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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2020 Navy	<b>Date:</b> March 2019
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<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>											
1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	PE 0603635M / <i>Marine Corps Grnd Cmbt/Supt Sys</i>											
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	25.445	0.771	0.000	86.464	-	86.464	127.998	64.564	99.849	102.951	Continuing	Continuing
1558: <i>Armored Reconnaissance Vehicle</i>	0.000	0.000	0.000	15.087	-	15.087	20.241	36.351	76.571	78.107	Continuing	Continuing
1964: <i>Anti-Armor Weapon System</i>	2.622	0.494	0.000	0.980	-	0.980	1.004	1.026	1.047	1.068	Continuing	Continuing
2614: <i>SMAW Follow-On</i>	22.823	0.277	0.000	0.500	-	0.500	0.500	0.500	0.500	2.000	Continuing	Continuing
7400: <i>Combat Capability Development Transition</i>	0.000	0.000	0.000	69.897	-	69.897	106.253	26.687	21.731	21.776	Continuing	Continuing

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

This PE supports the demonstration and validation of Marine Corps Ground/Supporting Arms Systems for utilization in Marine Air-Ground Expeditionary Force amphibious operations. This program is funded under Demonstration & Validation because it develops and integrates hardware for experimental tests related to specific ground weapon systems.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
Previous President's Budget	1.428	1.828	1.855	-	1.855
Current President's Budget	0.771	0.000	86.464	-	86.464
Total Adjustments	-0.657	-1.828	84.609	-	84.609
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.828			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.146	0.000			
• SBIR/STTR Transfer	-0.002	0.000			
• Rate/Misc Adjustments	-0.001	0.000	84.609	-	84.609
• Congressional Directed Reductions	-0.508	-	-	-	-
Adjustments					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 Program Element (Number/Name) PE 0603635M / Marine Corps Grnd Cmbt/Supt Sys	
<u>Change Summary Explanation</u> The increase of \$86.5M from FY19 to FY20 is attributed to the initiation/realignment of funds to Projects 1558 and 7400 to capture programs transitioning from S&T. These include the Armored Reconnaissance Vehicle, the Navy/Marine Expeditionary Ship Interdiction System (NMESIS), the 81 Millimeter (81mm) Advanced Capability Extended Range Mortar (ACERM), and the Sea Mob: Swarming Long Range Unmanned Surface Vehicles (USVs).		

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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 0603635M / Marine Corps Grnd Cmbt/ Supt Sys				Project (Number/Name) 1558 / Armored Reconnaissance Vehicle			
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
1558: Armored Reconnaissance Vehicle	0.000	0.000	0.000	15.087	-	15.087	20.241	36.351	76.571	78.107	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**Note**

Starting in FY20, the ARV program moved from BA07/PE 0206623M/Project 1557 to BA04/PE 0603635M/Project 1558 in order to align the program to a BA more appropriate for its current acquisition phase.

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

The Armored Reconnaissance Vehicle (ARV) is a replacement for the legacy light armored vehicle in the Light Armored Reconnaissance (LAR) battalions within the Marine Divisions. ARV equipped LAR Battalions perform combined arms, all weather, sustained reconnaissance and security missions in support the Ground Combat Element. The ARV is the core capability that underpins the next generation armored reconnaissance capability concept. The ARV will be a modern combat vehicle system, capable of fighting for information, that balances competing capability demands to sense, shoot, move, communicate and remain transportable as part of the naval expeditionary force.

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

	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Title:</b> Next Gen Armored Reconnaissance Vehicle (LAV replacement)	0.000	0.000	15.087	0.000	15.087
<b>Articles:</b>	-	-	2	-	2
<b>FY 2019 Plans:</b> N/A					
<b>FY 2020 Base Plans:</b> -Initiate cost sharing with the Office of Naval Research (ONR) for two science and technology (S&T) demonstrator platforms. These demonstrators will inform what technologies can be incorporated onto ARV and will be tested and evaluated with all knowledge and technology transferred to the program office upon completion. -Award two other transaction authority (OTA) agreements to industry to build prototype vehicles for competitive prototype testing. These prototypes will undergo performance and reliability, availability, and maintainability (RAM) testing. -Complete analysis of alternatives (AoA).					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Navy				<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 1319 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>		<b>Project (Number/Name)</b> 1558 / <i>Armored Reconnaissance Vehicle</i>	

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
-Initiate request for proposal (RFP) development.  <b><u>FY 2020 OCO Plans:</u></b> N/A  <b><u>FY 2019 to FY 2020 Increase/Decrease Statement:</u></b> Increase of \$15.087M is due to the initiation of cost sharing with the ONR Science & Technology (S&T) technology demonstrators and OTA competitive prototype award.					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	15.087	0.000	15.087

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020 Base</u>	<u>FY 2020 OCO</u>	<u>FY 2020 Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTEN/0603640M/2223: <i>Marine Corps Advanced Tech. Demo.</i>	7.087	19.650	13.050	-	13.050	1.500	0.000	0.000	0.000	0.000	41.287
• RDTEN/0206623M/1557: <i>Enter Other Funding Description.</i>	0.000	1.500	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	1.500

**Remarks**  
 The Office of Naval Research (ONR) supports the next generation Armored Reconnaissance Vehicle (ARV) project utilizing the Future Naval Capability (FNC) process in order to develop and demonstrate viable and mature technologies befitting the program's envisioned operational employment. The funding listed under section C, PE 0603640M, Proj 2223 is allocated to support ARV.

**D. Acquisition Strategy**  
 The Armored Reconnaissance Vehicle (ARV) program will be focused on providing a base combat vehicle capable of meeting evolving threats via open systems architecture and sufficient size, weight, & power (SWAP) to accommodate future growth. Subsequent programs of record will expand the ARV capability to other mission roles and integrate capabilities that emerge from other programs to further develop and enhance LAR operations.

**E. Performance Metrics**  
 Milestone Reviews

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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 0603635M / Marine Corps Grnd Cmbt/ Supt Sys				Project (Number/Name) 1558 / Armored Reconnaissance Vehicle					
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Development & Demo.	C/FFP	ONR : Arlington, VA	0.000	0.000		0.000		4.700	Jan 2020	-		4.700	Continuing	Continuing	Continuing
Prototype Manufacturing	C/FFP	TBD : TBD	0.000	0.000		0.000		6.000	May 2020	-		6.000	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		10.700		-		10.700	Continuing	Continuing	N/A
Remarks															
The Office of Naval Research (ONR) supports the next generation Armored Reconnaissance Vehicle (ARV) project utilizing the Future Naval Capability (FNC) process in order to develop and demonstrate viable and mature technologies befitting the program's envisioned operational employment. \$4.7M is allocated to cost share in the development of technology demonstrators.															
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt - LAV	MIPR	TACOM : Warren, MI	0.000	0.000		0.000		3.387	Dec 2019	-		3.387	Continuing	Continuing	Continuing
Analysis of Alternatives	MIPR	TACOM : Warren, MI	0.000	0.000		0.000		0.400	Nov 2019	-		0.400	0.000	0.400	-
Subtotal			0.000	0.000		0.000		3.787		-		3.787	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AOA Support Contract	C/FFP	HII-MDIS : Huntsville, AL	0.000	0.000		0.000		0.600	Nov 2019	-		0.600	0.000	0.600	-
Subtotal			0.000	0.000		0.000		0.600		-		0.600	0.000	0.600	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	0.000		0.000		15.087		-		15.087	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy

Date: March 2019

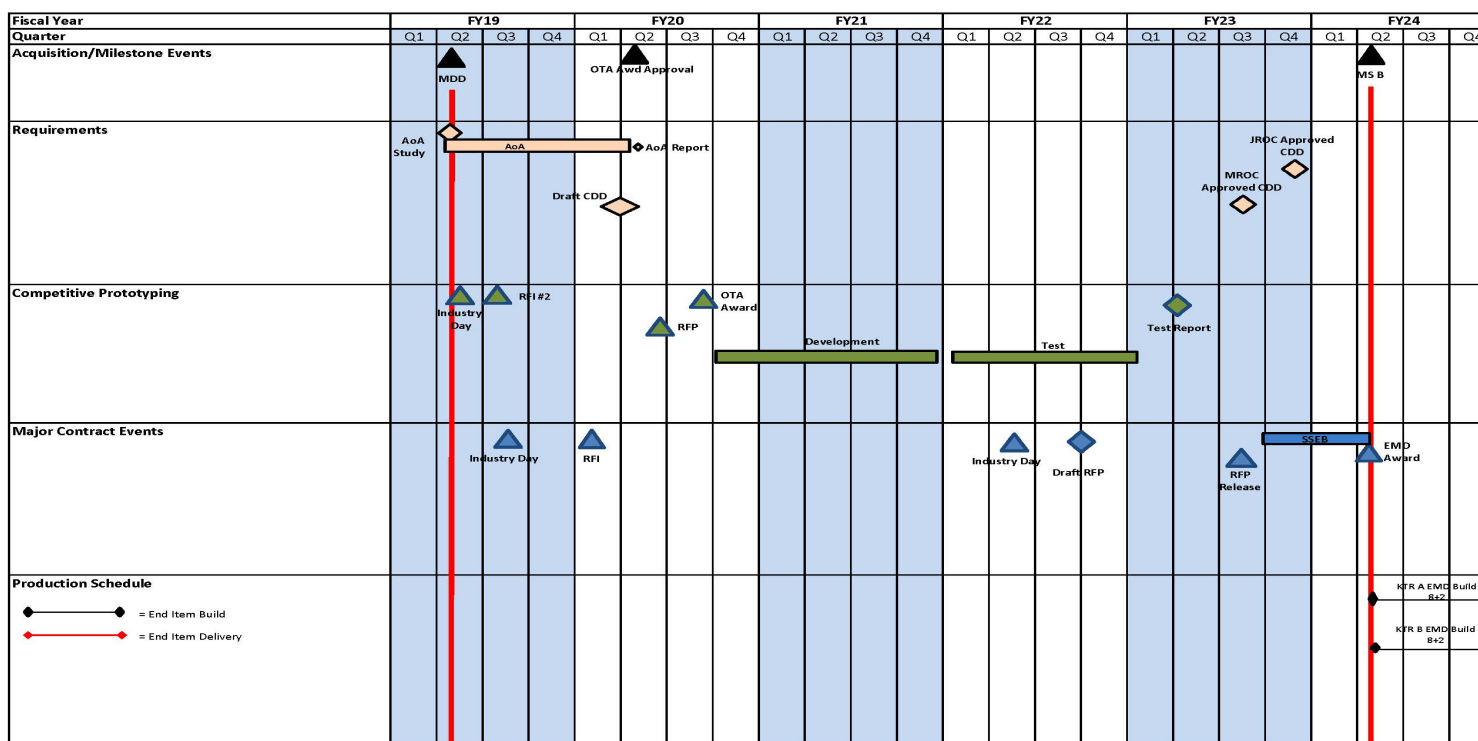
Appropriation/Budget Activity  
1319 / 4

R-1 Program Element (Number/Name)  
PE 0603635M / Marine Corps Grnd Cmbt/  
Supt Sys

Project (Number/Name)  
1558 / Armored Reconnaissance Vehicle

ARV Program Plan FY19-24 10 Jan 2019.xlsx

## Armored Reconnaissance Vehicle



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ARV Program Plan FY19-24 10 Jan 2019.xlsx

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Navy			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>	<b>Project (Number/Name)</b> 1558 / <i>Armored Reconnaissance Vehicle</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Project C1558 ARV</i></b>				
Material Development Decision	2	2019	2	2019
ARV Analysis of Alternatives	2	2019	2	2020
OTA Competitive Prototype Award	3	2020	3	2020
Competitive Prototype Demo and Testing	4	2020	1	2023
RFP Release for EMD	3	2023	3	2023
Source Selection	3	2023	2	2024
MS B and EMD Contract Award	2	2024	2	2024

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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 0603635M / Marine Corps Grnd Cmbt/ Supt Sys				Project (Number/Name) 1964 / Anti-Armor Weapon System			
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
1964: Anti-Armor Weapon System	2.622	0.494	0.000	0.980	-	0.980	1.004	1.026	1.047	1.068	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The M41A7 Saber system is the primary heavy, anti-armor launch system for the TOW Missile within the Ground Combat Element of the Marine Corps. The Anti-Armor Weapons System-Heavy (AAWS-H) program, working in concert with the U.S. Army, will develop and integrate technology improvements into the Improved Target Acquisition System (ITAS) to meet Increment II system requirements as jointly agreed. Improvements centered on integration of sight image enhancements were concluded.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Saber Battery Replacement  Articles:  FY 2019 Plans: Due to the Force Structure 2025 reduction in the Saber System, will discontinue efforts to seek out product improvement of the current Lithium Battery Box.  FY 2020 Base Plans: N/A  FY 2020 OCO Plans: N/A  FY 2019 to FY 2020 Increase/Decrease Statement: N/A								0.352	0.000	0.000	0.000	0.000
								-	-	-	-	-
Title: Management Support  Articles:  FY 2019 Plans: N/A  FY 2020 Base Plans:								0.142	0.000	0.980	0.000	0.980
								-	-	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Navy				<b>Date:</b> March 2019		
<b>Appropriation/Budget Activity</b> 1319 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>		<b>Project (Number/Name)</b> 1964 / <i>Anti-Armor Weapon System</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
		<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
- Continue support for product improvement upgrades for the Saber System and Lithium Battery Box (LBB) to include engineering, logistics, and program office support.  <b><i>FY 2020 OCO Plans:</i></b> N/A  <b><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></b> \$980K increase from FY19 to FY20 allows for product improvement upgrades for the SABER System, engineering, logistics, and program office support to maintain the capability of the SABER System.						
<b>Accomplishments/Planned Programs Subtotals</b>		0.494	0.000	0.980	0.000	0.980
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
<b><u>Line Item</u></b>	<b><u>FY 2018</u></b>	<b><u>FY 2019</u></b>	<b><u>FY 2020 Base</u></b>	<b><u>FY 2020 OCO</u></b>	<b><u>FY 2020 Total</u></b>	<b><u>FY 2021</u></b>
• PMC/3017: <i>Anti-Armor Weapon Systems-Heavy</i>	49.569	51.232	60.501	-	60.501	40.358
						<b><u>FY 2022</u></b>
						<b><u>FY 2023</u></b>
						<b><u>FY 2024</u></b>
						<b><u>Complete</u></b>
						<b><u>Total Cost</u></b>
						Continuing
						Continuing
<b>Remarks</b>						
<b>D. Acquisition Strategy</b>						
The Saber system is a joint program with the U.S. Army. Funding supports the development, integration, and qualification of incremental improvements to meet objective requirements and assesses emergent technologies unique to the USMC operational needs.						
<b>E. Performance Metrics</b>						
N/A						

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2020 Navy</b>													<b>Date:</b> March 2019		
<b>Appropriation/Budget Activity</b> 1319 / 4							<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>					<b>Project (Number/Name)</b> 1964 / <i>Anti-Armor Weapon System</i>			

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Anti Armor	WR	NSWC Indian Head : Indian Head, MD	2.622	0.000		0.000		0.000		-		0.000	0.000	2.622	-
Saber Battery Replacement	WR	NSWC Crane : Crane, IN	0.000	0.352	Feb 2018	0.000		0.000		-		0.000	0.000	0.352	-
<b>Subtotal</b>			2.622	0.352		0.000		0.000		-		0.000	0.000	2.974	N/A

<b>Management Services (\$ in Millions)</b>				<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Need Item Text	C/BA	Not Specified : Not Specified	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Management Support	C/FFP	MCSC Quantico : MCSC, Quantico, VA	0.000	0.142	Mar 2018	0.000		0.980	Mar 2020	-		0.980	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	0.142		0.000		0.980		-		0.980	Continuing	Continuing	N/A

			<b>Prior Years</b>	<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			2.622	0.494		0.000		0.980		-		0.980	Continuing	Continuing	N/A

**Remarks**

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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 0603635M / Marine Corps Grnd Cmbt/ Supt Sys						Project (Number/Name) 1964 / Anti-Armor Weapon System			

	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
Proj 1964																												
Management Support: Product improvement upgrades for the Saber System, engineering, logistics, and program office support.																												
Management Support: Contract Award																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>	<b>Project (Number/Name)</b> 1964 / <i>Anti-Armor Weapon System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 1964</i></b>				
Management Support: Product improvement upgrades for the Saber System, engineering, logistics, and program office support.	1	2018	4	2020
Management Support: Contract Award	2	2020	2	2020

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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 0603635M / Marine Corps Grnd Cmbt/ Supt Sys				Project (Number/Name) 2614 / SMAW Follow-On			
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
2614: SMAW Follow-On	22.823	0.277	0.000	0.500	-	0.500	0.500	0.500	0.500	2.000	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Follow on to Shoulder-Launched Multipurpose Assault Weapon (SMAW) (FOTS): The solution to the Follow on to SMAW (FOTS) capability requirement is a Family of Marine-portable Rocket Systems. This Family of Systems is composed of separate lightweight, short range, fire-and-forget weapons. Marine Expeditionary Forces will employ the Family of Systems across the spectrum of conflict, under all environmental conditions, to neutralize or destroy a variety of ground targets including personnel, thin-skinned vehicles, and positions. The Family of Systems include various systems, such as SMAW Mod 2 and M3A1 Multi-purpose Anti-Armor Weapon System (MAAWS), with future capability for expansion to additional systems. SMAW Mod 2 consists of a new launcher with an integrated laser range finder and thermal sight. MAAWS consists of a new launcher and integrated fire control system. Future systems and capabilities include similar Marine-portable fire-and-forget shoulder-launched rocket systems with anti-armor, anti-personnel, anti-material, and assault capabilities.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Engineer and technical support.  Articles:  FY 2019 Plans: N/A  FY 2020 Base Plans: -Complete MAAWS qualification, performance testing and Marine-specific tests include E3 and Navy/Marine Corps transportation requirements unique to the Marine Corps. Other Marine-unique tests will include support equipment such as weapon and ammunition carriage. -Continue alternate sight assemblies for MAAWS fire control system improvement  FY 2020 OCO Plans: N/A  FY 2019 to FY 2020 Increase/Decrease Statement: Increase of \$500K from FY19 to FY20 will fund development of support equipment such as weapon and ammunition carriage in support of achieving Initial Operating Capability (IOC). Increase will also support								0.277	0.000	0.500	0.000	0.500
								-	-	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Navy				<b>Date:</b> March 2019							
<b>Appropriation/Budget Activity</b> 1319 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>		<b>Project (Number/Name)</b> 2614 / <i>SMAW Follow-On</i>							
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											
	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>						
development of fire control system improvements to include night vision, thermal, magnification capabilities. Increase in FY20 is in coordination with delivery/fielding schedule.											
<b>Accomplishments/Planned Programs Subtotals</b>	0.277	0.000	0.500	0.000	0.500						
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• PMC/3016: <i>Multi-role Anti-Armor Anti-personnel Weapon System (MAAWS)</i>	19.053	13.760	21.981	-	21.981	22.002	22.020	22.031	22.308	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
M3A1 Multi-purpose Anti-Armor Weapon System (MAAWS) is being procured via the Army's contract. USMC changes and additional testing are conducted via Army and Navy Labs. In addition, Marine-specific tests include E3 and Navy/Marine Corps transportation requirements unique the Marine Corps.											
<b>E. Performance Metrics</b>											
Milestone reviews and technical reviews.											

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2020 Navy</b>												<b>Date: March 2019</b>			
<b>Appropriation/Budget Activity</b> 1319 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>						<b>Project (Number/Name)</b> 2614 / <i>SMAW Follow-On</i>			
<b>Support (\$ in Millions)</b>				<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Prior Year Cumulative Funding	Various	Various : Various	16.300	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Engineering & Technical Support	WR	NSWC Indian Head : Indian Head, VA	0.986	0.000		0.000		0.500	Jan 2020	-		0.500	Continuing	Continuing	Continuing
Engineering & Technical Support	WR	NSWC Dahlgren : Dahlgren, VA	0.122	0.277	Jan 2018	0.000		0.000		-		0.000	0.000	0.399	-
<b>Subtotal</b>			17.408	0.277		0.000		0.500		-		0.500	Continuing	Continuing	N/A
<b>Management Services (\$ in Millions)</b>				<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Prior year cumulative funding	Various	Various : Various	5.415	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			5.415	0.000		0.000		0.000		-		0.000	Continuing	Continuing	N/A
			<b>Prior Years</b>	<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			22.823	0.277		0.000		0.500		-		0.500	Continuing	Continuing	N/A
<b>Remarks</b>															

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PE 0603635M: *Marine Corps Grnd Cmbt/Supt Sys*  
Navy

R-1 Line #56

<b>R-1 Program Element (Number/Name)</b>
PE 0603635M / <i>Marine Corps Grnd Cmb</i>
<i>Supt Sys</i>

<b>Project (Number/Name)</b> 2614 / SMAW Follow-On	
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Proj 2614	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
MAAWS Qualification and Performance Testing	Sytem Qualification Testing																											
					Transportation requirements																							
Alternate Sight Assemble							Fire Control System Improvement																					

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Navy			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>	<b>Project (Number/Name)</b> 2614 / <i>SMAW Follow-On</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 2614</i></b>				
MAAWS Qualification and Performance Testing: Sytem Qualification Testing	1	2018	4	2019
MAAWS Qualification and Performance Testing: Transportation requirements	1	2019	4	2020
Alternate Sight Assemble: Optics Improvements	3	2019	3	2024

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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 0603635M / Marine Corps Grnd Cmbt/ Supt Sys				Project (Number/Name) 7400 / Combat Capability Development Transition			
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
7400: <i>Combat Capability Development Transition</i>	0.000	0.000	0.000	69.897	-	69.897	106.253	26.687	21.731	21.776	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**Note**

Starting in FY20, the NMESIS and ROGUE efforts moved from BA07/PE 0206623M/Project 2928 to BA04/PE 0603635M/Project 7400 in order to align the program to a BA more appropriate for its current acquisition phase. These efforts are a continuation of the HIMARS Anti-ship Capabilities initiated in FY19 within Project 2928, and are now referred to as NMESIS and ROGUE respectively.

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

The Navy/Marine Expeditionary Ship Interdiction System (NMESIS) is an RDT&E effort to develop long term and short term solutions for an Anti-Ship Missile (ASM) to be integrated within a High Mobility Artillery Rocket System (HIMARS) Battalion and sustain a Joint Force military advantage. This capability is in support of the Marine Corps Expeditionary Advanced Base Operations (EABO) and the National Defense Strategy (NDS) approach to build a more lethal Joint Force. This capability provides the Marine Corps layered missile defense with disruptive capability, influencing significant lead lines of communication world-wide. NMESIS will prototype a USMC system while leveraging other Service-developed missiles to provide a ground based anti-access/area denial, anti-ship capability. ASM capabilities will be further developed through advanced component improvements and launcher integration into a complex, prototype and unmanned ground vehicle system. The prototyping effort will include the development, design, build, and initial testing of a Remotely Operated Ground Unit Expeditionary (ROGUE) Fires vehicle. ROGUE-Fires is an unmanned ground vehicle based system on a Joint Light Tactical Vehicle (JLTV) chassis, capable of mounting a wide range of missile systems for dynamic force employment and supports the National Defense Strategy (NDS) objective to evolve innovative operational concepts. NMESIS will provide strategic deterrence in the global operational environment through layered missile capability and dynamic force employment.

The Sea Mob: Swarming Long Range Unmanned Surface Vehicles (USVs) is a developmental project with the purpose of testing and operational development within the Marine Corps Warfighting Laboratory which will capitalize on extending the range of surface and subsurface reconnaissance in addition to limited strike capability utilizing swarm technology. Sea Mob unmanned surface vehicle will provide a platform for the launch of Organic Precision Fires (OPF) to address sea and land targets, and the launch and recovery of smaller unmanned surface craft for reconnaissance and unmanned underwater vehicles for hydrographic survey/mine detection.

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

	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<b>Title:</b> Navy/Marine Expeditionary Ship Interdiction System (NMESIS)	0.000	0.000	58.697	0.000	58.697
<b>Articles:</b>	-	-	-	-	-
<b>FY 2019 Plans:</b>					

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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 0603635M / Marine Corps Grnd Cmbt/ Supt Sys		Project (Number/Name) 7400 / Combat Capability Development Transition		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
N/A						
<b>FY 2020 Base Plans:</b> NMESIS (Long Range Precision Fires, Sea Control) Complete integration of an existing ASM capability onto USMC ground platforms. Activities include: - Other Transaction Authority (OTA) #1 Phase II, integrate ASM concept 1 on a M142 - Other Transaction Authority (OTA) #2 Phase II, integrate ASM concept 2 on a ROGUE vehicle - Build ROGUE-Fires platoon set and test ASM Command Control - Build ROGUE vehicles and conduct off road testing - Conduct user evaluations with vehicle - Test C2 kill chain with various sensors and Naval platforms and AFATDS - Develop TTPs with Marine operators - Conduct initial firing tests of NMESIS ASM capability and purchase missiles in support of integration and large scale test exercise - Purchase inert and live missiles for testing and live fire events - Conduct delta qualification testing on vehicles and missile systems - Conduct inert ballistic missile firing tests - Conduct off road testing with vehicle and launcher systems						
<b>FY 2020 OCO Plans:</b> N/A						
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> The budget request for NMESIS increased by \$36.850M from FY19 to FY20 in support of the development and integration ASM and Unmanned Ground Vehicle (UGV) capability systems. FY20 initiates a large scale integration exercise of an inert missile that will conclude with a live fire missile test with Navy/Marine Corps in support of Marine Corps Operating Concept and Expeditionary Advanced Base Operations (EABO) concepts.						
<b>Title:</b> Sea Mob Amphibious Reconnaissance Capability		0.000	0.000	11.200	0.000	11.200
<b>Articles:</b>		-	-	-	-	-
<b>FY 2019 Plans:</b> N/A						
<b>FY 2020 Base Plans:</b>						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Navy				<b>Date:</b> March 2019	
<b>Appropriation/Budget Activity</b> 1319 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>		<b>Project (Number/Name)</b> 7400 / <i>Combat Capability Development Transition</i>	

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020 Base</b>	<b>FY 2020 OCO</b>	<b>FY 2020 Total</b>
<p>The increase of \$11.200M RDT&amp;E from FY19 to FY20 was a result of an emerging material solution to a capability gap as identified by HQMC and is currently a MCWL effort at TRL 6. Sea Mob (also known as Unmanned Surface Vessel (USV)) will be transitioned from S&amp;T in FY20 as a mid-tier acquisition program; continued System/Subsystem development, integration, and Test and Evaluation will be conducted by USMC commencing FY20. FY20 Operational testing will include the following objectives:</p> <ol style="list-style-type: none"> <li>1. Procurement of 12 Organic Precision Fire (OPF) Launchers with rounds for 3 previously purchased USVs.</li> <li>2. Further integration of OPF and USV.</li> <li>3. Qualification of capabilities for embarkation aboard amphibious shipping.</li> <li>4. Demonstration of the capability from amphibious shipping.</li> </ol> <p><b>FY 2020 OCO Plans:</b> N/A</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> The increase of \$11.2M from FY2019 to FY2020 supports initial developmental testing and experimentation for Swarming Long Range USVs technology maturity.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	69.897	0.000	69.897

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020 Base</u>	<u>FY 2020 OCO</u>	<u>FY 2020 Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTEN/0206623M/2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	0.000	21.847	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	21.847
• PMC/0206211M/6518: <i>Amphibious Reconnaissance Capability</i>	0.000	0.000	0.000	-	0.000	0.000	25.549	41.570	34.270	Continuing	Continuing
<b>Remarks</b>											
<p>1) NMESIS program moved from BA07/PE 0206623M/Project 2928 to BA04/PE 0603635M/Project 7400 in order to align the program to a BA more appropriate for its current acquisition phase.</p> <p>2) FY22 initiates SEA MOB Procurement funding line within LI 6518.</p>											
<b>D. Acquisition Strategy</b>											
NMESIS RDT&E efforts for USMC HIMARS support Joint Force 2025 guidance, the National Defense Strategy and the Marine Corps Operating Concept to employ HIMARS as a Sea Control capability from distributed locations to include naval platforms or surface connectors to support distributed maneuver. Support the continued											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2020 Navy		<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>	<b>Project (Number/Name)</b> 7400 / <i>Combat Capability Development Transition</i>
<p>development of long-range precision fire capabilities from austere and expeditionary bases and to improve the range and capacity to provide fires supporting multiple entry points from the sea. Development will consist of the design integration and support from a combination of Army/Navy labs and multiple DOD contractors.</p> <p>The Sea Mob effort supports acquisition of OPF launchers with rounds for USVs, further integration of OPF and Unmanned Vehicles, qualification of the capabilities for embarkation aboard amphibious shipping, and demonstration of the capability from amphibious shipping. Specific objectives are pre-deployment training and deployment of the 3 Unmanned Surface Vehicles (USVs) with Organic Precision Fire (OPF) and Unmanned Systems and acquisition of 5 USVs for a Marine Expeditionary Force (MEF) to further develop Expeditionary Advance Base CONOPS.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>Milestone Reviews</p>		

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2020 Navy</b>												<b>Date:</b> March 2019			
<b>Appropriation/Budget Activity</b> 1319 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0603635M / Marine Corps Grnd Cmbt/ Supt Sys						<b>Project (Number/Name)</b> 7400 / Combat Capability Development Transition			
<b>Product Development (\$ in Millions)</b>				<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
NMESIS ASM OTA	C/BOA	MCSC : Quantico, VA	0.000	0.000		0.000		44.100	Dec 2019	-		44.100	Continuing	Continuing	Continuing
NMESIS ROGUE-Fires Development	MIPR	DOTC : Picatinny, NJ	0.000	0.000		0.000		2.100	Dec 2019	-		2.100	Continuing	Continuing	Continuing
Sea Mob Swarming Long Range USVs	C/FFP	TBD : TBD	0.000	0.000		0.000		10.200	Jan 2020	-		10.200	0.000	10.200	-
<b>Subtotal</b>			0.000	0.000		0.000		56.400		-		56.400	Continuing	Continuing	N/A
<b>Remarks</b> NMESIS (Long Range Precision Fires, Sea Control) is defined by the product development in support of Anti-Ship Missile (ASM) Capabilities and the Unmanned Ground Vehicle (UGV), ROGUE-Fires. NMESIS is a conjoined development and integration of both efforts.															
<b>Support (\$ in Millions)</b>				<b>FY 2018</b>		<b>FY 2019</b>		<b>FY 2020 Base</b>		<b>FY 2020 OCO</b>		<b>FY 2020 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
NMESIS Engineering - ASM	WR	NSWC : China Lake, CA	0.000	0.000		0.000		1.500	Dec 2019	-		1.500	Continuing	Continuing	Continuing
NMESIS Safety	WR	NSWC : Indian Head, MD	0.000	0.000		0.000		0.500	Dec 2019	-		0.500	Continuing	Continuing	Continuing
NMESIS Engineering - ROGUE	WR	NSWC : Dahlgren, VA	0.000	0.000		0.000		1.500	Dec 2019	-		1.500	Continuing	Continuing	Continuing
NMESIS AFATDS Integration	MIPR	PFRMS : AMRDEC, AL	0.000	0.000		0.000		0.500	Dec 2019	-		0.500	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	0.000		0.000		4.000		-		4.000	Continuing	Continuing	N/A
<b>Remarks</b> NMESIS (Long Range Precision Fires, Sea Control) engineering effort will support weapons sled development and vehicle integration to include system and requirements development and evaluation activities. Evaluation activities include booster vehicle test and system demonstration at Point Mugu.															

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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 0603635M / Marine Corps Grnd Cmbt/ Supt Sys						Project (Number/Name) 7400 / Combat Capability Development Transition					
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total					
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract		
NMESIS ASM Mlssile Testing	WR	NAS : Point Mugu, CA	0.000	0.000		0.000		7.400	Apr 2020	-		7.400	Continuing	Continuing	Continuing		
NMESIS Vehicle/Booster Testing	WR	NSWC : China Lake, CA	0.000	0.000		0.000		0.950	Oct 2019	-		0.950	Continuing	Continuing	Continuing		
Sea Mob Long Range USVs Testing	Various	Various : Various	0.000	0.000		0.000		1.000	Jul 2020	-		1.000	0.000	1.000	-		
Subtotal			0.000	0.000		0.000		9.350		-		9.350	Continuing	Continuing	N/A		
Remarks																	
NMESIS (Long Range Precision Fires, Sea Control, Ground Based Anti-Ship Missile) is defined in FY19 and FY20 by testing in support of Anti-Ship Missile (ASM) Capabilities and the Unmanned Ground Vehicle (ROGUE- Fires). NMESIS is testing the integration of both efforts. FY19 will test C2 kill chain through testing with Naval and Marine Corps units. FY20 will test the integration of an inert missile and conclude with a live fire missile test with USN.																	
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total					
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract		
NMESIS Travel	Various	Various : Various	0.000	0.000		0.000		0.147	Oct 2019	-		0.147	Continuing	Continuing	Continuing		
Subtotal			0.000	0.000		0.000		0.147		-		0.147	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	0.000		0.000		69.897		-		69.897	Continuing	Continuing	N/A		
Remarks																	

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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 0603635M / Marine Corps Grnd Cmbt/  
Supt Sys

Project (Number/Name)  
7400 / Combat Capability Development  
Transition

## SEA MOB SCHEDULE

SeaMob Summary Schedule		Planning & Development												Operations & Support											
Fiscal Year		FY19				FY20				FY21				FY22				FY23				FY24			
Quarter		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Acquisition/Milestone Events		 Kickoff		 MCWL Demo			 Transition from MCWL to								 Procure 6 Sea Mobs	 IOC			 Procure 14 Sea Mobs				 Procure 8 Sea Mobs	 FOC	
Capabilities/Requirements							 Capabilities Demo																		
Systems Engineering																									
Logistics				 OP Training			 ANTX MCWL		 Log ANTX																
Major Contract Events			 Delivery Order																						
Test & Evaluation					 Autonomy Testing																				
					 Swarm Test																				
		MCWL												MCSC OT											
Safety																									
Cost																									
IA																									
Current Funding (TYS000)		FY19				FY20				FY21				FY22				FY23				FY24			
N/A	RDT&E					\$11.20				\$43.60				\$5.00				\$9.00				\$9.00			
	O&M													\$9.00				\$37.80				\$30.40			
	Procurements													\$22.80											
	Quantity																								
Totals		\$0.00				\$11.20				\$43.60				\$36.80				\$46.80				\$39.40			

19 Dec 18



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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy

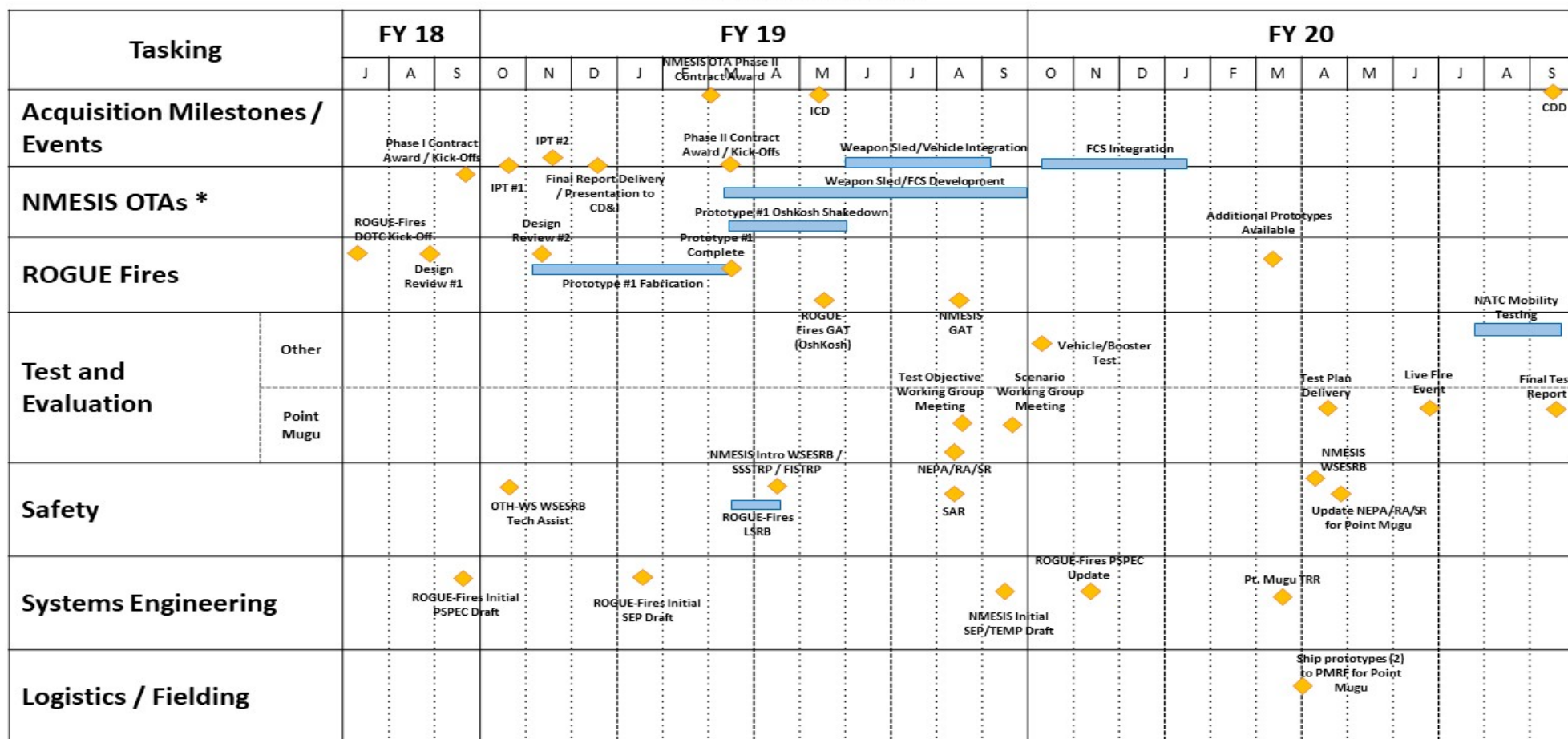
Date: March 2019

Appropriation/Budget Activity  
1319 / 4

R-1 Program Element (Number/Name)  
PE 0603635M / Marine Corps Grnd Cmbt/  
Supt Sys

Project (Number/Name)  
7400 / Combat Capability Development  
Transition

## NMESIS SCHEDULE



\*NMESIS OTA schedule is subject to change and is specific to vendor awarded on Phase II OTA

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2020 Navy			<b>Date:</b> March 2019
<b>Appropriation/Budget Activity</b> 1319 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603635M / <i>Marine Corps Grnd Cmbt/ Supt Sys</i>	<b>Project (Number/Name)</b> 7400 / <i>Combat Capability Development Transition</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Proj 7400</i></b>				
NMESIS Long Range Precision Fire, Sea Control: NMESIS OTA Milestone Payment - FCS Integration	1	2020	2	2020
NMESIS Long Range Precision Fire, Sea Control: MCASM Missile Test & Eval Exercise	4	2020	4	2020
NMESIS Long Range Precision Fire, Sea Control: NMESIS Vehicle/Booster Testing	1	2020	1	2020
SEA MOB: Swarming Long Range USVs: MCWL Test and Evaluation	1	2019	4	2019
SEA MOB: Swarming Long Range USVs: Organic Precision Fires Launch Exercise	2	2020	4	2020
SEA MOB: Swarming Long Range USVs: Operational Testing	2	2021	4	2021
SEA MOB: Swarming Long Range USVs: Procurement Qty 6	2	2022	2	2022
SEA MOB: Swarming Long Range USVs: IOC	3	2022	3	2022
SEA MOB: Swarming Long Range USVs: Procurement Qty 14	2	2023	2	2023