Ordnance Disposal (EOD) early start efforts. ***FY 2019 Plans:*** N/A		
Congressional Adds Subtotals	9.657	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance plans link and measure as much as possible the proposed spending in programmatic terms and tie that spending directly with programmatic results. For the Rapid Capability Office, assessments provide good, reliable, accurate, and useful data in performance criteria in order to determine if the capability should transition to a program management office.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 9999 / *Congressional Adds*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TEMSOS	MIPR	DLA : Philadelphia, PA	0.000	1.771	Aug 2018	0.000		0.000		-		0.000	0.000	1.771	-
Organic Percision Fires	C/FFP	MCSC : Quantico, VA	0.000	4.500	Mar 2019	0.000		0.000		-		0.000	0.000	4.500	-
AAI EOD	C/FFP	MCSC : Quantico, VA	0.000	1.200	Mar 2019	0.000		0.000		-		0.000	0.000	1.200	-
OPF Software Development	C/FFP	DTIC : Fort Belvoir, VA	0.000	0.171	Mar 2019	0.000		0.000		-		0.000	0.000	0.171	-
Transition	TBD	MCSC : Quantico, VA	0.000	2.015	Mar 2019	0.000		0.000		-		0.000	0.000	2.015	-
		Subtotal	0.000	9.657		0.000		0.000		-		0.000	0.000	9.657	N/A

Remarks

Transition costs provide continuity of effort for TEMSOS, OPF, and AAI activities until they align to the appropriate program management office in FY20.

	Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	9.657		0.000		0.000		-		0.000	0.000	9.657	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 9999 / *Congressional Adds*

MCRCO Schedule Framework

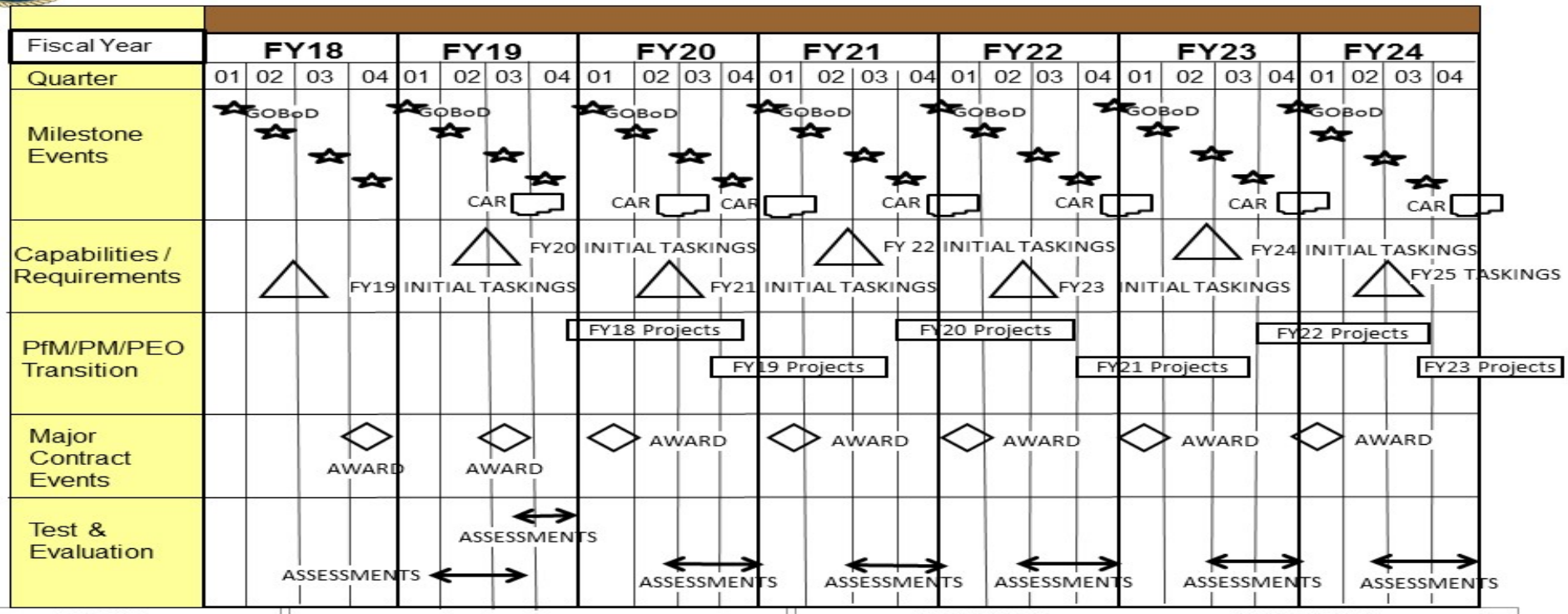

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0604320M / *(U)Rapid Technology Capability Prototype*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
Prototype Contract Award	4	2018	4	2018
Operational Assessments	1	2019	3	2019
Capability Assessment Review	3	2019	4	2019