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**Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy** **Date:** March 2019

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 6: RDT&E Management Support					<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt							
<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	0.000	21.423	21.538	37.265	-	37.265	36.338	32.809	33.290	31.839	Continuing	Continuing
0030: Studies & Analysis/MC	0.000	5.922	5.727	4.196	-	4.196	4.285	4.367	4.456	4.545	Continuing	Continuing
0033: OT&E Support	0.000	13.605	14.243	14.333	-	14.333	14.558	14.836	15.116	15.461	Continuing	Continuing
2330: Chem Bio Consequence Mgmt	0.000	1.896	1.568	1.591	-	1.591	1.620	1.654	1.687	1.721	Continuing	Continuing
3009: Marine Corps Wargaming Capability	0.000	0.000	0.000	14.000	-	14.000	12.000	8.000	8.000	6.000	Continuing	Continuing
3783: Information Environment Strategy, Policy and Governance	0.000	0.000	0.000	3.145	-	3.145	3.875	3.952	4.031	4.112	Continuing	Continuing

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

This program element (PE) provides the analytical foundation for the Marine Corps Studies System (MCSS), including mandated Mission Area Analyses and Cost and Operational Effectiveness Analyses. The MCSS is the front end of the Marine Corps' acquisition system. This PE also supports the material acquisition process as follows: managing the Marine Corps Operational Test and Evaluations (OT&E); providing Chem Bio Consequence Management of capabilities for Weapons of Mass Destruction (WMD) incident response forces; and conducting Phase A activities to investigate potential material solutions that validate needs, program costs, business decisions, and prevent undue delays in pursuing priority requirements.

<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	21.751	24.303	20.267	-	20.267
Current President's Budget	21.423	21.538	37.265	-	37.265
Total Adjustments	-0.328	-2.765	16.998	-	16.998
• Congressional General Reductions	-	-0.060			
• Congressional Directed Reductions	-	-2.705			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.004	0.000			
• SBIR/STTR Transfer	-0.313	0.000			
• Program Adjustments	0.000	0.000	17.145	-	17.145
• Rate/Misc Adjustments	-0.001	0.000	-0.147	-	-0.147
• Congressional General Reductions	-0.010	-	-	-	-
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 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt	
<p><b><u>Change Summary Explanation</u></b></p> <p>The net increase of \$15.727M from FY19 to FY20 is primarily due to 1) the initiation of Milestone C activities, prototype integrated solutions, design and develop Information Technology (IT) and network infrastructure and identification and apply cybersecurity controls within Project 3009, the Marine Corps Wargaming Capability; and 2) the initiation of Project 3783 Information Environment (IE) efforts to address the significant role information now plays in current and future conflicts.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt				Project (Number/Name) 0030 / Studies & Analysis/MC			
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
0030: Studies & Analysis/MC	0.000	5.922	5.727	4.196	-	4.196	4.285	4.367	4.456	4.545	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Note Marine Corps Wargaming Capability Center transitions from Project 0030 to Project 3009 in FY20.												
A. Mission Description and Budget Item Justification Marine Corps Requirements Oversight Council (MROC) established Operations Analysis Directorate (OAD) as the sole operations research, analytic support, and studies management program for the Marine Corps Study System (MCSS). MCSS analysis is achieving greater efficiency, productivity, and innovation through operations research methodologies such as: operational analysis, statistical analysis, multi-objective decision methods, optimization, cost analysis, and a wide range of computer-based models and combat simulations insuring the optimization of resources now and in the future. Analyses spans the spectrum of conflict in a Joint, Interagency, Intergovernmental, and Multinational (JIIM) context to inform critical senior level decision makers of current and future national security issues and provides unique and distinct analytic capabilities that enable the collaboration and sharing of analyses that reduces the duplication of topics that are of broad interest. MCSS is an integral part of the Marine Corps and Joint Chiefs decision-making processes to organize, man, train, equip, sustain, and transform resources from the current to the future force.  This program element has been revised into two specialized analytical divisions: (1) External Analysis Division (EAD) - responsible for providing joint external analysis is the Marine Corps' sole representative in the joint modeling arenas. Provides deployed on site professional operations analysis support to Special Purpose MAGTFs in CENTCOM and AFRICOM. (2) Combat Development Analysis Division responsible for executing a select portfolio of studies for senior leadership, Capabilities Based Assessment (CBA) and Marine Corps Enterprise Integration Plan (MCEIP).												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: Studies & Analysis/MC  Articles:								5.922	5.727	4.196	0.000	4.196
								-	-	-	-	-
Description: The Marine Corps Studies System (MCSS), the sole responsibility of the Operations Analysis Directorate (OAD), Combat Development and Integration (CD&I), Marine Corps Combat Development Command (MCCDC) provides research and analysis to ensure a greater understanding of issues and alternatives concerning organizations, tactics, doctrine, policies, force plans, strategies, procedures, intelligence, weapon selection, systems' programs and resource allocation. Through the MCSS, the Marine Corps nominates, approves, commences, manages and distributes the resultant analytical products. Efforts are evaluated and selected by the Studies Requirements Review Board (SRRB) and approved by the CG, Combat Development												

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy			Date: March 2019			
Appropriation/Budget Activity 1319 / 6		R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt		Project (Number/Name) 0030 / Studies & Analysis/MC		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
and Integration (CD&I)and is targeted to a particular audience that understands current and future USMC mission requirements and the need for comprehensive analyses that meets the Commandant's Strategic Goals, supports and protects forces in theater, and utilizes funds efficiently. Research conducted produces comprehensive and integrated analyses aligned to Senior Leadership's requirements and decision timelines.						
FY 2019 Plans: - Complete: Methodology and Cost Estimate for the Marine Corps Synthetic Training Environment (MCSTE) Marine Air Ground Task Force (MAGTF) Requirements Analysis Study in response to Congressional inquiries regarding Live, Virtual, Constructive (LVC) Training requirements and capabilities of the Marine Air Ground Task Force (MAGTF) to include all warfighting functions. Space-Based Capabilities efforts which details vulnerabilities and made recommendations to senior leadership to make systems more resilient. Provided recommendations to the Marine Corps Cyberspace Operations Group (MCCOG) to improve Marine Corps Enterprise Network (MCEN) defensive cyber operations.  - Complete: Modeling Simulation and Analytical Support Toolkit (MSAT) Phase IV; Acquisition Category 1 (ACAT 1) Analysis of Alternatives (AoAs) to support major acquisition decisions at great savings to the Marine Corps.  - Initiate and Complete: Analyses and research in the areas of: Intelligence, Information and Networks; Plans, Policy, and Operations; Infrastructure and Readiness; Resources, Programs,and Assessments; Capability Integration; Research, Development and Acquisition; General Concept Development; Wargaming Modeling and Simulation, Weapons Systems and Space Based Capabilities, Aviation, Command, Control, Communications, Computers, Cyber and Intelligence, Surveillance and Reconnaissance (C4ISR), Maneuver, Logistics, and Seabasing Capabilities.						
FY 2020 Base Plans: - Initiate: Studies and analysis submitted via the Marine Corps Studies System Call for Studies that support the Commandant's 2020-2025 Vision and Strategy Areas of concentration including:Force Development and Combat Readiness; National Security Environments Threats and Strategic Planning; Intelligence Information and Networks; Capability Integration; Weapons Systems and Space Based Capabilities. Provide focused analyses regarding force realignments, training and equipment support that best meet the tactical needs of the Marine Corps while building a leaner better educated force.						

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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 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt		<b>Project (Number/Name)</b> 0030 / Studies & Analysis/MC		
<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>- Initiate: Studies and analysis requested adhoc by senior level leadership to support combat development and systems acquisition decisions. Core competencies include examination of Aviation, C4ISR, Maneuver, Logistics, and Seabasing capabilities in order to evaluate and identify operational deficiencies, and to explore potential solutions.</p> <p>- Initiate: Provide combat analyst assessment teams for national emergencies and contingencies. Conduct baseline analysis to support Mission Capability Packages (MCPs), Investment Strategy, Joint Capability Areas (JCAs), and the Naval Strategic Plan providing assessments for future force development. Provide analysis of tactical operations within the USMC and formulate ways to improve the effectiveness of the forces to win and minimize costs and lives lost.</p> <p>- Initiate: The Modeling and Simulation Analytical Toolkit (MSAT) Phase V that supports analysis involving irregular warfare missions executed in a future Defense Planning Guidance scenario. These missions include information operations, offensive tactical and operational CYBER operations, foreign internal defense, special direct action arising from intelligence gathered from Human Intelligence (HUMINT) and technical (SIGINT,CYBER) means.</p> <p>- Update to Data Center equipment as required.</p> <p><b>FY 2020 OCO Plans:</b> N/A</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> Net decrease of \$1.531M from FY19 to FY20 reflects establishment of Project 3009 USMC Wargaming Center previously funded under Project 0030 in conjunction with Marine Corps Studies and Analysis.</p>						
<b>Accomplishments/Planned Programs Subtotals</b>		5.922	5.727	4.196	0.000	4.196
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>Remarks</b>						
<b>D. Acquisition Strategy</b> N/A						

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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 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605873M / <i>Marine Corps Program Wide Supt</i>	<b>Project (Number/Name)</b> 0030 / <i>Studies &amp; Analysis/MC</i>
<p><b>E. Performance Metrics</b></p> <p>Efforts are guided by:</p> <ul style="list-style-type: none"> <li>- Commandant's Strategic Plan; Marine Corps Operating Concepts (MOC) provides the foundation and context for operating and functional concepts; guides analysis; informs capability development and budget programming decisions.</li> <li>- Combat Development and Integration (CD&amp;I) Force Development Strategic Plan provides Marine Corps Combat Development Command (MCCDC)/(CD&amp;I) personnel framework designed to promote a collaborative, cohesive, "learning organization" that can effectively prepare the Nation's expeditionary force in readiness for a complex and uncertain future.</li> <li>- FRAGO 2017 to support the USMC to adapt, innovate, and change to meet future threats.</li> <li>- Executive Order #13589, Department of Defense (DoD) Directive 8260.05 Support for Strategic Analysis, and DoD Instruction 8260.2 Implementation of Data Collection, Development, and Management for Strategic Analyses, directs analytic teams apply the following analytic principles: Transparency, Consistency, Integration, use of Standardized and Accepted Methods, thorough consideration of Quantitative and Qualitative Factors and documentation of Assumptions and Constraints.</li> <li>- MROC requirement to develop and maintain a current operations analysis reach back network with other government and Coalition agencies such as Center for Army Analysis, Joint Capabilities Integration and Development System (JCIDS), JIEDDO J9, Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC) program, The Technical Cooperation Program (TTCP), NATO Systems Analysis &amp; Studies (SAS), etc.</li> </ul> <p>Analytic Categories Include but not limited to:</p> <ul style="list-style-type: none"> <li>- Operational and Strategic Assessments: Provides analysis, alternatives, and changes to current plans for military operations at the mission, campaign, and strategic levels. Analysis results are employed to assist the Commandant, Assistant Commandants, Unit Commanders and the Commanding General (CG), Combat Integration Division, Marine Corps Combat Development Command (CD&amp;I,MCCDC), Crisis Response (CR) Special Purpose Marine Air-Ground Task Forces (SPMAGTFs; CENTCOM, AFRICOM and SOUTHCOM), in addition to the Marine Expeditionary Units that are deployed around the globe and provide a continuous program of mission area analyses, formal studies, rapid response analytic efforts, and the supervision of research projects to fulfill mission.</li> <li>- Force Structure Analyses: Analyses performed to define and modify manpower requirements. Analysts develop quantitative measures and comparisons that inform force structure decision processes and support defensible evidence.</li> <li>- Strategic Planning Analyses: Analyst develop and integrate data sets, and analytic frameworks to strategic plans, goals, and processes. Analysts determine alternative force structures in terms of strategic-level goals, effects, risks, and measurements.</li> <li>- Strategic and Operational Analyses: Analyses that provides leadership with defensible decisions, alternatives and changes to current plans for military operations at the mission, campaign, and strategic levels.</li> </ul>		

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<b>Appropriation/Budget Activity</b> 1319 / 6	<b>R-1 Program Element (Number/Name)</b> PE 0605873M / <i>Marine Corps Program</i> <i>Wide Supt</i>	<b>Project (Number/Name)</b> 0030 / <i>Studies &amp; Analysis/MC</i>
<p>- Resource Analyses: Analyses of manpower and personnel as well as equipment modernization, recapitalization, operation and sustainment. Providing senior leadership with defensive evidence to support major changes to force structure or equipment procurements and sustainment.</p> <p>- Modeling and Simulation: Support Marine Air-Ground Task Forces (MAGTF's) and Marine Expeditionary Units (MEU's) with research analysis and modeling and simulation focused on aviation, amphibious, warfighting, and ground operations enhancing the ability of the Marine Corps to increase operational, logistical and equipment efficiencies and capabilities and provide a unique, well trained, equipped and educated force.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt				Project (Number/Name) 0033 / OT&E Support			
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
0033: OT&E Support	0.000	13.605	14.243	14.333	-	14.333	14.558	14.836	15.116	15.461	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

The Marine Corps Operational Test and Evaluation Activity (MCOTEA) supports the material acquisition process by managing the Marine Corps Operational Test (OT) programs for Acquisition Categories (ACAT) I through ACAT IV (less OT of manned aircraft) and performs other functions that may be directed by the Commandant of the Marine Corps. The primary purpose of Operational Test and Evaluation (OT&E) is to provide information to the Milestone Decision Authority (MDA) regarding the Operational Effectiveness (OE) and Operational Suitability (OS) of the system addressed at a decision point. MCOTEA must ensure that the Marines in the Operating Forces receive the very best possible equipment and support. MCOTEA must also ensure each system proposed for acquisition is tested adequately, evaluated objectively and reported independently.

Marine Corps Operational Test and Evaluation Activity (MCOTEA) is the only unit that provides the Marine Corps with required operational test and evaluation (OT&E) capability, ensuring the Marine Corps is compliant with laws and regulations, and ensuring that training and equipment are operationally effective, relevant, and suitable. Additionally, MCOTEA's early involvement, coordination, and oversight in developmental testing and evaluation of new combat and combat support systems ensures that our Marines are the best trained, and have the best equipment, with the lowest test costs for taxpayers. Finally, MCOTEA's support of rapid acquisitions ensures that Marines in the fight are supported with the newest and most advanced equipment and that the Marine Corps is compliant with regulations.

**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> MCOTEA	12.605	14.243	14.333	0.000	14.333
<b>Articles:</b>	-	-	-	-	-
<b>FY 2019 Plans:</b> Continue with evaluating, quantifying and reporting on programs for the operational effectiveness, suitability and survivability of planned acquisitions to meet warfighting capabilities and will be providing Milestone Decision Authority (MDAs) to programs that are inherently governmental and a comprehensive understanding of operational risk associated with ACAT programs.					
<b>FY 2020 Base Plans:</b> Continue evaluating, quantifying and reporting on programs for the operational effectiveness, suitability and survivability of planned acquisitions to meet warfighting capabilities and will be providing Milestone Decision					



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<b>Appropriation/Budget Activity</b> 1319 / 6			<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt		<b>Project (Number/Name)</b> 0033 / OT&E Support	

  

<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>Authority (MDAs) to programs that are inherently governmental and a comprehensive understanding of operational risk associated with ACAT programs.</p> <p><b>FY 2020 OCO Plans:</b> N/A</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> Increase of \$0.09M from FY19 to FY20 is a result of the Pay and Inflation Rate assumptions.</p>					
<p><b>Title:</b> Cyber Awareness Red Team Support</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This effort supports NDAA S. 1647 requirements.</p> <p><b>FY 2019 Plans:</b> - See Project 4038.</p> <p><b>FY 2020 Base Plans:</b> N/A</p> <p><b>FY 2020 OCO Plans:</b> N/A</p>	1.000 -	0.000 -	0.000 -	0.000 -	0.000 -
<b>Accomplishments/Planned Programs Subtotals</b>	13.605	14.243	14.333	0.000	14.333

  

<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>
• RD TEN/0606942M/4038: Cyber Vulnerability Evaluation	0.000	7.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	7.000
<b>Remarks</b>											
<b>D. Acquisition Strategy</b> N/A											
<b>E. Performance Metrics</b> N/A											

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt				Project (Number/Name) 2330 / Chem Bio Consequence Mgmt			
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
2330: Chem Bio Consequence Mgmt	0.000	1.896	1.568	1.591	-	1.591	1.620	1.654	1.687	1.721	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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

The Family of Incident Response Systems (FIRS) consists of equipment, systems, and services designed to provide Weapons of Mass Destruction (WMD) incident response forces the capabilities needed to effectively respond to a terrorist attack using Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE). FIRS meets the mission requirements for the detection; mass casualty decontamination; force protection; responder inter-agency interoperability; Command, Control, Communications, Computers & Intelligence (C4I); urban search and rescue; medical and general support requirements needed by these forces to mitigate the effects of a CBRNE terrorist attack. FIRS relies primarily on Commercial Off-The-Shelf/Non-Developmental Items (COTS/NDI) equipment and systems that meet the particular mission requirements of Consequence Management (CM). Nuclear, Biological, and Chemical (NBC) systems are adopted if they meet the CM mission requirements. FIRS Research & Development effort allows the program to keep abreast of emerging technologies in the commercial sector and address operational capability gaps that cannot be met by commercial items.

**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> FIRS: Reconnaissance Mission Area	0.910	0.603	0.300	0.000	0.300
<b>Articles:</b>	-	-	-	-	-
<b>FY 2019 Plans:</b>					
- Continue CALS FC-IS naval system integration.					
- Complete chemical contamination early warning research in support of technical refresh/replacement material solution.					
<b>FY 2020 Base Plans:</b>					
-Complete CALS FC-IS naval system integration.					
<b>FY 2020 OCO Plans:</b>					
N/A					
<b>FY 2019 to FY 2020 Increase/Decrease Statement:</b>					
Decrease of \$0.303M between FY19 and FY20 due to completion of chemical contamination early warning research in support of technical refresh/replacement material solution.					
<b>Title:</b> FIRS: Force Protection Mission Area	0.986	0.965	1.291	0.000	1.291
<b>Articles:</b>	-	-	-	-	-

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<b>Appropriation/Budget Activity</b> 1319 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt		<b>Project (Number/Name)</b> 2330 / Chem Bio Consequence Mgmt	

  

<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>
<b>FY 2019 Plans:</b> - Complete verification and validation testing at Dugway Proving Ground in support of the Operating Forces that employ DRSKO sets and the CBIRF in support of technical refreshes of new area monitoring devices. - Complete performance and durability test for low profile self contained breathing apparatus masks in support of EOD bomb suit integration. - Initiate durability test of CBIRF's CBRN personal protection equipment items, including Class 2 and Class 3 suits.  <b>FY 2020 Base Plans:</b> -Continue durability test of CBIRF's CBRN personal protection equipment items, including Class 2 and Class 3 suits.  <b>FY 2020 OCO Plans:</b> N/A  <b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> Increase of \$0.326M between FY19 and FY20 due to ramp up of durability testing efforts related to protection equipment.					
<b>Accomplishments/Planned Programs Subtotals</b>	1.896	1.568	1.591	0.000	1.591

  

<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/2220: Wpns & Cmbt Vehs under \$5 million	0.454	0.476	0.540	-	0.540	0.556	0.000	0.000	0.000	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b> N/A											
<b>E. Performance Metrics</b> N/A											

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt				Project (Number/Name) 3009 / Marine Corps Wargaming Capability			
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
3009: Marine Corps Wargaming Capability	0.000	0.000	0.000	14.000	-	14.000	12.000	8.000	8.000	6.000	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**Note**

Previously executed within Proj 0030 Studies & Analysis/MC

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

Wargaming capability efforts are focused within multiple areas to include identifying, defining, and documenting requirements and capabilities; directing cyber security support for initiatives to boost information assurance in the areas of modeling & simulation, network configuration, security control validation, and type accreditation; development of performance specifications; and modeling and simulation prototyping efforts. The wargaming capability facilitates the assessment and evaluation of operating and functional concepts, operational and technology-based approaches, current concepts of operations, and principles and methods that inform decisions in support of force development and requirements generation. Wargaming capability results are used to develop, assess, and refine future operating and functional concepts across the full range of military operations (ROMO). Additionally, they test current OPLANS and CONOPS; examine operational and tactical actions through repeated, multiple iterations; enable the full development of concepts through opportunities for examination and evaluation; assess capability investments while guiding capability resourcing actions and informing the POM development; and provide education and leadership development.

**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> Wargaming Capability	0.000	0.000	14.000	0.000	14.000
<b>Articles:</b>	-	-	-	-	-
<b>FY 2019 Plans:</b> Executed within Proj 0030 Studies & Analysis/MC.					
<b>FY 2020 Base Plans:</b> Continue Engineering and Manufacturing Development phase activities including an Integration Readiness Review, documentation of the Allocated Baseline, preparation for the Critical Design Review to be held in FY21, development of sustainability and maintainability approaches, development of manpower and training plans, and initiation of documentation for a Milestone C in FY21.					
Begin prototyping two or more integrated wargaming capability solutions that will demonstrate the ability to conduct world class wargaming while incorporating data capture tools, data analysis tools, advanced models and simulations, cross domain solutions, dynamic 2-D to 3-D visualization, player interface tools, automated					

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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 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt		<b>Project (Number/Name)</b> 3009 / Marine Corps Wargaming Capability	

  

<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>adjudication, scenario generation and wargame design tools, virtualization, and prototype algorithms and data integration.</p> <p>Design and develop Information Technology (IT) and network infrastructure and identify and apply cybersecurity controls to specific technologies.</p> <p>Continue all efforts not completed in FY19.</p> <p><b><i>FY 2020 OCO Plans:</i></b> N/A</p> <p><b><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i></b> FY2018 &amp; FY2019 executed within Project 0030 Studies &amp; Analysis/MC. The FY19 budget within Project 0030 was \$5.865M therefore the overall increase from FY19 to FY20 of \$8.135M for Marine Corps Wargaming efforts can be attributed to the initiation of Milestone C activities, prototyping of integrated solutions, design and development of Information Technology (IT) and network infrastructure, and identification and application of cybersecurity controls.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	14.000	0.000	14.000

  

<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>	<b><u>FY 2022</u></b>	<b><u>FY 2023</u></b>	<b><u>FY 2024</u></b>	<b><u>Cost To Complete</u></b>	<b><u>Total Cost</u></b>
• PMC/4630: Marine Corps Wargaming Capabilities	0.000	0.000	0.000	-	0.000	12.000	28.000	9.000	6.991	0.000	55.991
<b>Remarks</b>											
<b>D. Acquisition Strategy</b> N/A											
<b>E. Performance Metrics</b> Wargaming capability results are used to develop, assess, and refine future operating and functional concepts across the full range of military operations (ROMO). Additionally, they test current OPLANS and CONOPS; examine operational and tactical actions through repeated, multiple iterations; enable the full development of concepts through opportunities for examination and evaluation; assess capability investments while guiding capability resourcing actions and informing the POM development; and provide education and leadership development.											

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605873M / Marine Corps Program Wide Supt				Project (Number/Name) 3783 / Information Environment Strategy, Policy and Governance			
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
3783: Information Environment Strategy, Policy and Governance	0.000	0.000	0.000	3.145	-	3.145	3.875	3.952	4.031	4.112	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**Note**

This is a new Project in FY 2020.

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

The Information Environment (IE) is a global, interconnected, complex, continuously changing eco-system that is increasingly connected across our war fighting functions. Given the complexity and the speed of changes in the IE and to address the significant role information now plays in current and future conflicts, a unifying operational and technical strategy must be developed to outpace our adversaries.

Analysis will inform the development and integration of Marine Corps Information Environment Operations (IE Ops) that are guided by the Commandant's Strategic Plan, Marine Corps Operating Concepts (MOC). Research and analysis efforts support: design and coordinated implementation of an Objective Network to fight on and through a contested environment; design and collaboration on a Naval Tactical Grid and a Joint Tactical Grid; a threat estimate to inform capability development; and analysis to inform the development and fielding of an integrated information capability. These efforts will be accomplished leveraging analytic support from government Labs and Industry to dynamically exploit our National Defense Strategy (NDS) priority operational problems related to the Information Environment through limited user evaluations and functional capability assessments with Marines. In addition, rapid development of capabilities to address problems in the IE Ops will be developed utilizing the Accelerator process which utilizes best commercial practice of design thinking.

**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> Information Environment Strategy	0.000	0.000	3.145	0.000	3.145
<b>Articles:</b>	-	-	-	-	-
<b>FY 2019 Plans:</b> Not Applicable					
<b>FY 2020 Base Plans:</b> -Initiate innovation activities across the information domain to develop user centered capabilities for the future operating environment.					
-Implement a data science team to support the digital transformation of Marine Corps data stores to data and information across the Services and other DoD partners and position the Marine Corps to leverage DoD investments in Artificial Intelligence and Machine Learning.					

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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 / 6		<b>R-1 Program Element (Number/Name)</b> PE 0605873M / Marine Corps Program Wide Supt		<b>Project (Number/Name)</b> 3783 / Information Environment Strategy, Policy and Governance	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2018</b>	<b>FY 2019</b>
<p>-Implementation of Accelerator Team and methods, scaling best commercial practices of Agile Development and Design Thinking tools, to support the rapid design and development of Minimally Viable Products (MVPs) with Marines/stakeholders for the information environment.</p> <p><b>FY 2020 OCO Plans:</b> N/A</p> <p><b>FY 2019 to FY 2020 Increase/Decrease Statement:</b> The increase of \$3.145M from FY19 to FY20 is because this project is a new start to support Information Environment analysis and integration to address the significant role information now plays in current and future conflicts.</p>					
<b>Accomplishments/Planned Programs Subtotals</b>				0.000	0.000
				3.145	0.000
				3.145	
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A					
<b>Remarks</b>					
<b>D. Acquisition Strategy</b> N/A					
<b>E. Performance Metrics</b> N/A					