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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	366.315	153.435	181.693	139.594	-	139.594	179.167	152.757	121.516	123.494	Continuing	Continuing
0021: <i>Assault Amphibious Vehicle 7A1</i>	76.072	24.522	37.160	34.638	-	34.638	39.060	14.541	6.152	6.260	Continuing	Continuing
1555: <i>Lt Armored Vehicle Prog</i>	18.127	39.173	35.859	23.754	-	23.754	16.482	15.373	9.088	9.247	Continuing	Continuing
1901: <i>MC Grnd Wpnry Prod Improvement</i>	23.280	9.215	12.737	14.481	-	14.481	9.521	7.133	5.874	5.979	Continuing	Continuing
2086: <i>Soldier/Marine Enhancement</i>	16.667	5.220	3.041	6.146	-	6.146	5.234	5.353	5.425	5.521	Continuing	Continuing
2112: <i>Lightweight 155mm Howitzer</i>	0.000	0.000	0.000	0.200	-	0.200	0.202	0.204	0.000	0.000	0.000	0.606
2237: <i>Amphibious Vehicle Test</i>	0.000	0.934	0.933	0.949	-	0.949	0.965	0.981	0.994	1.012	Continuing	Continuing
2315: <i>Training Devices/ Simulators</i>	65.871	14.355	19.492	9.697	-	9.697	12.453	11.124	9.729	9.880	Continuing	Continuing
2503: <i>Initial Issue</i>	43.121	6.811	8.244	9.142	-	9.142	7.905	7.943	8.199	8.341	Continuing	Continuing
2513: <i>Body Armor</i>	28.886	4.501	3.692	0.572	-	0.572	4.838	4.916	5.037	5.126	Continuing	Continuing
2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	11.339	1.850	2.353	2.391	-	2.391	2.448	2.487	2.550	2.594	Continuing	Continuing
3098: <i>Fire Support System</i>	69.576	26.745	17.785	16.221	-	16.221	14.575	9.013	6.619	6.735	Continuing	Continuing
4002: <i>Family of Raid Reconnaissance</i>	3.167	1.436	0.668	0.528	-	0.528	0.540	0.552	0.563	0.572	Continuing	Continuing
9C85: <i>Marine Personnel Carrier (MPC)</i>	10.209	18.673	39.729	20.875	-	20.875	64.944	73.137	61.286	62.227	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This PE provides modification to Marine Corps Expeditionary Ground Force Weapon Systems to increase lethality, range, survivability and operational effectiveness. In addition, the PE provides for the development of AAV7A1 reliability, maintainability, operational and safety modifications, improvements in command and control, and product improvements to the family of LAVs. The AVTB provides facilities and personnel which perform a broad range of testing, repair and technical services to

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amphibious vehicles. This program is funded under Operational Systems Development Program Element (PE) because it encompasses engineering and manufacturing and manufacturing development for upgrades of existing systems.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	159.396	181.693	234.948	-	234.948
Current President's Budget	153.435	181.693	139.594	-	139.594
Total Adjustments	-5.961	0.000	-95.354	-	-95.354
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.001	0.000			
• SBIR/STTR Transfer	-3.960	0.000			
• Program Adjustments	0.000	0.000	-77.171	-	-77.171
• Rate/Misc Adjustments	0.000	0.000	-18.183	-	-18.183

Change Summary Explanation

FY14 decreases are due to schedule adjustments in both the EFSS and MPC programs.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 0021: Assault Amphibious Vehicle 7A1			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
0021: Assault Amphibious Vehicle 7A1	76.072	24.522	37.160	34.638	-	34.638	39.060	14.541	6.152	6.260	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The Assault Amphibious Vehicle (AAV) program provides life-cycle support to ensure cost-effective combat readiness for the AAV Family of Vehicles (FOV). This is accomplished through engineering changes resulting from continuous review of sub-systems to maintain system supportability, safety, reduce total ownership costs, and improve fleet readiness. The AAV program also includes a survivability upgrade which will increase AAVP7A1 survivability and force protection while maintaining the required land and water mobility performance. This upgrade is derived from the need for an operationally effective amphibious armored personnel carrier capability bridge until the future amphibious portfolio of vehicles reaches full operational capability.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Product Development Articles: Description: AAV Upgrade will improve the legacy AAV and extend its service life until its replacement is fielded. Capability improvements include improved belly protection, integrated blast mitigating seats, integrated spall liners, protected fuel, sponson armor, and selected improvements for water and land mobility. FY 2012 Accomplishments: The FY12 National Defense Authorization Act (NDAA) language established report requirments for this program. FY12 funds will not be executed until the requirments have been met. FY 2013 Plans: Initiate design, development, and support activities for AAV upgrade. Perform automotive and suspension improvements, RAM baseline testing, and AAV mobility technical demonstration testing. Award AAV Upgrade Engineering, Manufacturing, and Design (EMD) and prototype contract. FY 2014 Plans: Continue EMD design, development and support activities. Initiate and support developmental testing of EMD prototypes.									24.468	12.280	24.222	
									0	0	0	
Title: Test and Evaluation									0.043	0.948	4.257	
Articles:									0	0	0	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys	PROJECT 0021: Assault Amphibious Vehicle 7A1		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Description: AAV Operations Support: Evaluation and testing of safety improvements that include, but are not limited to upgraded intercoms and radio and fact-of-life changes to maintain the AAV Family of Vehicles (FOV). FY 2012 Accomplishments: The FY12 National Defense Authorization Act (NDAA) language established report requirments for this program. FY12 funds will not be executed until the requirments have been met. FY 2013 Plans: Evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles (FOV). FY 2014 Plans: Continue evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles (FOV). Perform developmental testing of upgraded prototype vehicles.				
Title: Contract Advisory & Assistance Service (A&AS) Articles: Description: Contract management support and engineering services for human system integration, digital integration facility support, and related equipment procurements associated with these efforts. FY 2013 Plans: Provide technical and engineering services in support of digital architecture design, development, and analysis. Provide technical, engineering, and program management services in support of survivability upgrades design and development. FY 2014 Plans: Continue to provide technical and engineering services in support of digital architecture design, development, and analysis. Provide technical, engineering, and program management services in support of survivability upgrades design and development. Support developmental testing of protype vehicles.		0.000	18.265 0	2.620 0
Title: Program Support Articles: Description: Program Support provides program management support for engineering support services, human system integration and digital integration facility and travel associated with these efforts. FY 2012 Accomplishments:		0.011 0	5.667 0	3.539 0

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APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 0021: Assault Amphibious Vehicle 7A1				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
The FY12 National Defense Authorization Act (NDAA) language established report requirements for this program. FY12 funds will not be executed until the requirements have been met.												
FY 2013 Plans: Provide program management support for engineering support services, human system integration and digital integration facility and travel associated with these efforts.												
FY 2014 Plans: Continue program management support for engineering support services, human system integration and digital integration facility and travel associated with these efforts.												
Accomplishments/Planned Programs Subtotals										24.522	37.160	34.638
C. Other Program Funding Summary (\$ in Millions)												
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>	
• PMC/2021: AAV Product Improvement Program	9.931	16.089	32.360		32.360	53.807	83.984	104.204	106.068	475.860	1,784.385	
Remarks												
D. Acquisition Strategy The USMC intends to competitively award a contract to upgrade 392 Assault Amphibious Vehicles. The Program's main focus is on improving the survivability and Marine force protection capabilities. To support the required capabilities, the Upgrade program will seek to incorporate Non-Developmental Item (NDI) and/or Commercial off the Shelf (COTS) solutions into the existing AAVP7A1 Reliability, Availability, Maintainability/Rebuild to Standard (RAM/RS). When possible, these mature systems and components will be procured as part of a larger multi-service and multi-platform procurement that leverages economy of scale, commonality, and reduced life cycle costs. The acquisition strategy seeks to minimize cost and schedule while maximizing value, technology readiness, and commonality while ensuring the selected manufacturer meets the capability attributes established for the AAVP7A1 RAM/RS. R&D will fund competitive designs with MSB in FY 13 followed by EMD and production. IOC is currently scheduled for FY17.												
E. Performance Metrics Milestone Reviews												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys						PROJECT 0021: Assault Amphibious Vehicle 7A1			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Syst Design & Dev/ EMD	C/CPFF	TBD:MCSC - Quantico, VA	37.749	24.468	Sep 2013	12.280	Mar 2014	24.222	Mar 2014	-		24.222	Continuing	Continuing	Continuing
Subtotal			37.749	24.468		12.280		24.222		0.000		24.222			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	Various	ATC/AVTB:APG, MD; Camp Pendleton, CA	1.033	0.043	Oct 2012	0.948	Mar 2013	4.257	Aug 2014	-		4.257	Continuing	Continuing	Continuing
Subtotal			1.033	0.043		0.948		4.257		0.000		4.257			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	MCSC:Quantico, VA	0.000	0.011	Oct 2011	0.237	Oct 2012	0.370	Oct 2013	-		0.370	Continuing	Continuing	Continuing
In House Technical Spt	Various	Various:Not Specified	0.018	0.000		5.430	Nov 2012	3.169	Nov 2013	-		3.169	Continuing	Continuing	Continuing
Program Management Spt	Various	Various:Not Specified	2.145	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Engineering and Technical Svcs (contract advisory/ asst svcs)	Various	SPAWAR:Charleston, SC	30.112	0.000		9.465	Mar 2013	1.020	Mar 2014	-		1.020	Continuing	Continuing	Continuing
Management Support Svcs	C/FFP	MCSC:Quantico, VA	5.015	0.000		8.800	Mar 2013	1.600	Mar 2014	-		1.600	Continuing	Continuing	Continuing
Subtotal			37.290	0.011		23.932		6.159		0.000		6.159			
Project Cost Totals			76.072	24.522		37.160		34.638		0.000		34.638			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE			PROJECT			
1319: Research, Development, Test & Evaluation, Navy				PE 0206623M: MC Ground Cmbt Spt Arms			0021: Assault Amphibious Vehicle 7A1			
BA 7: Operational Systems Development				Sys						
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0206623M: MC Ground Cmbt Spt Arms Sys

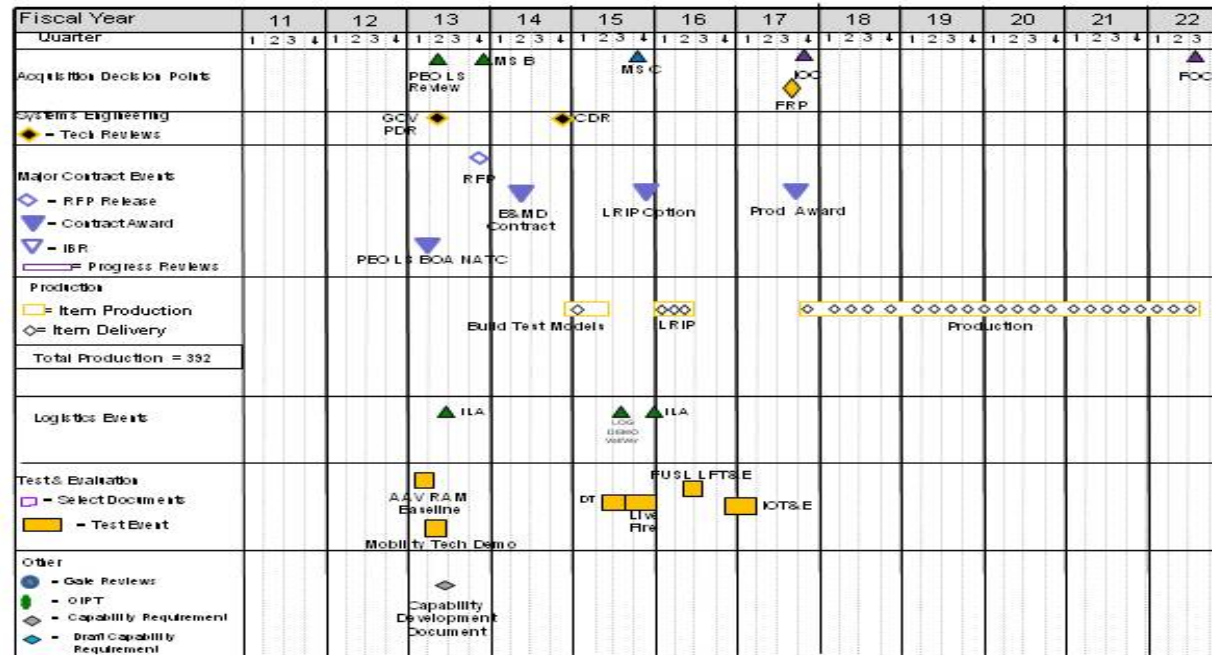
PROJECT

0021: Assault Amphibious Vehicle 7A1



ASSAULT AMPHIBIOUS VEHICLE (AAV)

AAV INTEGRATED PROGRAM PLAN PB-14 SCHEDULE



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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 0021</i>				
CDD	2	2013	2	2013
MS B	4	2013	4	2013
EMD CONTRACT AWARD	2	2014	2	2014
EMD DESIGN/BUILD	2	2014	2	2015
CDR	4	2014	4	2014
MS C (LRIP)	4	2015	4	2015
LRIP	4	2015	2	2016
DEVELOPMENTAL TEST & EVALUATION	2	2015	4	2015
IOT&E	4	2016	1	2017
Full Rate Production	4	2017	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 1555: Lt Armored Vehicle Prog			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1555: Lt Armored Vehicle Prog	18.127	39.173	35.859	23.754	-	23.754	16.482	15.373	9.088	9.247	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The Light Armored Vehicle Family of Vehicles (LAV FOV) consists of six fielded LAV configurations, and one communications/intelligence-configured asset on a LAV chassis. The LAV FOV provides a logistically self-contained, highly mobile, and lethal combined arms combat system to the Marine Air-Ground Task Force (MAGTF). The LAV Product Improvement Program funds the development and testing of modifications of three programs; the LAV Modification Program, the LAV Anti-Tank System Program, and the LAV Survivability Upgrades Program. These programs will ensure that the LAV FOV will be capable of conducting its assigned missions by enhancing lethality and survivability; reliability, availability, maintainability and durability; as well as reducing operations and support costs.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: LAV MODIFICATIONS									8.151	7.495	15.204	
									Articles: 0	0	0	
FY 2012 Accomplishments: Conducted research, development and testing of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase 4/Armored Mounts/Recovery Flood Lamps/Self Recovery Winch.												
FY 2013 Plans: Continue research, development and testing of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase IV Testing/Armored Mounts/Vehicle Commander Blast Shields/Corrosion Resistance/Electrical Upgrade Technical Data Package Revision/Source Selection Evaluation Board Prep.												
FY 2014 Plans: Will continue research, development and testing of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Part 2 to include final design, integration and test/Larger Turret Hatches/ITSS Recording Device. Funding increase in FY14 is for the final design, integration and testing of the Electrical System Upgrade.												
Title: LAV ANTI-TANK SYSTEM									21.747	9.602	1.921	
Articles:									4	0	0	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys	PROJECT 1555: Lt Armored Vehicle Prog		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: LAV-AT - Continued Engineering & Manufacturing Development (EMD) contract (4 Prototypes & Vehicle Integration), Preliminary Design Review (PDR), Critical Design Review (CDR), Interfaces and Integration, Contractor Testing, Developmental Testing Planning and Technical Readiness Review, System Readiness Review #2. FY 2013 Plans: LAV-AT - Complete design interface and prototype development, Developmental Testing, Technical Manual Updates, begin Operational Test planning and prepare MS-C documentation. FY 2014 Plans: LAV-AT - Complete Technical Manual Updates, prepare ILA pre-brief, ILA Assessment and ILA Certification, IOT&E Testing and the following Technical Reviews (Functional Configuration Audit, System Verification Review, Operational Test Readiness Review & Operational Test Readiness Review Board).				
Title: LAV SURVIVABILITY UPGRADES Articles:		9.177 0	18.762 11	6.629 0
FY 2012 Accomplishments: LAV SURV UPGRADES - Power Pack - ECP Development and integration. Advanced Suspension - System Readiness Review, MS B document preparation, and begin ILA documentation. FY 2013 Plans: LAV SURV UPGRADES - Power Pack - Continue ECP Development and integration, RAM Testing. Advanced Suspension - Material Development Decision, , Complete ILA documentation, TEMP Development, Draft RFP. FY 2014 Plans: LAV SURV UPGRADES - Power Pack - Complete ECP Development and integration, RAM Testing. Advanced Suspension - MS B, EMD RFP Release, EMD contract award, Developmental Testing planning, Technical Reviews, Preliminary Design Review and Critical Design Review.				
Title: LAV Indirect Fire Modernization Articles:		0.098 0	0.000	0.000
FY 2012 Accomplishments: LAV Indirect Fire Modernization - Conducted a Market Survey. Program cancelled and the remaining resources redirected to fund higher MC priorities.				
Accomplishments/Planned Programs Subtotals		39.173	35.859	23.754

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/2038: LAV	171.013	196.216	6.003		6.003	247.578	138.829	165.903	222.837	Continuing	Continuing
• PMC/7000: Spares	0.000	0.000	0.000		0.000	6.300	2.400	2.400	3.500	0.000	14.600
Remarks											
D. Acquisition Strategy											
The LAV Modification program funds numerous low-dollar, yet extremely important minor modifications, support equipment and tools and other projects that increase LAV reliability and readiness while simultaneously reducing operations and support costs. The Marine Corps PM-LAV Modification Team uses multi-disciplined integrated project teams consisting of engineering, logistical, contracting and financial personnel to manage Modification projects. The majority of contracts issued under the Modification line are subject to the competitive acquisition process. Funding increase in FY14 is for the final design, integration and testing of the Electrical System Upgrade. The LAV Anti-Tank System program will focus on integrating a new turret into the LAV-AT variant with options for production. The LAV-AT is a replacement for the obsolete M901A1 turret to correct operational and readiness deficiencies. It will be capable of firing the current family of TOW missiles and be forward compatible with the next generation of heavy anti armor missiles. The program was approved in December of 2009 as part of the Material Development Decision to enter at MS-B based on the technical maturity of the capabilities required, schedule, and budget. Milestone B approval was achieved in Mar 2011 and the Engineering & Manufacturing Development (EMD) contract was awarded in Apr 2012. Once the EMD phase is complete, a combined MS C and Full Rate Production Review (FRPR) are planned to be followed by a tailored Production and Deployment Phase and Operations and Support Phase. The LAV Survivability Upgrade program (Advanced Suspension Upgrades and Power Pack Replacement) will focus on full and open competition to integrate a new Advanced Suspension System into the Family of Light Armored Vehicles (FOLAV) with options for production. This program will further enhance the FOLAV survivability by improving the stand-off distance between the LAV and the ground while maintaining high mobility and automotive performance both on and off road. The Power Pack effort will require ECP development, integration and testing of the new OEM recommended power pack replacement that will be used in the FOLAV. The current power pack will be obsolete and must be replaced in the LAV fleet. The Indirect Fire Modernization program was to acquire and integrate an NDI Mortar system (ordnance and fire control system) into the refurbished existing LAV-Mortar variant chassis. This program has been cancelled and the resources redirected to higher MC priorities.											
E. Performance Metrics											
Milestone Reviews											

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Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SYS DEV/PROTOTYPES (Surv Upgrades)	C/CPFF	GDLS:London, Ont. Canada	0.000	8.098	Sep 2012	8.359	Jun 2013	1.331	Dec 2013	-		1.331	0.000	17.788	
ILS DATA DEV. (MOD)	C/CPFF	TBD:TBD	0.000	0.000		0.450	Jun 2013	1.381	Jun 2014	-		1.381	0.000	1.831	
ILS DATA DEV. (SURV UPGRADES)	C/CPFF	GDLS:London, Ont. Canada	0.000	0.000		6.667	Jun 2013	0.000		-		0.000	0.000	6.667	
PRODUCT DEV. (MOD)	C/CPFF	UEC:Charleston, SC	6.648	6.744	Sep 2012	2.150	Mar 2013	7.000	Mar 2014	-		7.000	Continuing	Continuing	Continuing
SYS DEV/ PROTOTYPES(Anti-Tank)	C/CPFF	Raytheon:McKinney, TX	5.306	12.129	Apr 2012	1.755	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ILS DATA DEVELOPMENT (Anti-Tank)	C/CPFF	Raytheon:McKinney, TX	0.000	1.178	Apr 2012	0.415	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			11.954	28.149		19.796		9.712		0.000		9.712			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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(SURV Upgrades)	MIPR	TACOM:Warren, MI	0.000	0.643	Nov 2011	2.509	Dec 2012	1.197	Dec 2013	-		1.197	Continuing	Continuing	Continuing
Program Mgmt(Indirect Fire)	MIPR	TACOM:Warren, MI	0.000	0.098	Nov 2011	0.000		0.000		-		0.000	0.000	0.098	
Program Mgmt(MOD)	MIPR	TACOM:Warren, MI	0.292	0.591	Jan 2012	1.611	Dec 2012	2.385	Dec 2013	-		2.385	Continuing	Continuing	Continuing
Program Mgmt(Anti-Tank)	MIPR	TACOM:Warren, MI	2.587	2.559	Aug 2012	1.479	Dec 2012	0.294	Dec 2013	-		0.294	0.000	6.919	
Subtotal			2.879	3.891		5.599		3.876		0.000		3.876			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Devl/Oper. T&E(SURV Upgrades)	MIPR	TBD:TBD	0.000	0.000		0.000		3.034	Jan 2014	-		3.034	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY							R-1 ITEM NOMENCLATURE					PROJECT				
1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development							PE 0206623M: MC Ground Cmbt Spt Arms Sys					1555: Lt Armored Vehicle Prog				
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Operation Test(Anti-Tank)	MIPR	MCOTEA:Quantico, VA	0.000	0.882	Aug 2012	0.000		1.627	Jun 2014	-		1.627	0.000	2.509		
Devl/Oper T&E(MOD)	MIPR	RTC:AL	0.837	0.557	Jun 2012	3.015	Jun 2013	4.281	Jan 2014	-		4.281	Continuing	Continuing	Continuing	
Devl T&E(Anti-Tank)	MIPR	RTC/TPG:AL & AZ	0.000	3.775	Aug 2012	5.418	Jun 2013	0.000		-		0.000	0.000	9.193		
Subtotal			0.837	5.214		8.433		8.942		0.000		8.942				
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Tech. Eng. Services(SURV Upgrades)	C/FP	Camber Corp.:Huntsville, AL	0.000	0.436	May 2012	1.227	May 2013	1.067	May 2014	-		1.067	Continuing	Continuing	Continuing	
Tech. Eng. Services(MOD)	C/FP	Camber Corp.:Huntsville, AL	0.199	0.259	May 2012	0.269	Jun 2013	0.157	May 2014	-		0.157	Continuing	Continuing	Continuing	
Tech. Eng. Services(Anti-Tank)	C/FP	Camber Corp.:Huntsville, AL	2.258	1.224	May 2012	0.535	May 2013	0.000		-		0.000	0.000	4.017		
Subtotal			2.457	1.919		2.031		1.224		0.000		1.224				
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			18.127	39.173		35.859		23.754		0.000		23.754				
Remarks																

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PE 0206623M: MC Ground Cmbt Spt Arms Sys
Navy

R-1 Line #189

R-1 ITEM NOMENCLATURE

PE 0206623M: MC Ground Cmbt Spt Arms
Sys

1555: Lt Armored Vehicle Prog

[illegible]

2014PB - 0206623M - 1555

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy														DATE: April 2013														
APPROPRIATION/BUDGET ACTIVITY														R-1 ITEM NOMENCLATURE								PROJECT						
1319: Research, Development, Test & Evaluation, Navy														PE 0206623M: MC Ground Cmbt Spt Arms								1555: Lt Armored Vehicle Prog						
BA 7: Operational Systems Development														Sys														
LAV Survivability Upgrades (Advanced Suspension)	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
																								</				

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0206623M: MC Ground Cmbt Spt Arms
Sys

PROJECT

1555: Lt Armored Vehicle Prog

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
LAV Anti-Tank System				
IOC	3	2017	3	2017
Developmental Testing	4	2013	3	2014
Operational Testing	4	2014	2	2015
MS-C	2	2015	2	2015
Production Contract Award	3	2015	3	2015
LAV Survivability Upgrades (Advanced Suspension)				
Production Contract Award	4	2016	4	2016
Operational Testing	3	2016	1	2017
Developmental Testing	2	2015	2	2016
MS-C	4	2016	4	2016
MS-B	3	2013	3	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 1901: MC Grnd Wpnry Prod Improvement			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
1901: MC Grnd Wpnry Prod Improvement	23.280	9.215	12.737	14.481	-	14.481	9.521	7.133	5.874	5.979	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note												
Disable Point Target project is a new start in FY13.												
A. Mission Description and Budget Item Justification												
This project develops joint and Marine Corps unique improvements to infantry weapons technology, non-lethal systems technology, improvements for Night Vision Equipment, Rifle Combat Optics, Family of Individual Optics, and monitors national and international weapons developments.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Company and Battalion Mortars. Articles: Description: This funding is used to provide system development and demonstration, pre-Milestone C activities, and purchasing Non-developmental Items (NDI) for testing and evaluation of candidate systems and modifications for Company and Battalion Mortars. FY 2012 Accomplishments: Conducted efforts for development and demonstration of Mortar Ballistic Computer software applications on Android hardware platforms.									0.441 0	0.000	0.000	
Title: Infantry Weapons Modifications Articles: Description: The Infantry Weapons Modification program develops joint and Marine Corps unique improvements to infantry weapons and fire support technology. The improvements address critical operational and logistics deficiencies in fielded infantry weapon systems and equipment. Efforts will be conducted to analyze, design, develop, and field modifications. This allows timely response to safety and performance issues that require immediate attention to maintain operational readiness. Beginning in FY14, Infantry Weapons Modifications is included under Family of Infantry Weapons Systems to form a single level of effort funding line.									0.818 0	1.257 0	0.000	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys	PROJECT 1901: MC Grnd Wpnry Prod Improvement		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Conducted efforts to test collapsible buttstocks and floating barrels on various rifles used by Infantry Marines to evaluate their performance as compared to requirements. Also evaluated performance of various types of ammunition currently under development.				
FY 2013 Plans: Conduct Product Improvement Program testing for various Machine Gun Mounts, including but not limited to the M192 Lightweight Ground Mount which is used with M249 Light Machine Gun, and the XM205 Lightweight Tripod which is used with the M2 machine gun and the Mk 19 grenade launcher. Continue to evaluate performance of various types of ammunition currently under development. Continue efforts to analyze, design, develop, and field modifications.				
Title: Mission Payload Module (MPM).		1.882	4.606	5.891
Articles:		0	0	0
Description: The Mission Payload Module (MPM) is a new weapon system that launches non-lethal payloads to greater ranges with broader area coverage, greater duration of effects, and volume of fire. This will be initially deployed from the Marine Corps Transparent Armored Gun Shield (MCTAGS). MPM will deliver counter-personnel, non-lethal effects applicable to controlling crowds, denying/defending areas, controlling access, and engaging threats.				
FY 2012 Accomplishments: Completed all statutory and regulatory acquisition documentation to receive a favorable Milestone B decision and permission to release the RFP for the Engineering and Manufacturing Development (EMD) Phase. FY 2012 accomplishments also included, but are not limited to, a System Requirement Review, and a Technology Readiness Review of the weapon system and munitions which resulted in a Technology Readiness Level of six (TRL-6).				
FY 2013 Plans: Work with industry to finalize system design and conduct pre-developmental test activities to determine system readiness for developmental testing. Pre-developmental test activities will include system and subsystems level testing, Early User Evaluation (EUE), and proof of principle demonstration by the contractor. In conjunction with finalizing system design, conduct a Preliminary Design Review and Critical Design Review, develop draft operator and maintenance manuals, and conduct Instructor & Key Personnel Training (I&KPT) in support of EUE.				
FY 2014 Plans: Complete the developmental testing activities, conduct Functional Configuration Audit (FCA) and System Verification Review, and Operational Assessment (OA) to prepare for the Initial Operational Testing and Evaluation following a favorable Milestone C.				

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
Complete preliminary Level of Repair Analysis (LORA) and Supportability Demonstration and prepare all statutory and regulatory acquisition documentation for Milestone C to execute the Low Rate Initial Production option on the EMD Contract.			FY 2014
Title: Night Vision Mod Line. (NVM) Articles: Description: The Night Vision Mod Line provides sustainment of existing systems through modifications and life-cycle management efforts. Activities focus on the maintenance and update of integrated and increasingly organic logistics support. The modifications funded by this program focus primarily on correction of deficiencies (e.g., safety, size, weight, and power) and service life extension of current systems. The program supports over 30 distinct systems and a combined total of over 600,000 principal end items. This funding line also supports the Marine Corps organic approach to night vision equipment total life-cycle sustainment through the acquisition and procurement of expeditionary maintenance systems. Beginning in FY14 the Night Vision Modification (NVM) Program is combined with the Family of Optical Systems and Modifications (FOSAM) program to form a single level of effort line. FY 2012 Accomplishments: Funded the development of an un-cooled Shortwave Infrared (SWIR) of SWIR Imagers. Developed prototype modification kits to convert stand-alone AN/PAS-13D Thermal Weapon Sights to an in-line configuration that can be used with magnified day optics. Conducted an analysis of alternatives to determine variable solutions for an improved eye-piece for the AN/PAS-28 Medium Range Thermal Biocular which would correct a deficiency that caused solar damage. FY 2013 Plans: Continue development and conduct testing of the conversion to in-line modification kits for the AN/PAS-13D Thermal Weapon Sights. Development of prototype modification kits to convert stand-alone AN/PAS-17C Miniature Night Sights to an in-line configuration that can be used with magnified day optics. Development of mount interface between in-line night vision devices and the host weapons, M249 and M240B. Conduct Size, Weight and Power (SWAP) reduction study for AN/PEQ-15 and AN/PEQ-16A.		2.315 0	2.392 0
Title: Escalation of Force-Equipment (EoF-E) Articles: Description: Escalation of Force Equipment (EoF-E) is a mod (level-of-effort) funding line to support/sustain all fielded Escalation of Force (EoF) equipment and capabilities. Additionally, EoF-E supports type-classification, testing and procurement of new advancements and technologies to provide an increased capability over existing or outdated equipment currently or associated in the Escalation of Force Mission Modules (EoF-MMs). FY 2012 Accomplishments:		0.053 0	0.300 0
			0.252 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys		PROJECT 1901: MC Grnd Wpnry Prod Improvement
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Evaluated Light Emitting Diode (LED) light sets to greatly enhance the Vehicle Check Point (VCP) capability within the EoF-MM. This new capability will better illuminate the inspection area within a VCP which will greatly increase the Warfighter's ability to inspect and detect threats such as IEDs inside vehicles. Also completed vibration, temperature and humidity testing for the Non-Lethal/Tube Launched Munition System (NL/TLMS). FY 2013 Plans: Assess upgrades to the EoF-MM, NL/TLMS, and LA-9/P Lasers to sustain/support equipment and capabilities. FY 2014 Plans: Assess upgrades to the EoF-MM, NL/TLMS, and LA-9/P Lasers to sustain/support equipment and capabilities.				
Title: Ocular Interruption (OI). Articles: Description: Ocular Interruption (OI) is the replacement of the 'Dazzling Laser' program for the LA-9/P and the Glare Mount 532P-M (Mini Green) laser. OI will be a 'non-damaging' dazzling system that will be used in Escalation of Force Missions. FY 2012 Accomplishments: Funded system intergration, test and evaluation, and Human Effects Center of Excellence support. FY 2013 Plans: Execute Indefinite Delivery Indefinite Quantity (IDIQ) contract to provide competitive system verification testing and follow on procurement. FY 2014 Plans: Prep for MS C and continue to fund MCOTEA for operational testing.		2.455 0	0.938 0	1.063 0
Title: Sniper System Capability Set (SSCS). Articles: Description: The intent of the Scout Sniper Capability Set (SSCS) program is to establish a consolidated kit that includes common items that are needed by sniper elements throughout the Marine Corps. The SSCS program is composed of a suite of items designed to support scout sniper employment. It includes precision rifles as well as ancillary equipment to include the Scout Sniper Ballistic Computer (SSBC) and Sniper Tripod. The SSCS is employed by sniper teams throughout the Marine Corps within infantry battalions, reconnaissance elements, and the Marine Corps Special Operations Command. FY 2012 Accomplishments:		0.002 0	0.315 0	0.323 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys		PROJECT 1901: MC Grnd Wpnry Prod Improvement
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Procured ammunition in support of M40 Modular Stock testing. FY 2013 Plans: Test the improved buttstock for the M110 Semi-Automatic Sniper System (SASS). The improved buttstock is a component of the M110 SASS conversion kit, which will increase the portability and human factors of the overall system, such as Length of Pull. Testing will require live-fire evaluation of multiple offerors' bid samples, and will involve dispersion and reliability testing, as well as a Limited User Evaluation. FY 2014 Plans: Support testing and evaluation of the integrated Scout Sniper Ballistic Computer/Hand Held Weather Station. This testing will support determination of a best value solution for a system that will provide improved first-round hit probability and reduced system weight and lifecycle cost. In addition, funds will be used for testing and evaluation of modifications to the M40 Series Sniper Rifle. Improvements will increase operational availability and reduce maintenance time and system weight, such as a lightweight barrel and integrated suppressor.				
Title: Disable Point Target (DPT) Articles: Description: The Disable Point Target (DPT) will be a Non-Lethal System(s) that will accurately engage/incapacitate a single individual/multiple engagements from 10-50 meters Threshold(T); 2-100 meters Objective(O) for a duration of 30 seconds (T) and 60 seconds (O). Capability will provide the Marine with an increased standoff distance during crowd control/human shield situations while simultaneously keeping Marines beyond the reach of a hostile threat. New start in FY13. FY 2013 Plans: Enter into a Milestone A, Technology Development Phase and conduct TD Phase activities. FY 2014 Plans: Continue to work TD Phase activities and develop all documentation to obtain into a Milestone B decision in 4th Quarter, FY15.		0.000	1.298 0	1.310 0
Title: Family of Optical Systems and Modification (FOSAM) Articles: Description: Program title changed at PB14 from Family of Optical Systems to Family of Optical Systems and Modifications (FOSAM). FOSAM is a level of effort program that provides for research and development, procurement, and assessment of optical systems and implementation of modifications for these systems as well as life-cycle management efforts. The research and development of future capabilities include, but are not limited, to fused/multi spectral (e.g., hand-held and weapon-mounted) optical and laser systems. Additionally this line supports the procurement of over 600,000 magnified day optics, thermal imagers, image intensifying, lasers, and illuminators principle end items (PEI) due to combat losses, wash-outs,and increases in Approved		1.249 0	1.631 0	4.116 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
Acquisition Objectives. Sustainment efforts include sustainment of optics capabilities and/or improvements to the performance, maintainability, supportability, service life, ergonomics, and safety enhancements.			
FY 2012 Accomplishments: Conducted an Electro-Optical Countermeasure (EOCM) study. Conducted an image enhancement study, with the objective identifying methods and technologies to improve component performance in all systems in the portfolio.			
FY 2013 Plans: Conduct a Benefits of Fusion Assessment. Conclude the EOCM study. Conduct an assessment to determine the benefits of head-mounted thermal systems and to compare various technological solutions. Conduct Human Systems Integration of Display Systems Study.			
FY 2014 Plans: Conduct Joint participation and Marine Corps unique activities for evaluation of safety, lethality, weight reduction and technology improvements for Marine Corps Small Arms night vision devices. Support improvements on the technology that is currently used and develop enabling technology to be used in future optical systems. Research efforts will continue to evaluate the possibility of combining/integrating disparate sensor technologies to increase the overall capability. FY14 increase reflects funding combined from the NVM line.			
Title: Family of Infantry Weapons Systems (FIWS)		0.000	0.000
Articles:			1.526 0
Description: Family of Infantry Weapons Systems (FIWS) is not a new start, but a new program title beginning in FY14 to include efforts previously funded by Infantry Weapons Modifications and Principle End Item Reprocurement programs. FIWS is a level of effort line that provides for continuous monitoring, research and development, assessment of and implementation of Joint Service and USMC unique system modifications. These efforts include: sustain weapon capability and/or improve the performance; maintainability; supportability; service life; ergonomics; and safety enhancements.			
FY 2014 Plans: Conduct Product Improvement Program testing for various Machine Gun Mounts, including but not limited to the M192 Lightweight Ground Mount which is used with M249 Light Machine Gun, and the XM205 Lightweight Tripod which is used with the M2 machine gun and the Mk 19 grenade launcher. Continue to evaluate performance of various types of ammunition currently under development. Will continue efforts to analyze, design, develop, and field modifications.			
Accomplishments/Planned Programs Subtotals		9.215	12.737
			14.481

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 1901: MC Grnd Wpnry Prod Improvement			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTEN/0603851M/2319A: JNLWS - Non Lethal Weapons	4.664	2.134	2.624		2.624	3.047	0.000	0.000	0.000	0.000	19.315
• PMC/220837: Escalation of Force - Equip (EoF-E)	1.372	1.661	1.119		1.119	0.321	1.602	1.505	1.532	Continuing	Continuing
• PMC/493000: Night Vision Equipment (NVE)	16.876	48.736	6.171		6.171	13.849	11.616	11.815	12.027	Continuing	Continuing
• PMC/220801: Mission Payload Module (MPM)	0.000	0.000	0.000		0.000	15.039	7.152	7.279	7.427	Continuing	Continuing
• PMC/220802: Ocular Interruption (OI)	0.000	0.000	2.302		2.302	13.166	6.021	4.620	4.684	Continuing	Continuing
• PMC/222001: Company and Battalion Mortars	1.226	1.309	0.838		0.838	0.991	1.249	0.000	0.000	0.000	14.915
• PMC/222002: Infantry Weapons Modifications	17.479	3.551	0.000		0.000	0.000	0.000	0.000	0.000	0.000	34.012
• PMC/222000: Sniper System Capability Sets	6.953	1.148	10.584		10.584	4.023	0.004	0.007	0.003	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
These programs range from off-the-shelf modifications to developmental items for safety, reliability, and technology up-grades to meet Marine Corps requirements.											
E. Performance Metrics											
Milestone Reviews											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 1901: MC Grnd Wpnry Prod Improvement					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Payload Module	C/CPFF	EMD-Contract:Quantico, VA	0.000	0.000		2.860	Apr 2013	5.891	Oct 2013	-		5.891	Continuing	Continuing	Continuing
Ocular Interruption	C/FFP	EMD-Contract:Quantico, VA	0.000	0.000	Jun 2012	0.588	Apr 2013	0.400	Sep 2014	-		0.400	Continuing	Continuing	Continuing
Company and Battalion Mortars	MIPR	Picatinny Arsenal:Picatinny, NJ	0.441	0.441	Mar 2012	0.000		0.000		-		0.000	0.000	0.882	
Escalation of Force -Equip	Various	MCSC:Quantico, VA	0.053	0.053	Oct 2012	0.300	Nov 2013	0.252	Jan 2014	-		0.252	Continuing	Continuing	Continuing
Infantry Weapons Mods	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.400	Jan 2013	0.000		-		0.000	0.000	0.400	
Family of Infantry Weapons Systems	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.000		0.500	Jan 2014	-		0.500	0.000	0.500	
Disable Point Target (DPT)	C/CPFF	MCSC:Quantico, VA	0.000	0.000		1.298	Jul 2013	1.310	Jun 2014	-		1.310	Continuing	Continuing	Continuing
Ocular Interruption	Various	AFRL:San Antonio,TX	0.087	0.420	Feb 2012	0.000	Nov 2012	0.000		-		0.000	Continuing	Continuing	Continuing
Mission Payload Module	Various	AFRL:San Antonio,TX	1.062	0.384	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Night Vision Mod	Various	Various (Contract Industry):TBD	3.333	1.557	Dec 2011	1.582	Nov 2012	0.000		-		0.000	0.000	6.472	
Night Vision Mod	Various	NVESD:Ft. Belvoir, VA	4.068	0.000		0.000		0.000		-		0.000	0.000	4.068	
Scout Sniper Cap Sets	C/FFP	MCSC:Quantico, VA	0.618	0.000		0.159	Apr 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Family of Optical Systems and Modification	Various	Night Vision Lab:Ft. Belvoir, VA	0.935	0.291	Dec 2011	0.573	Nov 2012	0.634	Nov 2013	-		0.634	Continuing	Continuing	Continuing
Family of Optical Systems and Modification	Various	Contract Industry:TBD	0.777	0.443	Dec 2011	0.511	Nov 2012	2.112	Nov 2013	-		2.112	Continuing	Continuing	Continuing
Subtotal			11.374	3.589		8.271		11.099		0.000		11.099			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys						PROJECT 1901: MC Grnd Wpnry Prod Improvement			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Payload Module	Various	MCSC:Quantico, VA	1.812	1.498	Nov 2011	1.746	Apr 2013	0.000		-		0.000	0.000	5.056	
Night Vision Mod	Various	WR:Various Navy Labs	2.390	0.547	Dec 2011	0.562	Nov 2012	0.000		-		0.000	0.000	3.499	
Family of Optical Systems and Modification	Various	MCSC:Quantico, VA	0.554	0.331	Dec 2011	0.374	Nov 2012	0.378	Nov 2013	-		0.378	0.000	1.637	
Family of Infantry Weapons Systems	Various	MCSC:Qantico, VA	0.000	0.000		0.000		0.060	Aug 2014	-		0.060	0.000	0.060	
Ocular Interruption	Various	Various: Navy Labs:Various Navy Labs	0.362	0.356	Aug 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Ocular Interruption	Various	Travel:Quantico, VA	0.040	0.028	Aug 2012	0.038	Sep 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Ocular Interruption	Various	MCSC:Quantico, VA	0.880	1.204	Jun 2012	0.312	Sep 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Infantry Weapons Mods	Various	Travel/IMPAC:Quantico, VA	0.069	0.025	Sep 2012	0.060	Aug 2013	0.000		-		0.000	0.000	0.154	
Family of Optical Systems and Modification	Various	WR:Various Navy Labs	0.000	0.000		0.000		0.551	Nov 2013	-		0.551	0.000	0.551	
Subtotal			6.107	3.989		3.092		0.989		0.000		0.989			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ocular Interruption	Various	MCOTEA:Quantico, VA	0.387	0.447	Sep 2012	0.000		0.663	Nov 2013	-		0.663	0.000	1.497	
Infantry Weapons Mods	Various	NSWC Crane:Crane, IN	2.845	0.523	Mar 2012	0.400	Feb 2013	0.000		-		0.000	0.000	3.768	
Family of Optical Systems and Modification	Various	NSWC Dahlgren:Dahlgren, VA	0.000	0.000		0.000		0.269	Nov 2013	-		0.269	0.000	0.269	
Family of Infantry Weapons Systems	Various	NSWC Crane:Crane, IN	0.000	0.000		0.000		0.587	Feb 2014	-		0.587	0.000	0.587	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 1901: MC Grnd Wpnry Prod Improvement					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Infantry Weapons Systems	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.000		0.379	Feb 2014	-		0.379	0.000	0.379	
Night Vision Mod	Various	NSWC Dahlgren:Dahlgren, VA	0.221	0.211	Apr 2012	0.248	Nov 2012	0.000		-		0.000	0.000	0.680	
Infantry Weapons Mods	C/FFP	MCOTEA:Quantico, VA	0.226	0.000		0.000		0.000		-		0.000	0.000	0.226	
Infantry Weapons Mod	C/FFP	MCSC:Quantico, VA	1.569	0.270	Sep 2012	0.397	Feb 2013	0.000		-		0.000	0.000	2.236	
Family of Optical Systems and Modification	Various	ESED:Fallbrook, CA	0.252	0.184	Apr 2012	0.173	Dec 2012	0.172	Nov 2013	-		0.172	0.000	0.781	
Scout Sniper Cap Sets	C/FFP	MCSC:Quantico, VA	0.299	0.002	Mar 2012	0.156	Apr 2013	0.323	Feb 2014	-		0.323	0.000	0.780	
Subtotal			5.799	1.637		1.374		2.393		0.000		2.393	0.000	11.203	
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			23.280	9.215		12.737		14.481		0.000		14.481			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

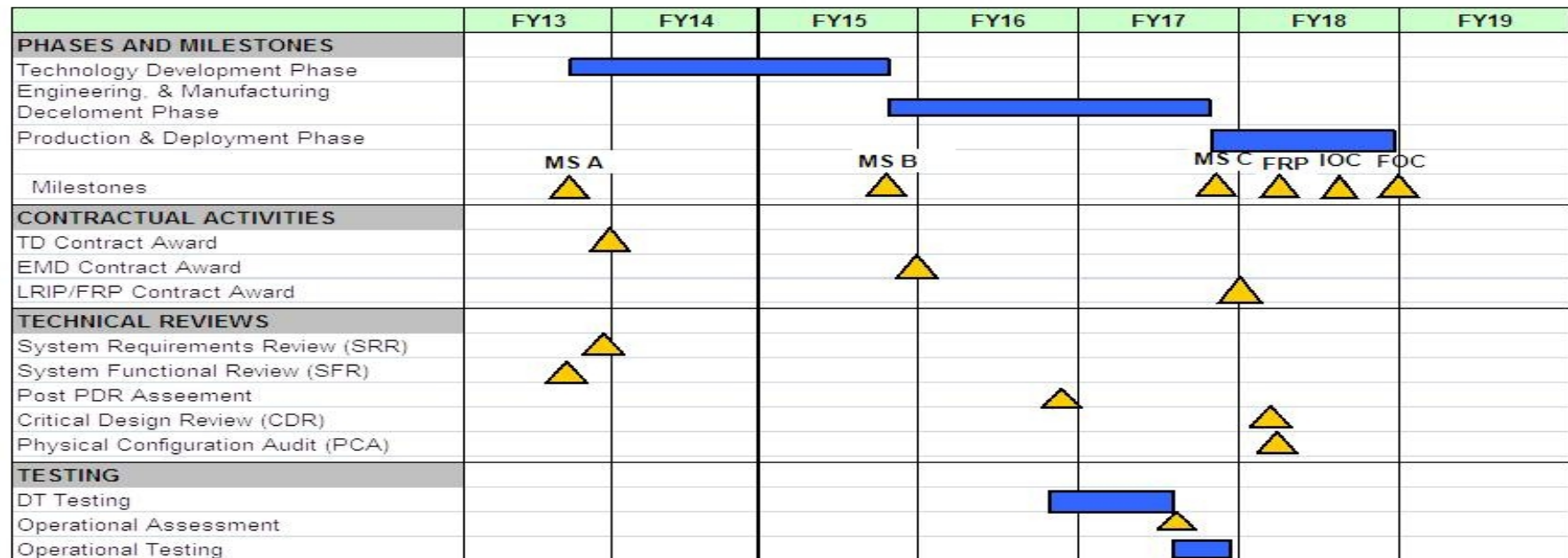
R-1 ITEM NOMENCLATURE

PE 0206623M: *MC Ground Cmbt Spt Arms Sys*

PROJECT

1901: *MC Grnd Wpnry Prod Improvement*

DPT Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

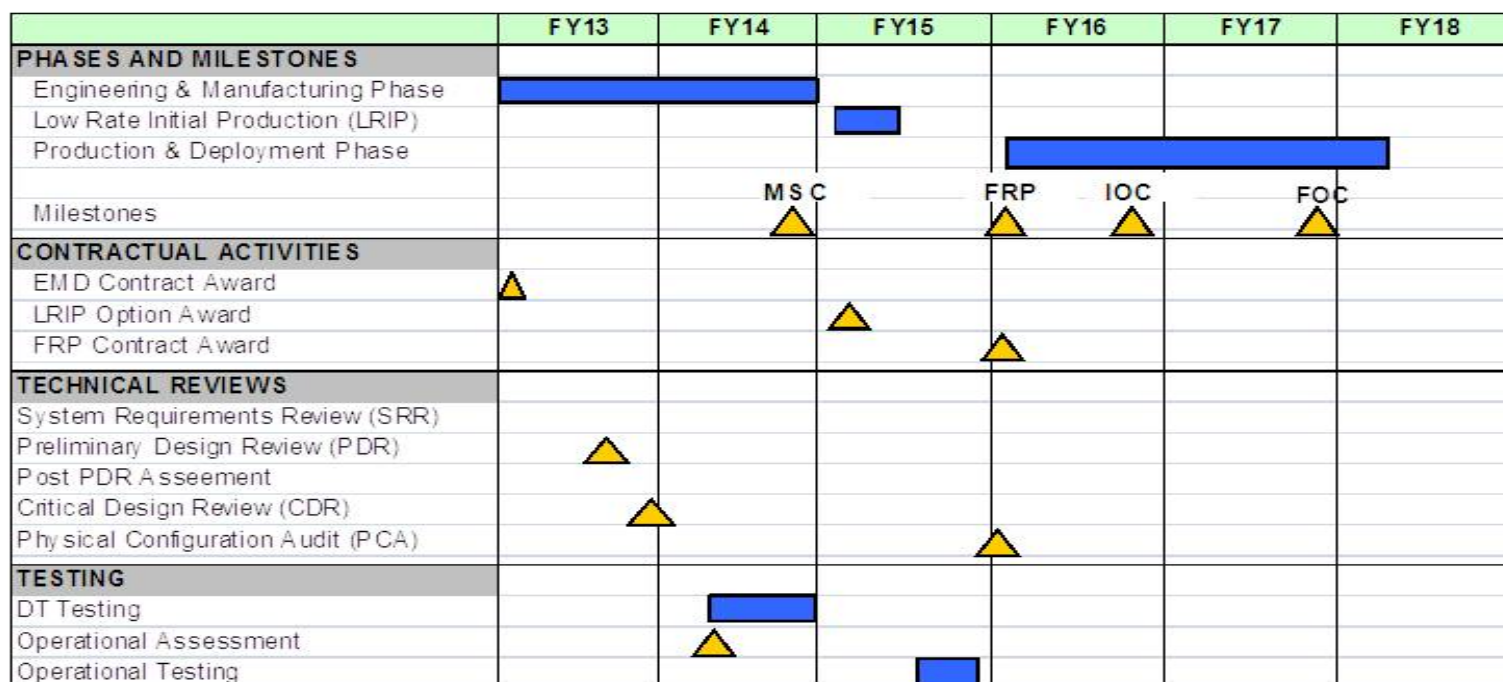
R-1 ITEM NOMENCLATURE

PE 0206623M: *MC Ground Cmbt Spt Arms*
Sys

PROJECT

1901: *MC Grnd Wpnry Prod Improvement*

MISSION PAYLOAD MODULE NON-LETHAL WEAPON SYSTEM



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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

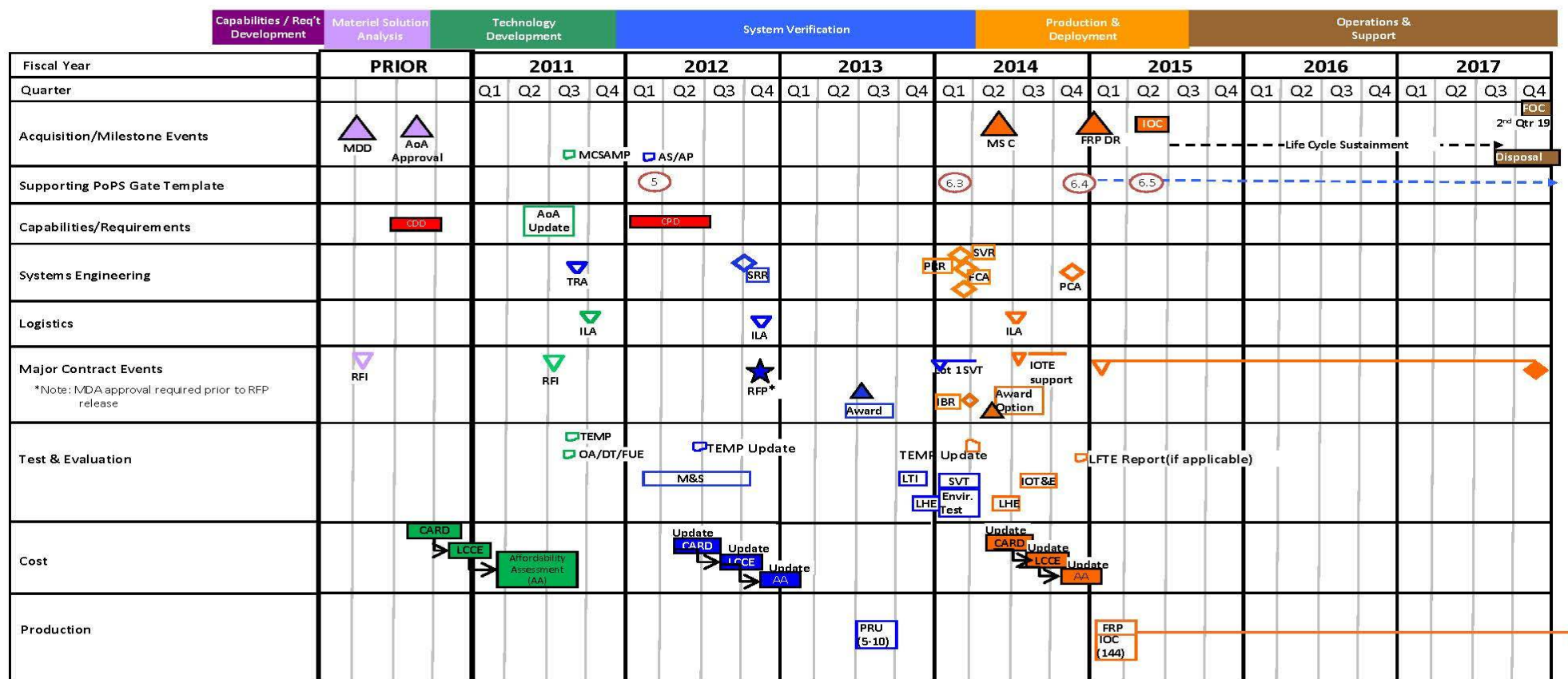
APPROPRIATION/BUDGET ACTIVITY1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development**R-1 ITEM NOMENCLATURE**

PE 0206623M: MC Ground Cmbt Spt Arms Sys

PROJECT

1901: MC Grnd Wpnry Prod Improvement

USMC

Ocular Interruption Schedule V2 RFP Aug

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1901				
MPM - Engineering & Manufacturing Phase	1	2012	4	2014
MPM - Low Rate Initial Production (LRIP)	1	2015	2	2015
MPM - Production & Deployment Phase	1	2016	1	2018
MPM - EMD Contract Award	1	2013	1	2013
MPM - LRIP Contract Award	1	2015	1	2015
MPM - Full Rate Production Contract Award	1	2016	1	2016
DPT - Technical Development Phase	4	2013	4	2015
DPT - EMD	4	2015	4	2017
DPT - LRIP	4	2017	4	2017
DPT - Critical Design Review	1	2018	1	2018
DPT - FRP	1	2018	1	2018
OI - IDIQ	3	2013	1	2014
OI - Test Unit Option Executed	2	2014	2	2014
OI - FRP Option Award	1	2015	4	2017
OI - Preliminary Design Review	4	2013	4	2013
OI - Functional Configuration Audit	1	2014	1	2014
OI - Physical Configuration Audit	4	2014	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2086: Soldier/Marine Enhancement			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2086: Soldier/Marine Enhancement	16.667	5.220	3.041	6.146	-	6.146	5.234	5.353	5.425	5.521	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
Marine Expeditionary Rifle Squad (MERS) mission is to manage the infantry squad "squad as a system" by conducting integration, systems engineering, human factors, and modernization efforts across all the products that are worn, carried, and consumed by the rifle squad. Physical integration, capability analysis, modeling and simulation, ergonomics, and configuration management are facilitated by this program in working with the various program managers and project officers in the development of their unique items that contribute to the squads overall capabilities. Weight and volume management are fundamental considerations in the insertion or modernization of any squad equipment. MERS works with Joint and NATO soldier modernization programs to harvest new technologies to increase the capability of the rifle squad. The program also ensures the integration of the rifle squad into the various mobility platforms currently in service and being developed to ensure a Marine and his equipment can operate effectively. This program is essential to ensure the combined synergistic equipment effects enhance the war-fighting functions of the Marine rifle squad towards the strategic Marine Corps war-fighting vision for the future.												
Marine Enhancement Program (MEP) provides Research, Development, Test and Evaluation funding for low visibility, low cost items. It focuses on items of equipment which will benefit the individual Marine by reducing the load, increasing survivability, enhancing safety, and improving combat effectiveness. The emphasis of the program is on non-developmental item / commercial off the shelf (NDI/COTS) available items which can be quickly evaluated and fielded. This program is coordinated with the Army's Soldier Enhancement Program (SEP).												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Marine Enhancement Program (MEP)									2.275	0.796	3.073	
									0	0	0	
FY 2012 Accomplishments:												
Solar Portable Adaptor Communication Equipment Systems II (SPACES GEN II) efficiencies; developed infantry patrol planning tool for movement of patrols; developed enhanced hearing protection, and material and retention technology for new ECH helmet.												
FY 2013 Plans:												
Based on the mission and the nature of the MEP as an accelerated acquisition process and based on future MEP candidate submissions/selections the projected projects we may fund for FY13 are yet to be determined.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
FY14 funding increase is based on an anticipated increase in FY14 MEP candidate submissions/selections. The exact number of projects is yet to be determined.			
Title: Marine Expeditionary Rifle Squad (MERS)			
Articles:		2.945 0	2.245 0
FY 2012 Accomplishments: Analysis of weight related injuries in the operating forces, blast injury probability in a Pacific jungle environment with latest equipment, infantry equipment integration, linkage of all squad programs in a project management plan, transfer of Gruntworks to an onbase location, operation of Marine Corps Load Effects Assessment Program, and study of in theater weight and thermal burdens.			3.073 0
FY 2013 Plans: Continue to support all the Marine Corps Systems Command program offices that provide equipment to the Marine rifle squad or provide mobility platforms that support the squad. Resource and utilize the Gruntworks Squad Integration Facility as an asset to execute integration projects and usability trials. Conduct usability trials and limited user evaluations for Joint Battle Command Platform at the infantry platoon and squad level. Develop integrated seating solutions for combat equipped Marines for ACV, MPC, JLTV and other mobility programs and synchronize seat belt and retention systems among the platforms. Conduct R&D on headborne systems in conjunction with Army headborne system project. Conduct surveys with post deploying infantry battalions on usability and integration of equipment utilized during deployment. Conduct weapon system R&D integration of powered rail system and rifle accessory control unit. Conduct human performance testing of Marines utilize current and prototype configurations of infantry rifle squad equipment. Analyze user requirements for replacement solution for the PRC-153 Integrated Intra Squad Radio. Evaluate and transition technologies from ONR and other S&T activities that enhance capabilities of the squad or provide a desired capability for implementation of Expedition MAGTF Operations (EMO). Seek weight and volume reduction replacements for current infantry equipment that support integration of components.			
FY 2014 Plans: Continue to support all the Marine Corps Systems Command program offices that provide equipment to the Marine rifle squad or provide mobility platforms that support the squad. Resource and utilize the Gruntworks Squad Integration Facility as an asset to execute integration projects and usability trials. Conduct usability trials and limited user evaluations for Joint Battle Command Platform at the infantry platoon and squad level. Develop integrated seating solutions for combat equipped Marines for ACV, MPC, JLTV and other mobility programs and synchronize seat belt and retention systems among the platforms. Conduct R&D on headborne systems in conjunction with Army headborne system project. Conduct surveys with post deploying infantry battalions on usability and integration of equipment utilized during deployment. Conduct weapon system R&D integration of powered rail system and rifle accessory control unit. Conduct human performance testing of Marines utilizing current and prototype configurations of infantry rifle squad equipment. Analyze user requirements for replacement solution for the PRC-153 Integrated			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>			PROJECT 2086: <i>Soldier/Marine Enhancement</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2012	FY 2013	FY 2014		
Intra Squad Radio. Evaluate and transition technologies from ONR and other S&T activities that enhance capabilities of the squad or provide a desired capability for implementation of Expedition MAGTF Operations (EMO). Seek weight and volume reduction replacements for current infantry equipment that support integration of components. Implement requirements from MERS Capabilities Development Document that will be finalized in FY13.											
Accomplishments/Planned Programs Subtotals							5.220	3.041	6.146		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC BLI 220800: <i>Marine Enhancement Program</i>	3.266	2.330	1.313		1.313	3.285	3.135	2.735	2.784	0.000	32.789
Remarks											
D. Acquisition Strategy											
Non Developmental Item/Commercial off the Shelf (NDI/COTS)											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>						PROJECT 2086: <i>Soldier/Marine Enhancement</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Product Development	C/FFP	Various:Various	0.000	0.000		0.000		0.700	Mar 2014	-		0.700	0.000	0.700	
MEP Product Development	C/FFP	Marine Corps:Quantico, VA	2.372	0.650	Mar 2012	0.597	Mar 2013	2.023	Mar 2014	-		2.023	0.000	5.642	
MERS Product Development	C/FFP	Marine Corps Systems Command:Quantico, VA	2.490	1.132	Mar 2012	0.805	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			4.862	1.782		1.402		2.723		0.000		2.723			
Remarks Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs. Contract Method reflects where the majority of the funding is allocated. Contract award date reflects the first of multiple awards.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Operational Test & Evaluation	C/FFP	Marine Corps Systems Command:Quantico, VA	0.000	0.000		0.600	Mar 2013	0.000		-		0.000	0.000	0.600	
MEP Operational Technical Support	WR	Various:Various	0.000	0.000		0.000		0.700	Nov 2013	-		0.700	0.000	0.700	
MERS Technical Support	WR	Various:Various	0.000	0.000		0.000		1.400	Jan 2014	-		1.400	0.000	1.400	
MEP Operational Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	1.514	0.400	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			1.514	0.400		0.600		2.100		0.000		2.100			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy													DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development							R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2086: Soldier/Marine Enhancement				
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs. Contract Method reflects where the majority of the funding is allocated. Contract award date reflects the first of multiple awards.															
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Developmental Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	1.872	1.122	Mar 2012	0.840	Mar 2013	0.973	Mar 2014	-		0.973	Continuing	Continuing	Continuing
MEP Developmental Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	3.760	0.569	Mar 2012	0.199	Mar 2013	0.350	Mar 2014	-		0.350	Continuing	Continuing	Continuing
Subtotal			5.632	1.691		1.039		1.323		0.000		1.323			
Remarks Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs, therefore a specific contract award date cannot be identified. Contract award date reflects the first of multiple awards.															
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Program Mgmt/ Tech Spt	C/FFP	Marine Corps Systems Command:Quantico, VA	2.534	0.691	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
MEP Program Mgmt/Tech Spt	C/FFP	Marine Corps Systems	2.125	0.656	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>				PROJECT 2086: <i>Soldier/Marine Enhancement</i>				

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Command:Quantico, VA													
Subtotal			4.659	1.347		0.000		0.000		0.000		0.000			

Remarks
 Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs. Contract Method reflects where the majority of the funding is allocated. Contract award date reflects the first of multiple awards.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.667	5.220	3.041	6.146	0.000	6.146			

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2112: Lightweight 155mm Howitzer			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2112: Lightweight 155mm Howitzer	0.000	0.000	0.000	0.200	-	0.200	0.202	0.204	0.000	0.000	0.000	0.606
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note												
This project is a new start in FY-14.												
A. Mission Description and Budget Item Justification												
The Lightweight 155mm Howitzer (LW155), also known as the M777A2, provides direct, reinforcing, and general support fires to maneuver forces. It replaces all howitzers in all missions in the USMC and replaces the M198 howitzer as the general support artillery for light forces in the Army. The LW155 fires unassisted projectiles to a range of 15 miles and assisted projectiles to 19 miles. The addition of the digital fire control system enables the weapon to program and fire the improved Excalibur precision-guided munition to ranges in excess of 25 miles with better than 10-meter Circular Error Probable (CEP) accuracy. The LW155 is the first ground combat system whose major structures are made of high strength titanium alloy and the system makes extensive use of hydraulics to operate the breech, load tray, recoil and wheel arms. The combination of titanium structures and the use of hydraulic systems resulted in a significant weight savings over the M198 system (7000 lbs.). Compared to the M198, the LW155 emplaces three-times faster and displaces four-times faster. It traverses 32 percent more terrain worldwide and is 70 percent more survivable than the M198. The LW155 was first introduced into the Marine Corps in April 2005 and since then 10th, 11th, 12th and 14th Marines and the schoolhouses have been fielded. The Army has been fielding the system to its Stryker Brigades and Fires Brigades. The LW155 is currently in OEF with both Services. New start in FY-14.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: ECP Material Solutions Articles: FY 2014 Plans: Funding will support the LW155 Howitzer's requirements for research and development to remedy technical issues arising from the field or validated performance enhancements. These will include areas such as the cannon assembly, titanium structures, and fire control systems. Software Engineering will integrate the Electronic Thermal Warning Device into the Digital Fire Control System supporting improved misfire procedures.									0.000	0.000	0.200 0	
									Accomplishments/Planned Programs Subtotals			0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>				PROJECT 2112: <i>Lightweight 155mm Howitzer</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Complete</u>	<u>Total Cost</u>
• 218500: <i>PMC - LW155</i>	21.552	17.913	3.655		3.655	7.510	4.293	0.110	0.112	0.000	1,329.147
Remarks											
D. Acquisition Strategy											
This will be a collaborative effort between the Program Management Office and the Armaments Research and Development Center at Picatinny Arsenal.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>							R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>					PROJECT 2112: <i>Lightweight 155mm Howitzer</i>			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Engineering	MIPR	ARDEC:Picatinny Arsenal, NJ	0.000	0.000		0.000		0.200	Jan 2014	-		0.200	0.000	0.200	
Subtotal			0.000	0.000		0.000		0.200		0.000		0.200	0.000	0.200	

Remarks Funding will support Software Engineering to integrate the Electronic Thermal Warning Device into the Digital Fire Control System supporting improved misfire procedures.															
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	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		0.000		0.200		0.000		0.200	0.000	0.200	

Remarks															
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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2237: Amphibious Vehicle Test			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2237: Amphibious Vehicle Test	0.000	0.934	0.933	0.949	-	0.949	0.965	0.981	0.994	1.012	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The Amphibious Vehicle Test Branch (AVTB) is a developmental and integrated Test and Evaluation organization and the Department of Defense's only certified amphibious vehicle test capability. AVTB executes developmental tests and force development experiments for Marine Corps Systems Command (MCSC), Program Executive Officer Land Systems (PEO LS) and other Department of the Navy and Department of Defense Research and Development organizations; as well as supports Headquarters United States Marine Corps and USMC Operational Force units with unique resources and technical expertise. The AVTB mission is to plan, execute, analyze and report developmental and integrated test and evaluation events in order to characterize the performance of amphibious and ground combat vehicle systems and enable informed acquisition decisions.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Support Services									0.388	0.373	0.507	
									Articles: 0	0	0	
FY 2012 Accomplishments:												
Provided the necessary support assets required to conduct safe and accurate simultaneous developmental testing on amphibious vehicle prototypes. Provided the maintenance, refurbishment, upgrade, and replacement of test equipment. Provided program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support scheduled amphibious vehicle developmental testing. This included the upgrade of instrumentation for Over-The-Horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management operations, general accounting, and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment.												
FY 2013 Plans:												
Provide the necessary support assets required to conduct safe and accurate simultaneous developmental testing on amphibious vehicle prototypes. Provide the maintenance, refurbishment, upgrade, and replacement of test equipment. Provide program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support scheduled amphibious vehicle developmental testing. This includes the upgrade of instrumentation for Over-The-Horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
operations, general accounting, and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment.			
FY 2014 Plans: Provide the necessary support assets required to conduct safe and accurate simultaneous developmental testing on amphibious vehicle prototypes. Provide the maintenance, refurbishment, upgrade, and replacement of test equipment. Provide program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support scheduled amphibious vehicle developmental testing. This includes the upgrade of instrumentation for Over-The-Horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management operations, general accounting, and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment.			
Title: Contracts		0.546	0.560
Articles:		0	0
FY 2012 Accomplishments: Provided funding for necessary services from Marine Corps Base, Camp Pendleton, California for electricity, heating, and other power charges; and long distance telephone support. Provided funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).			
FY 2013 Plans: Provide funding for necessary services from Marine Corps Base, Camp Pendleton, California for electricity, heating, and other power charges; and long distance telephone support. Provide funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).			
FY 2014 Plans: Provide funding for necessary services from Marine Corps Base, Camp Pendleton, California for electricity, heating, and other power charges; and long distance telephone support. Provide funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).			
Accomplishments/Planned Programs Subtotals		0.934	0.933
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>
<u>D. Acquisition Strategy</u> Work will be led in-house. Necessary contractor support will be provided by Marine Corps Base Camp Pendleton via existing contracts. General Services Administration will be used for vehicle leasing contract.		
<u>E. Performance Metrics</u> N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>						PROJECT 2237: <i>Amphibious Vehicle Test</i>			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Boat Ops & Maint	C/FFP	RCO Camp Pendleton:Camp Pendleton	0.000	0.446	Feb 2012	0.000		0.478	Feb 2014	-		0.478	Continuing	Continuing	Continuing
Facility/Test Infrastructure	C/FFP	NAVFAC, SW:Camp Pendleton, CA	0.000	0.106	Sep 2012	0.275	Sep 2013	0.063	Sep 2014	-		0.063	Continuing	Continuing	Continuing
Test Equipment/Instr	C/FFP	PM AAA:Woodbridge, VA	0.000	0.023	Sep 2012	0.000		0.000		-		0.000	0.023	0.046	
Test Equipment/Instr	C/FFP	MCTSSA:Camp Pendleton, CA	0.000	0.060	Apr 2013	0.133	Sep 2013	0.014	Sep 2014	-		0.014	Continuing	Continuing	Continuing
Technical/Mgmt Support	C/FFP	MCSC:Quantico, VA	0.000	0.000		0.210	Jul 2013	0.267	Jul 2014	-		0.267	Continuing	Continuing	Continuing
Subtotal			0.000	0.635		0.618		0.822		0.000		0.822			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Article Ops& Maint/ Fuel Consumables and Materials	Various	Camp Pendleton:Camp Pendleton, CA	0.000	0.239	Sep 2012	0.295	Sep 2013	0.107	Sep 2014	-		0.107	Continuing	Continuing	Continuing
Subtotal			0.000	0.239		0.295		0.107		0.000		0.107			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Equipment/Instr Calibration	WR	NSA:Corona, CA	0.000	0.020	Apr 2012	0.020	Apr 2013	0.020	Apr 2014	-		0.020	Continuing	Continuing	Continuing
Data Management	WR	NSWC:Fallbrook, CA	0.000	0.040	Jul 2013	0.000		0.000		-		0.000	0.040	0.080	
Subtotal			0.000	0.060		0.020		0.020		0.000		0.020			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy										DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys					PROJECT 2237: Amphibious Vehicle Test				
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	0.000	0.934		0.933		0.949		0.000		0.949				

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2315: Training Devices/Simulators			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2315: Training Devices/ Simulators	65.871	14.355	19.492	9.697	-	9.697	12.453	11.124	9.729	9.880	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
(U) Training simulators supported by this program element include Combined Arms Command & Control Training Upgrade System (CACCTUS), Deployable Virtual Training Environment (DVTE), Multiple Integrated Laser Engagement System (MILES) 2000, Marine Air-Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Enhancements, Range Modernization/Transformation (RM/T), Supporting Arms Virtual Trainer (SAVT), Squad Immersive Training Environment (SITE) and Training Support. These training systems provide tactical weapons and decision-making skill training from entry level through (MAGTF) staff level. Systems will be interoperable and will allow for mission planning, mission rehearsal and concept evaluation in a valid synthetic environment with objective, and timely feedback. Through live, virtual and constructive simulation, the Marine Corps will have the means to train jointly, educate, develop doctrine and tactics, formulate and assess operational plans, assess warfighting situations, and define operational requirements.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
Title: Combined Arms Command and Control Trainer Upgrade System (CACCTUS)										3.363	5.828	3.725
										Articles: 0	0	0
Description: Combined Arms Command and Control Trainer Upgrade System (CACCTUS) is a combined arms staff training system that when fully fielded will enable comprehensive Marine Corps staff, unit, and team training both at home station Combined Arms Staff Training (CAST) facilities and through distributed training involving CAST facilities across the Marine Corps. CACCTUS is an upgrade to the USMC's CAST that provides fire support training for the Marine Air Ground Task Force (MAGTF) elements up to and including Marine Expeditionary Brigade (MEB) level. Using the system components and simulation capabilities, two dimensional (2D) and three dimensional (3D) visuals, interfaced Command, Control, Communications, Computers and Intelligence (C4I), synthetic terrain, and an After Action Review (AAR), the concept of operations for the CACCTUS system is to immerse the trainees in a realistic, scenario-driven environment to enable commands and their battle staffs to train or rehearse combined arms tactics, techniques and procedures for decision-making processes.												
										FY 2012 Accomplishments:		

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
Continued the development levels of MEB Staff training for modeling and simulation and greater Command, Control, Communications, Computers and Intelligence Systems Reconnaissance (C4ISR) capabilities in support of the integration of key elements of the Live, Virtual and Constructive (LVC) resources. FY 2013 Plans: Increase the development of LVC training capabilities and to refine warfare specific software application in support of forward observer to regimental staff training requirements. FY 2014 Plans: Continue development of LVC training capabilities (with initiation of some distributed operations capability) and to complete refinement of warfare specific software application in support of regimental staff training requirements.			
Title: Deployable Virtual Training Environment (DVTE) Description: DVTE is a laptop Personal Computer (PC) based simulation system capable of emulating organic and supporting Infantry Battalion weapons systems and training scenarios to facilitate training and readiness based training. Its portable configuration allows Marines to train in areas where there are few options for training garrison, aboard ship, at remote reserve locations, and deployed. DVTE training includes language and culture training, platoon and squad level tactics, employment of supporting arms, and various Recognition of Combatants (ROC) packages. DVTE is part of a Commander's "training toolkit" contributing to the building block approach to standards based training focusing on achieving an improved level of combat readiness. FY 2012 Accomplishments: Conducted efforts to provide incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. Initiated additional efforts specified under the DVTE Capability Development Document (CDD) Increment II that includes Command, Control, Communications, Computers and Intelligence (C4I) Integration and DVTE interoperability. FY 2013 Plans: Continue incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. Continue the additional efforts specified under the DVTE Capability Development Document (CDD) Increment II that includes Command, Control, Communications, Computers and Intelligence (C4I) Integration and DVTE interoperability. FY 2014 Plans:		3.600 0	2.270 0
		0.269 0	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys	PROJECT 2315: Training Devices/Simulators		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014	
Continue incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan.					
Title: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Enhancements Articles: Description: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) is the only Marine Corps aggregate-level constructive simulation system designed to support the training of Senior Commanders and their staffs in command and control processes and procedures. The system provides interactive, multi-sided, force-on-force, real-time modeling and simulation with stand-alone tactical combat scenarios for air ground, surface, and amphibious operations that interfaces to fielded Marine Corps Command, Control, Communications Computers and Intelligence (C4I) systems such as Command and Control Personal Computer (C2PC) and Intelligence Operations Server (IOS). MTWS provides the battle staff the ability to seamlessly train with and use other C4I systems during the execution on an MTWS supported training event. Through the implementation of a High Level Architecture (HLA) interface between MTWS and the entity-level Joint Conflict and Tactical Simulation (JCATS) system, high resolution tactical objectives can be simulated in JCATS and reflected within the context of a larger operation scenario conducted in MTWS. FY 2012 Accomplishments: Increased the levels of development in the JLVC effort with development of Irregular Warfare (IW) simulation capabilities. These include modeling the kinetic and non-kinetic behaviors and automated Master Scenario Events List (MSEL) to focus the training audience on staff actions. FY 2013 Plans: Continue development of the MTWS HLA bridge, integration into the JLVC Federation, and increasing levels of software capability to meet the changing operational environment that Marines fight in daily. FY 2014 Plans: Continue development of MTWS integration to JLVC Federation, with primary focus on amphibious landings.		2.720 0	2.589 0	2.635 0	
Title: Multiple Integrated Laser Engagement System (MILES) Articles: Description: MILES 2000 is the base technology for Range Instrumentation development that is used in Force-on-Force (FoF), Free Play, and FoF Target exercises. MILES 2000 is an integral component of the Position Location Instrumentation (PLI) providing individual Marine feedback and engagement adjudication. FY 2012 Accomplishments:		0.049 0	0.050 0	0.000	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
Continued minimal Live, Virtual and Constructive (LVC) training technologies integration with the Instrumented Tactical Engagement System (I-TESS) and Infantry Immersion Trainers (IITs).			
FY 2013 Plans: Continue minimal Live, Virtual and Constructive (LVC) training technologies integration with the Instrumented Tactical Engagement System (I-TESS), the Squad Immersive Training Environment (SITE) and the Infantry Immersion Trainers (IITs).			
Title: Range Modernization/Transformation (RM/T)		2.257	6.736
Articles:		0	0
Description: Range Modernization/Transformation (RM/T) developments are associated with modernizing live training ranges at major USMC bases and stations. This development effort enhances After Action Review (AAR) with ground truth feedback, realistic representation of Opposing Forces (OPFOR), and will upgrade the range and exercise control capabilities. RM/T integrates Live, Virtual, and Constructive training technologies, thereby, enhancing fielded live-fire, force-on-target, and force-on-force training capabilities.			
FY 2012 Accomplishments: Conducted efforts to complete the integration of Tactical Video Capture System (TVCS) with the Range Instrumentation Systems Exercise Controller (RISCon). Developed interfaces for range targetry to operate in the Live/Virtual/Constructive Training Environment (LVC-TE), where range targetry and battlefield effects will be stimulated (by virtual and constructive simulations) at distant locations. Range targetry will also report status (active, inactive, damaged, and destroyed) through the LVC-TE to constructive and virtual simulations.			
FY 2013 Plans: Continue development of the dynamic training system capable of real-time and post mission battle tracking, data collection, and deliverance of After Action Review to meet current and future regular/irregular warfare training requirements. Increase effort associated with software upgrades to the Range Instrumentation Systems Exercise Controller (RISCon) to ensure integration of numerous Immersive Infantry Training systems (i.e. Avatar, Automatic Performance Evaluation and Lessons Learned, SPECS audio system, and Tactical Video Capture System).			
FY 2014 Plans: Reduction of funding will only allow for minimum capability to continue software upgrades to the Range Instrumentation Systems Exercise Controller (RISCon) and ensure integration of numerous target systems. Reduction of funding is a result of funding cuts and TECOM decision to realign RDTE funding to OMMC to sufficiently sustain, operate, and allow for safety and environmental controls on fielded assets.			
Title: Squad Immersive Training Environment (SITE)		1.939	1.806
			1.836

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys		PROJECT 2315: Training Devices/Simulators	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2012	FY 2013	FY 2014
Articles:			0	0	0
Description: The Squad Immersive Training Environment (SITE) is an integrating construct or "toolkit" of Live, Virtual and Constructive (LVC) training capabilities used to significantly improve infantry squad operational readiness and squad leader tactical decision-making skills. The collection of LVC training capabilities within SITE will enhance opportunities for squad collective training to increase tactical proficiency, confidence, and readiness for real world operations. SITE will enhance skill transfer and assessment by enabling squads to finish, test, and remediate training in preparation for a capstone exercise such as pre-deployment training. FY 2012 Accomplishments: This is a new start in FY12 responding to the Marine Requirements Oversight Council (MROC) approval of the Squad Immersive Training Environment (SITE) Initial Capabilities Document (ICD) (Joint Interest). Conducted efforts to produce acquisition, program of record, and systems engineering documentation and product development to include (1) Continued Integration Analysis (2) material solution analysis; (3) Systems Design Specification; (4) Interface Design Document, and, (5) an overarching System Engineering Master Plan across current training systems to steer development of standards and a roadmap for system capability upgrades and sustained interoperability. The Systems Engineering Management Plan (SEMP) will include a methodical, phased approach to develop SITE capabilities over time and to initiate interoperability plans addressing highest priority Analysis of Alternatives (AoA) gaps. SITE funding will leverage existing and new Office of Naval Research (ONR) transition deliverables to provide immersive training capabilities with existing programs and new program of record systems. It will provide the capability upgrades to the Virtual Battle Space 2 (VBS2) environment for Indigenous Populations. FY 2013 Plans: RDT&E funds continue to produce acquisition, program of record, and systems engineering documentation and product development to include (1) continued AoA; (2) material solution analysis; (3) Systems Design Specification; (4) Interface Design Document, and, (5) an overarching System Engineering Master Plan across current training systems to steer development of standards and a roadmap for system capability upgrades and sustained interoperability. The SEMP will include a methodical, phased approach to develop SITE capabilities over time and to initiate interoperability plans addressing highest priority AoA gaps. SITE funding will develop Live Core System Instrumented-Technical Engagement Simulation System II (I-TESS II) upgrades to include Mortars and Assault Squads. FY 2014 Plans: RDT&E funds continue to produce acquisition, program of record, and systems engineering documentation and product development to include (1) Systems Design Specification; (2) Interface Design Document, and (3) an overarching System Engineering Master Plan across current training systems to steer development of standards and a roadmap for system capability upgrades and sustained interoperability. SITE funding will leverage existing and new Office of Naval Research and PerceptTS					

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys	PROJECT 2315: Training Devices/Simulators		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
transition deliverables to provide immersive training capabilities with existing programs and new program of record systems. Provide the capability upgrades to the VBS2 environment for Patrolling, Combat Hunter and Conducting missions.				
Title: Supporting Arms Virtual Trainer (SAVT) Articles: Description: The SAVT will advance the training capability, operational readiness, and tactical proficiency of USMC Joint Terminal Attack Controllers (JTACS), Forward Observers (FOs), and Forward Air controllers (FACs). The personnel will use training scenarios that require the placement of tactical ordnance on selected targets using Joint Close Air Support (JCAS) procedures and observed fire procedures for Naval Surface Fire Support (NSFS), artillery and mortar fire to perform destruction, neutralization, suppression, illumination/coordinated illumination, interdiction and harassment fire missions. FY 2012 Accomplishments: This is a new start initiative that provided modeling and simulation for aircraft enhancements to SAVT, continued enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment, and integration of SAVT and Digital CAS providing interoperability amongst virtual training systems. FY 2013 Plans: Provide modeling and simulation for aircraft enhancements to SAVT, continued enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment, and integration of SAVT and Digital CAS providing interoperability amongst virtual training systems. FY 2014 Plans: Provide modeling and simulation for aircraft enhancements to SAVT, continued enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment, and integration of SAVT and Digital CAS providing interoperability amongst virtual training systems.		0.368 0	0.153 0	0.171 0
Title: Training Support Articles: Description: Provide training solution development efforts for the modernization of training systems by providing high fidelity, immersive simulations and capabilities. Integrates existing live, virtual, and constructive training capabilities to provide fully coordinated Marine Air Ground Training Force (MAGTF) training exercises that realistically simulate the operating environment. FY 2012 Accomplishments:		0.059 0	0.060 0	0.061 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2315: Training Devices/Simulators			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014
Continued development of the MAGTF Tactical Warfare Simulation (MTWS) High Level Architecture (HLA) bridge and integration into the Joint Live, Virtual, and Constructive (JLVC) Federation.											
FY 2013 Plans: Continue incremental Deployable Virtual Training Environment (DVTE) network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. Initiate additional efforts specified under the DVTE Capability Development Document (CDD) Increment II that includes Command, Control, Communications, Computers and Intelligence (C4I) and DVTE interoperability.											
FY 2014 Plans: Develop tools to provide MAGTF Tactical Warfare Simulation (MTWS) Return on Investment (ROI) capability for training events.											
Accomplishments/Planned Programs Subtotals									14.355	19.492	9.697
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PMC/BLI#6532001: Training Devices, CACCTUS	3.242	3.180	3.269		3.269	2.527	2.601	2.649	2.695	Continuing	Continuing
• PMC/BLI#6532003: Training Devices, RM/T	8.035	40.982	2.522		2.522	2.757	3.852	5.926	6.220	Continuing	Continuing
• PMC/BLI#6532004: Training Devices, DVTE	0.714	2.303	1.282		1.282	0.000	0.000	1.570	1.598	0.000	7.467
• PMC/BLI#6532005: Training Devices, SAVT	0.661	0.599	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1.938
Remarks											
D. Acquisition Strategy											
(U) CACCTUS - Task Order on exercised option of existing contract (T&M), Commercial Enterprise Omnibus Support Services (CEOSS) contract (C/FFP), and Work Request to NAWCTSD.											
(U) DVTE - Competitively award IDIQ contract, Small Business Set-Aside (C/FFP) for CAN SW Dev and new sole source FFP for VBS2 SW Dev.											
(U) MILES - Modification to existing development contract (C/FFP)											
(U) RM/T - MIPR to the Army planned for award on existing Consolidated Produce-line Management Contract, Work Request to NAWCTSD, and exiting C/FFP.											
(U) SAVT - Government engineering lab labor (Work Request) to NAWCTSD											
(U) MTWS - Sole Source Firm Fixed Price (SS/FFP) and MIPR to CECOM to be placed on MITRE contract											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
(U) SITE - New Competitive Firm Fixed Price (FFP) (U) Training Support - DVTE new sole source FFP; MTWS Sole Source Firm Fixed Price (SS/FFP)		
E. Performance Metrics N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2315: Training Devices/Simulators					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CACCTUS - S/W Dev	SS/CPFF	Cole Engineering Systems Inc. (CESI):Orlando, FL	14.826	0.000		0.000		0.000		-		0.000	0.000	14.826	
CACCTUS - S/W Dev	Various	Various:Various	2.640	0.000		0.000		0.000		-		0.000	0.000	2.640	
Training Support - CACCTUS	C/T&M	Riptide:Oviedo, FL	1.664	0.000		0.000		0.000		-		0.000	0.000	1.664	
CACCTUS - S/W Dev	C/T&M	Riptide:Oviedo, FL	0.000	2.783	Nov 2011	4.954	Nov 2012	3.085	Nov 2013	-		3.085	0.000	10.822	
DVTE - S/W Dev	MIPR	Lockheed:Orlando, FL	2.222	0.000		0.000		0.000		-		0.000	0.000	2.222	
DVTE - S/W Dev	Various	Various:Various	1.739	0.000		0.000		0.000		-		0.000	0.000	1.739	
DVTE - S/W Dev - VBS2	SS/FFP	Bohemia Interactive:Orlando, FL	6.661	3.600	Aug 2012	1.135	Mar 2013	0.269	Mar 2014	-		0.269	Continuing	Continuing	Continuing
DVTE - S/W Dev - CAN	C/FFP	TBD:TBD	0.000	0.000		1.135	Mar 2013	0.000		-		0.000	0.000	1.135	
Training Support - DVTE-S/W Dev - VBS2	SS/FFP	Bohemia Interactive:Orlando, FL	0.000	0.000		0.060	Mar 2013	0.000		-		0.000	0.000	0.060	
MILES Technology Insertion	C/CPFF	SARNOFF:Princeton, NJ	0.050	0.000		0.000		0.000		-		0.000	0.000	0.050	
MILES MC-ITS Development	C/CPFF	Lockheed Martin:Orlando, FL	1.429	0.000		0.000		0.000		-		0.000	0.000	1.429	
MILES Continuous Technology Refresh	C/FFP	Saab:Orlando, FL	0.091	0.049	Dec 2011	0.050	Dec 2012	0.000		-		0.000	0.000	0.190	
MTWS - S/W Dev	SS/FFP	L-3 Communications:San Diego, CA	10.070	2.579	Mar 2012	2.419	Jan 2013	2.465	Jan 2014	-		2.465	0.000	17.533	
Training Support - MTWS S/W Dev	SS/FFP	L-3 Communications:San Diego, CA	0.000	0.059	Mar 2012	0.000		0.061	Jan 2014	-		0.061	0.000	0.120	
RM/T TACS Dev	WR	NSWC:Corona, CA	2.619	0.000		0.000		0.000		-		0.000	0.000	2.619	
RM/T OV-1 Dev	C/FFP	MITRE:Orlando, FL	0.073	0.000		0.000		0.000		-		0.000	0.000	0.073	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2315: Training Devices/Simulators					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
RM/T APELL	C/CPFF	SARNOFF:Princeton, NJ	4.050	0.000		0.000		0.000		-		0.000	0.000	4.050	
RM/T PLI Integration	C/FP	CTC:Orlando, FL	1.278	0.000		0.000		0.000		-		0.000	0.000	1.278	
RM/T Range Safety Test	MIPR	US Army:Aberdeen Proving Ground	0.274	0.000		0.000		0.000		-		0.000	0.000	0.274	
RM/T DITS/FoFI	C/FP	SAAB USA:Orlando, FL	1.045	0.166	Jul 2012	0.000		0.000		-		0.000	0.000	1.211	
RM/T Competitive BAA	C/FP	Various:Various	1.251	0.000		0.000		0.000		-		0.000	0.000	1.251	
RM/T RISCon Development	MIPR	PEOSTRI/TRADE:Orlando, FL	0.000	1.897	Dec 2011	5.314	Mar 2013	1.000	Mar 2014	-		1.000	Continuing	Continuing	Continuing
SAVT Lab Effort	WR	NAWCTSD:Orlando, FL	0.000	0.368	Feb 2012	0.153	Jan 2013	0.171	Oct 2013	-		0.171	0.000	0.692	
SITE - Material Solution Anlaysia	C/CPFF	Bohemia:Orlando, FL	0.000	1.331	Feb 2012	0.000		0.000		-		0.000	0.000	1.331	
RM/T Force-on-Force Instrumentation	C/FFP	Saab Training USA:Orlando, FL	0.000	0.000		0.999	Dec 2012	0.000		-		0.000	0.000	0.999	
SITE-Live Core System Upgrades	C/FFP	TBD:TBD	0.000	0.000		1.806	Mar 2013	1.836	Mar 2014	-		1.836	Continuing	Continuing	Continuing
Subtotal			51.982	12.832		18.025		8.887		0.000		8.887			
Remarks															
DVTE SW Dev-CAN and Tng Spt DVTE SW Dev-CAN - Contract is being competed in FY13 and will be FFP, Small Business Set-Aside.															
SITE: New competitive contract award in FY13 for Live Core System Upgrades with projected Mar 2013 award date.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CACCTUS - S/W Dev Support	WR	NAWCTSD:Orlando, FL	1.444	0.242	Oct 2011	0.604	Oct 2012	0.190	Oct 2013	-		0.190	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy													DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>							R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>				PROJECT 2315: <i>Training Devices/Simulators</i>				

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CACCTUS - CEOSS Support	C/FFP	URS:Germantown, MD	0.000	0.338	May 2012	0.270	Jun 2013	0.450	Jun 2014	-		0.450	0.000	1.058	
RM/T - S/W Dev Support	WR	NAWCTSD:Orlando, FL	0.000	0.194	Nov 2011	0.423	Oct 2012	0.000		-		0.000	0.000	0.617	
MTWS - S/W Dev Support	MIPR	Department of Energy (DOE):Livermore, CA	0.318	0.000		0.000		0.000		-		0.000	0.000	0.318	
MTWS - S/W Dev Support	MIPR	MITRE:Fort Monmouth, NJ	12.127	0.141	Feb 2012	0.000		0.000		-		0.000	0.000	12.268	
MTWS - SW Dev Support	MIPR	CECOM:Aberdeen Proving Ground, MD	0.000	0.000		0.170	Feb 2013	0.170	Feb 2014	-		0.170	Continuing	Continuing	Continuing
SITE - CEOSS Support	C/FFP	URS:Germantown, MD	0.000	0.608	Jun 2012	0.000		0.000		-		0.000	0.000	0.608	
Subtotal			13.889	1.523		1.467		0.810		0.000		0.810			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	65.871	14.355		19.492		9.697		0.000		9.697			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

**Combined Arms Command & Control Training Upgrade System
(CACCTUS) PROGRAM SCHEDULE**

	FY 12	FY 13	FY 14	FY15	FY16	FY17	FY18
CEOSS Software Development Reviews	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆	◆ ◆ ◆
Version 6.0 SW Release, Software (SW) Upgrade All Sites, Test and Validation	◆						
Version 6.1 SW Release, Software (SW) Upgrade All sites, Test and Validation		◆					
Version 6.2 SW Release, Software (SW) Upgrade All sites, Test and Validation			◆				
Version 7.0 SW Release, Software (SW) Upgrade All sites, Test and Validation				◆			
Version 7.1 SW Release, Software (SW) Upgrade All sites, Test and Validation					◆		
Version 7.2 SW Release, Software (SW) Upgrade All sites, Test and Validation						◆	
Full Operating Capability (FOC) Combined Arms Sys Trainer							◆
Version 8.0 SW Release, Software (SW) Upgrade All Sites, Test and Validation							◆

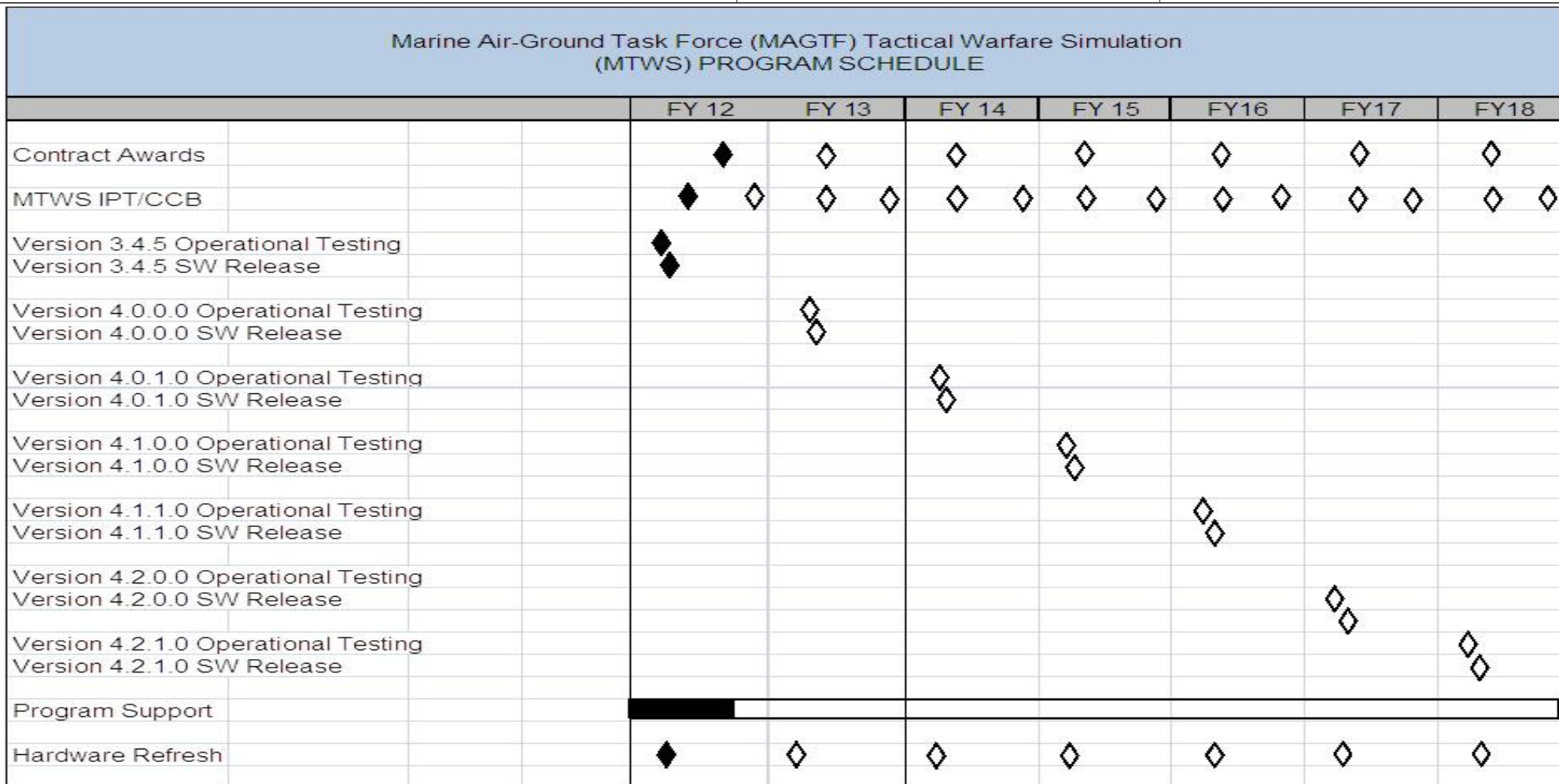
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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy				DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys		PROJECT 2315: Training Devices/Simulators	
Deployable Virtual Training Environment (DVTE) PROGRAM SCHEDULE							
	FY 12	FY 13	FY 14	FY15	FY16	FY17	FY18
Software Development Annual Version Release - VBS2	◆	◆	◆	◆	◆		
Software Development Annual Version Release - CAN		◆					

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0206623M: *MC Ground Cmbt Spt Arms Sys*

PROJECT

2315: *Training Devices/Simulators*

C2315E - MILES

	FY12	FY13
MILES Continuous Technology Refresh		

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy			DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2315: <i>Training Devices/Simulators</i>

Supporting Arms Virtual Trainer (SAVT)							
	FY12	FY13	FY14	FY15	FY16	FY17	FY18
CONTRACTUAL ACTIVITIES							
Baseline 2 R&D - Development							
& Design to integrate for							
interoperability							

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

C2315D - SITE

	FY12	FY13	FY14	FY15	FY16	FY17	FY18
SITE - Material Solution Analysis / Live Core System Upgrades							



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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Training Support PROGRAM SCHEDULE							
	FY 12	FY 13	FY 14	FY15	FY16	FY17	FY18
MTWS SW Development Release	◊						
DVTE SW Annual Version Release - VBS2		◊					
MTWS SW Development Release			◊				
MTWS SW Development Release				◊			
MTWS SW Development Release					◊		
MTWS SW Development Release						◊	
MTWS SW Development Release							◊

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

C2315K - RM/T

	FY12	FY13	FY14	FY15	FY16	FY17	FY18
RM/T RISON Development							
RM/T FoF Instrumentation							

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2315				
CACCTUS - SW Dev Reviews	2	2012	4	2018
CACCTUS - SW Dev Release	4	2012	2	2018
DVTE - SW Annual Version Release - VBS2	4	2012	2	2016
DVTE SW Annual Version Release - CAN	2	2013	2	2013
MTWS - S/W Dev Contract Award	3	2012	2	2018
MTWS - IPT/CCB	2	2012	4	2018
MTWS - S/W Dev Testing	2	2012	2	2018
MTWS - SW Dev Release	2	2012	2	2018
MILES Continuous Technology Refresh	1	2012	4	2013
RM/T RISCON Development	2	2012	4	2018
RM/T Force on Force Instrumentation	3	2012	4	2014
SITE - Material Solution Analysis/Live Core System Upgrades	3	2012	4	2018
SAVT Government Engineering Lab Labor	1	2012	4	2014
Training Support/MTWS S/W Dev Release FY12	2	2012	2	2012
Training Support/DVTE S/W Annual Version Release - VBS2 FY13	2	2013	2	2013
Training Support/MTWS S/W Dev Release FY14-FY18	2	2014	2	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2503: Initial Issue			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2503: Initial Issue	43.121	6.811	8.244	9.142	-	9.142	7.905	7.943	8.199	8.341	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The Family of Combat Equipment Support and Services provides research, development, test and evaluation on low cost items with emphasis on non-developmental/ commercially available items. Much of the RDT&E is conducted in coordination/concert with other services and joint organizations, and in consideration of RDT&E efforts being pursued by the other Services. Items approved for procurement will transition into Procurement Marine Corps and the Operation and Maintenance Marine Corps lines for Individual Combat Equipment, Medical Equipment and Shelters. The focus is to provide state of the art combat equipment (e.g. lightweight helmet, sleeping bags, load bearing systems, etc.), medical equipment (e.g. Authorized Medical Allowance (AMAL)/Authorized Dental Allowance (ADAL), Enroute Care, Mobile Medical Monitors, etc.), and Family of Shelters (soft wall, different frames and fabrics, etc.). The benefits will be reduced logistics, less weight, improved combat effectiveness, better echelon I and II care for Marines, improved individual and unit protection, tactical mobility, etc. The employment of state-of-the-art equipment will ensure Marines are equipped with the best items that technology can offer.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
Title: *Clothing and Flame Resistant Organizational Gear										0.675	0.772	0.796
										Articles: 0	0	0
FY 2012 Accomplishments: Flame Resistant Organizational Gear (FROG) has completed research, development and evaluation of advanced technology in fabric and designs in conjunction with the critical design reviews, lessons learned from OIF and OEF to improve the past configurations. Completed fabric lab survey tests and field user evaluations to down select items in order to achieve design improvements. Evaluations completed for the uniform initiatives from the Marine Corps Uniform Board (MCUB) and CMC.												
FY 2013 Plans: Continue test and evaluation efforts to utilize technological advances in fabric and design in conjunction with focus groups and lessons learned from OIF and OEF to improve the evolving configuration. Finalize fabric lab testing and choose a vendor to achieve final designs. Continue to evaluate MCUB and CMC uniform requirement for future upgrades.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys	PROJECT 2503: Initial Issue		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Flame Resistant Organizational Gear (FROG) will continue to seek improvements and take advantage of advanced technology in fabric durability and design. Continue to evaluate and support new Combat Development and Integration (CD&I) office uniform initiatives from the Marine Corps Uniform Board (MCUB) and CMC.				
Title: *Family of Mountain Cold Weather Clothing & Equipment (FMCWCE) Articles:		1.279 0	1.264 0	1.283 0
FY 2012 Accomplishments: Family of Mountain Cold Weather Clothing and Equipment (MCWCE) completed research, development and evaluations of capability set of clothing and equipment to facilitate Marine Air-Ground Task Force (MAGTF) operations in mountainous and cold weather environments in order to reduce the individual load (weight/volume) of the Ground Combat Element (GCE), particularly dismounted infantry while maintaining or improving system performance. Mobility, survivability, and sustainability requirements for the other elements of the MAGTF were also met. This program completed research, development and evaluation of new capabilities such as steep earth and alpine ice equipment, Three Season Sleep Systems, All Purpose Liner, Improved Sleeping Mat, and a variety of cold weather clothing layering systems for increased environmental protection. Rapid technological advances within the outdoor commercial market made it possible to continuously update the capabilities in the MCWCE.				
FY 2013 Plans: Continue to evaluate product improvements through research of advanced technology necessary to continue modernization efforts within the MCWCE capabilities. Continue to research and develop the capability set of clothing and equipment to facilitate MAGTF operations in mountainous and cold weather environments. Evaluate new capabilities such as advanced Military Ski System, Extreme Cold Weather Sleep System, and an extreme cold weather boot for increased environmental protection, versatility, and survivability. Continue to evaluate the All Purpose Liner, and Improved Sleeping Mat, and the Extreme Cold Weather Sleep System for advanced capability. The exploration of alternatives to the existing sled systems and Marine Corps Cold Weather Infantry Kit (MCCWICK) will directly impact (improve) the survivability of the individual Marine. Implement rapid technological advances in the outdoor commercial market within the stated requirements.				
FY 2014 Plans: Continue to exploit development of industry technology to further increase existing equipment effectiveness while lightening the load of the individual Marine in both weight and volume. Research, develop and evaluate reduced load while increasing insulation values of Fleece, Extreme Cold Weather Parkas, Extreme Cold weather socks, and extreme cold weather boots. Additionally, equipment technology advances will drive the development of Small Unit stoves, mountain climbing kits to effectively and safely negotiate horizontal and vertical obstacles, continued develop of the Marine Corps Cold Weather Infantry Kit and over the snow mobility in both snowshoes and sleds.				
Title: *Family of Improved Load Bearing Equipment Articles:		0.355 0	0.335 0	0.346 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
<i>FY 2012 Accomplishments:</i> Completed research, development and evaluation for durability of pouches, and specifications reviews to eliminate light reflection. Completed research, development and evaluation of the Corpsman Assault System (CAD) which replaced the Corpsman Assault Pack. Currently researching next generation Block II Individual Water Purification System (IWPS).			
<i>FY 2013 Plans:</i> Continue to explore product improvements and advanced technology for the Family of Improved Load Bearing Systems. Complete testing and evaluation for durability of pouches, and specifications reviews. Complete next generation Block II Individual Water Purification System (IWPS).			
<i>FY 2014 Plans:</i> Continue research, development and evaluation for Block III IWPS de-salinization effort. Continue to explore product improvements and advanced technology for the Family of Improved Load Bearing Systems.			
<i>Title:</i> *Family of Individual Warfighter Equipment (formerly Combat Support Equipment)		0.135	0.141
<i>Articles:</i>		0	0
<i>FY 2012 Accomplishments:</i> Family of Mountain Individual Warfighter Equipment (IWE) completed research, development and evaluation of advanced capability set of general combat support equipment being forward deployed and in FOB operations. Completed evaluations of IWE improved capabilities through the development of COTS and NDI programs, to include the 25 Liter Water Bag, Multi-purpose Attachable Light and continued development of the USMC Martial Arts Kit.			
<i>FY 2013 Plans:</i> Continue research, development and evaluation of product improvements and advanced technology necessary to facilitate modernization efforts within the IWE capabilities. Continue test and evaluation of COTS and NDI products which are major components of the IWE program and are significantly improved annually by industry; leveraging industry initiatives is a major aspect of this program. Continued research and evaluation of advanced technology on the Martial Arts Kit, Mechanical Breachers Kit, and the Ultra High Intensity Illumination System.			
<i>FY 2014 Plans:</i> Continue to exploit industry's development of technological advances in Martial Arts Kit, Mechanical Beachers Kit, Improved Entrenching Tool, and Waterproof Bags. Continue to test and evaluate to ensure operational effectiveness of the IWE components. Continue the modernization of existing programs through Minor Modification, leveraging the technological advances of industry.			
<i>Title:</i> *Family of Field Medical Equipment		3.687	4.507
			5.372

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2503: <i>Initial Issue</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2012	FY 2013	FY 2014
Articles:			0	0	0
FY 2012 Accomplishments: Continued testing of Commercial-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items for the Enroute Care System to evaluate functionality for patient transportation post resuscitative surgery in forward echelons. Completed development of a ruggedized anesthesia machine. Continued testing of other medical equipment items to evaluate their functionality improving the quality of warfighter healthcare and to reduce the logistics footprint of USMC medical equipment (i.e. Continued regulatory testing of a new Hydrogen Peroxide Sterilizer decreasing logisitical footprint). Continued testing for possible application technology for insertion (i.e. completed development phase of Infrascanner, a intracranial hematoma detection device). Began testing of mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy.					
FY 2013 Plans: Continue testing Commercial-Off-The-Shelf/Non-developmental (COTS/NOI) medical equipment items for the Enroute Care System, Forward Resuscitative Surgical System, and X-ray equipment to determine future viability in an operational environment. Continue testing of medical equipment items to evaluate their functionality and ability to improve the quality of healthcare provided to the warfighter and reduce the logistics footprint of USMC medical equipment. Continue testing for possible application technology for insertion. Complete testing of Hydrogen Peroxide Sterilizer. Complete testing of mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy. Begin Research and Development Studies on the application of Freeze Dried Pooled Plasma within the USMC Health Service Support organization.					
FY 2014 Plans: Continue to test Commercial-Off-The-Shelf/Non-developmental (COTS/NOI) medical equipment items for the Enroute Care System, Forward Resuscitative Surgical System, and X-ray equipment to determine future viability in an operational environment. Continue testing of medical equipment items to evaluate their functionality and ability to improve the quality of healthcare provided to the warfighter and reduce the logistics footprint of USMC medical equipment. Continue testing for possible application technology for insertion. Complete testing of mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy. Complete Research and Development Studies on the application of Freeze Dried Pooled Plasma within the USMC Health Service Support organization. Begin collaborative development efforts with other services on the Autonomous Critical Care System.					
Title: *Family of Shelters and Shelter Equipment (FSSE)			0.075	0.826	0.900
Articles:			0	0	0
FY 2012 Accomplishments: The Family of Shelter and Shelters Equipment continued to research the capitalization of Energy Efficient technologies, reducing the logistical footprint that will provide lighter weight, modular shelter systems and ancillary equipment for all Marine Corps					

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2503: Initial Issue				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
missions by begining the evaluation of the 15-man Arctic Shelter. Began testing of energy efficient LED Light technologies to determine potential power savings. FY 2013 Plans: Complete evaluations of the 15-man Arctic Shelter. Complete testing of energy efficient LED light technologies for shelters and shelter equipment. Begin testing of composite materiels to be used in the next generation rigid wall shelters and testing new energy efficient field heating systems. FY 2014 Plans: Continue testing of energy efficient technologies for new composite materiels for rigid wall shelters and complete testing of energy efficient field heating systems. Begin evaluation testing the new general purpose medium shelter.												
Title: *Family of Combat Field Feeding Articles:										0.605 0	0.399 0	0.301 0
FY 2012 Accomplishments: Continued research to improvements on current technology for heating individual rations will be explored to test individual ration heater concepts and equipment. Initiated research of current Tray Ration Heater System to reduce the footprint size. FY 2013 Plans: Continue to research and test multiple solutions to reduce the foot print size for the Tray Ration Heater System. Begin to analyze, evaluate, and test concepts for an new and improved sanitation system. FY 2014 Plans: Continue testing options to reduce the footprint size of the current Tray Ration Heater System. Continue to analyze, evaluate, and test concepts for a new and improved sanitation system.												
Accomplishments/Planned Programs Subtotals										6.811	8.244	9.142
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• PMC/652200: Field Medical Equipment	25.909	15.317	19.823		19.823	4.772	4.388	5.681	9.578	0.000	133.637	
• PMC/661300: Combat Field Feeding System	5.026	8.365	2.390		2.390	2.861	2.883	2.944	2.997	0.000	57.997	
• PMC/652201: Family of Shelters & Shelter Equipment	0.000	31.502	3.306		3.306	3.875	3.555	3.375	3.436	0.000	49.049	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2503: Initial Issue			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Complete</u>	<u>Total Cost</u>
Remarks											
D. Acquisition Strategy Family of Ballistic Protection Systems, Family of Mountain Cold Weather Clothing and Equipment, Family of Improved Load Bearing Equipment, Family of Individual Warfighter Equipment, Clothing and Flame Resistant Organizational Gear, and Combat Field Feeding Systems items utilize various acquisition strategies. These programs leverage heavily on current developments and technology in commercial industry. As a result, the government's R&D phase is relatively short. Contracting is performed by either Marine Corps Systems Command Contracting Directorate, the Naval Research Laboratory or the U.S. Army Natick Soldier Research, Development and Engineering Center via Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts. ID/IQ contracts are used to decrease the government risk, allow maximum contract flexibility and capitalize on the savings realized by utilizing Economic Order Quantities. Shelters: The Shelter acquisition strategy is to modify Non-Developmental Items (NDI) to further meet the requirements of the Marine Corps, to support development of multi-service items through inter-service agreements and to adopt Commercial-Off-the-Shelf (COTS) items. Family of Field Medical Equipment: These programs leverage heavily on current development and technology in the commercial medical industry. The field medical acquisition strategy is to modify Non-Developmental Items (NDI) and adopt Commercial-Off-the-Shelf (COTS) items.											
E. Performance Metrics N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2503: Initial Issue					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	7.168	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	WR	ONR:Arlington, VA	0.346	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Improved Load Bearing Equipment	MIPR	USA NSRDEC:Natick, MA	2.726	0.355	Jan 2012	0.335	Jan 2013	0.346	Jan 2014	-		0.346	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	4.082	0.310	Jan 2012	0.143	Jan 2013	0.192	Jan 2014	-		0.192	Continuing	Continuing	Continuing
Combat Field Feeding Systems	MIPR	USA NSRDEC:Natick, MA	1.727	0.401	Jan 2012	0.323	Jan 2013	0.000		-		0.000	Continuing	Continuing	Continuing
Family Individual Warfighter Equipment	MIPR	USA NSRDEC:Natick, MA	0.145	0.064	Mar 2012	0.114	Jan 2013	0.094	Jan 2014	-		0.094	Continuing	Continuing	Continuing
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	2.794	0.442	Dec 2011	0.524	Jan 2013	0.450	Jan 2014	-		0.450	Continuing	Continuing	Continuing
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.211	0.000		0.000		0.000		-		0.000	0.000	0.211	
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.316	0.000		0.000		0.000		-		0.000	0.000	0.316	
Family of Field Medical	WR	NMRC:Silver Spring, MD	1.042	1.795	Jan 2012	0.000		3.250	Jan 2014	-		3.250	0.000	6.087	
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	3.148	1.282	Feb 2012	0.741	Feb 2013	0.000		-		0.000	0.000	5.171	
Subtotal			23.705	4.649		2.180		4.332		0.000		4.332			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Field Medical	WR	NHRC:San Diego, CA	0.736	0.360	Dec 2011	0.000		0.000		-		0.000	0.000	1.096	
Subtotal			0.736	0.360		0.000		0.000		0.000		0.000	0.000	1.096	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2503: Initial Issue					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Individual Warfighter Equipment	MIPR	USA NSRDEC:Natick, MA	0.000	0.000		0.015	Jan 2013	0.000		-		0.000	0.000	0.015	
Family of Individual Warfighter Equipment	C/FP	MCSC:Quantico, VA	0.000	0.000		0.012	Jan 2013	0.050	Mar 2014	-		0.050	0.000	0.062	
Family of Combat Field Feeding	MIPR	USA NSRDEC:Natick, MA	0.000	0.000		0.076	Jan 2013	0.301	Mar 2014	-		0.301	0.000	0.377	
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	0.000	0.000		0.000		0.223	Jan 2014	-		0.223	0.000	0.223	
Family of Shelter and Shelter Equipment	MIPR	ATC:Aberdeen Proving Ground	0.000	0.000		0.014	Feb 2013	0.000		-		0.000	0.000	0.014	
Family of Field Medical	MIPR	USAMRC:Ft. Detrick,MD	0.000	0.000		0.000		2.122	Jan 2014	-		2.122	0.000	2.122	
Family of Shelters and Shelter Equipment	C/CPFF	TSWG:ARLINGTON, VA	0.000	0.000		0.000		0.512	Feb 2014	-		0.512	0.000	0.512	
Family of Shelter and Shelter Equipment	C/BA	LANGLEY AFB:HAMPTON, VA	0.000	0.000		0.000		0.388	Feb 2014	-		0.388	0.000	0.388	
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.135	0.000		0.000		0.000		-		0.000	0.000	0.135	
Family of Field Medical	MIPR	USAMRAA:Ft. Detrick, MD	1.140	0.000		0.000		0.000		-		0.000	0.000	1.140	
Family of Shelters & Shelter Equipment	MIPR	USA NSRDEC:Natick, MA	0.281	0.075	Dec 2011	0.812	Jan 2013	0.000		-		0.000	0.000	1.168	
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	7.201	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	SS/CPFF	MCSC:Quantico VA	2.859	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	2.949	0.541	Dec 2011	0.675	Jan 2013	0.616	Jan 2014	-		0.616	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	C/FP	MCSC:Quantico, VA	0.070	0.000		0.000		0.125	Jan 2014	-		0.125	Continuing	Continuing	Continuing
Family of Field Medical	WR	NAMRUSA:San Antonio, TX	0.000	0.060	Jan 2012	0.000		0.000		-		0.000	0.000	0.060	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2503: Initial Issue					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Field Medical	WR	NHRC:San Diego, CA	0.000	0.053	Dec 2011	0.000		0.000		-		0.000	0.000	0.053	
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	0.000	0.137	Dec 2011	3.766	Feb 2013	0.000		-		0.000	0.000	3.903	
Subtotal			14.635	0.866		5.370		4.337		0.000		4.337			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Field Medical	Various	MCSC:Quantico, VA	0.060	0.000		0.000		0.000		-		0.000	0.000	0.060	
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	2.042	0.428	Dec 2011	0.446	Jan 2013	0.350	Jan 2014	-		0.350	Continuing	Continuing	Continuing
Family of Individual Warfighter Equipment	C/FP	MCSC:Quantico, VA	0.302	0.071	Jan 2012	0.000		0.000		-		0.000	0.000	0.373	
Combat Field Feeding Systems	C/FP	MCSC:Quantico, VA	0.498	0.204	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	1.143	0.233	Dec 2011	0.248	Dec 2012	0.123	Jan 2014	-		0.123	Continuing	Continuing	Continuing
Subtotal			4.045	0.936		0.694		0.473		0.000		0.473			
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			43.121	6.811		8.244		9.142		0.000		9.142			
Remarks															

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2513: Body Armor			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2513: Body Armor	28.886	4.501	3.692	0.572	-	0.572	4.838	4.916	5.037	5.126	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note												
This project was previously in Project 2503 Initial Issue under Family of Ballistic Protection.												
A. Mission Description and Budget Item Justification												
Body Armor Development (BAD) provides the most technologically advanced ballistics protection at the lightest weight in the world today. With current combat operations, these items have generated considerable Congressional and public interest since these items are considered life-saving equipment. When evaluated in total, BAD programs provide the critical systems that save lives, reduce the severity of combat injuries, and increase combat effectiveness by keeping more Marines in the fight. A key component of all of the BAD programs is that as new threats emerge on the battlefield, BAD equipment must constantly adapt to meet these new threats. BAD programs are truly a force multiplier on the battlefield of today and tomorrow. It includes Modular Tactical Vest (MTV), Enhanced Small Arms Protective Inserts (ESAPI), Helmet, and Eye Protection.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Body Armor Development									4.501	3.692	0.572	
									0	0	0	
FY 2012 Accomplishments:												
Researched new commercial technologies to enhance the capability of Small Arms Protective Inserts (SAPI) and current body armor systems while continuing to reduce weight, increase capability and mobility. Conducted head, torso and pelvic protection studies to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight (Plate Carriers, Improved Modular Tactical Vests, Protective Under Garments, Protective Over Garments, Enhanced Combat Helmets, Improved Ballistic Eyewear). Evaluated and identified passive hearing protection products that will provide a sense of presence and protection against transient impact noise, and blocks and/or reflects harmful blast shock wave in the ear canal.												
FY 2013 Plans:												
Develop and test new commercial technologies to further develop hard and soft body armor systems to include a modular scalable design in order to reduce the number of armor systems, system weight, and increase the survivability, lethality and mobility of the individual Marine. Continue to develop both torso, pelvic and head borne systems to assess blunt trauma/shock forces on												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys	PROJECT 2513: <i>Body Armor</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
the body and how ballistic materials and designs can afford the most protection while reducing weight and lightening the load. Continue to research active and passive hearing protection products that provide a sense of presence and protection against transient impact noise, and blocks and/or reflects harmful blast shock wave in the ear canal. R&D initiatives enable development, configuration and compatibility management of new technologies and equipment. FY 2014 Plans: FY14 funding will support development and testing of increased hearing and eye protection.			
Accomplishments/Planned Programs Subtotals		4.501	3.692
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
Marine Corps Body Armor Research, Development, Testing & Evaluation activities include seeking new developments in ballistic technology that feature reductions in weight, improvements in ballistic performance, enhanced operational effectiveness through improved product designs and the application of new material technologies to reduce total ownership costs by improving the expected service life of fielded systems. In order to accomplish these goals PdM-Infantry Combat Equipment (ICE) uses a broad array of government and contractor performers to achieve the desired end state. This includes efforts being conducted in conjunction with partnered government performers, research and development contracts and partnership intermediaries where applicable. The Marine Corps also seeks to leverage advancements in industry capabilities to rapidly field nondevelopmental and commercially available off the shelf armor solutions after confirming performance through characterizing ballistic performance and expected subjective user acceptance as measured during user evaluations.			
E. Performance Metrics			
N/A			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2513: Body Armor					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Ballistic Protection	MIPR	USA NSRDEC:Natick, MA	6.333	0.835	Jan 2012	1.000	Feb 2013	0.400	Jan 2014	-		0.400	Continuing	Continuing	Continuing
Family of Ballistic Protection	WR	NRL:Washington DC	13.205	2.283	Jan 2012	1.294	Jan 2013	0.000		-		0.000	0.000	16.782	
Family of Ballistic Protection	WR	NCTRF:Natick MA	0.246	0.135	Jan 2012	0.548	Jan 2013	0.172	Jan 2014	-		0.172	Continuing	Continuing	Continuing
Family of Ballistic Protection	C/FFP	CERADYNE:Costa Mesa, CA	0.000	0.075	Sep 2012	0.000		0.000		-		0.000	0.000	0.075	
Subtotal			19.784	3.328		2.842		0.572		0.000		0.572			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Ballistic Protection	MIPR	USA NSRDEC:Natick, MA	6.243	0.958	Nov 2011	0.000		0.000		-		0.000	0.000	7.201	
Family of Ballistic Protection	MIPR	USAF/ AFMC:Bozeman, MT	2.859	0.000		0.500	Jan 2013	0.000		-		0.000	0.000	3.359	
Family of Ballistic Protection	MIPR	USA ATC:Aberdeen Prv Grnd, MD	0.000	0.150	Sep 2012	0.250	Jan 2013	0.000		-		0.000	0.000	0.400	
Family of Ballistic Protection	MIPR	AFRL:Wright Patterson, OH	0.000	0.000		0.100	Jan 2013	0.000		-		0.000	0.000	0.100	
Family of Ballistic Protection	WR	NRL:Washington, DC	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	
Family of Ballistic Protection	WR	NSWC:Bethesda, MD	0.000	0.065	Oct 2012	0.000		0.000		-		0.000	0.000	0.065	
Subtotal			9.102	1.173		0.850		0.000		0.000		0.000	0.000	11.125	
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			28.886	4.501		3.692		0.572		0.000		0.572			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys			PROJECT 2513: <i>Body Armor</i>			
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2928: Exp Indirect Fire Gen Supt Wpn Sys			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
2928: Exp Indirect Fire Gen Supt Wpn Sys	11.339	1.850	2.353	2.391	-	2.391	2.448	2.487	2.550	2.594	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
High Mobility Artillery Rocket Systems (HIMARS) is a C-130 transportable, wheeled, indirect fire, rocket/missile system capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM). The system includes one launcher, two Re-Supply Systems, and the MFOM. HIMARS will provide the Fleet Marine Force with 24 hour ground-based, responsive General Support/General Support Reinforcing (GS/GSR) indirect fires which accurately engage targets at long range (60+km), with high volumes of lethal fire under all weather conditions throughout all phases of combat operations ashore, to include irregular warfare and distributed operations. HIMARS is a significant improvement over previously fielded ground fire support systems. During a 24 hour period, the system is expected to conduct multiple moves and multiple fire missions. Guided Multiple Launch Rocket System (GMLRS) is the primary munition for units fielded with the HIMARS and MLRS rocket and missile platforms. GMLRS provides close, medium, and long range precision and area fires to destroy, suppress, and shape threat forces and protect friendly forces against cannon, mortar, rocket and missile artillery, light material and armor, personnel, command and control, and air defense surface targets. GMLRS integrates guided and control packages and an improved rocket motor achieving greater range and precision accuracy, requiring fewer rockets to defeat targets, thereby reducing the logistics burden.												
The two fielded variants are GMLRS with Dual Purpose Improved Conventional Munitions (DPICM/Increment 1) and GMLRS Unitary (U/Increment 2), a 200 pound class high explosive warhead. The GMLRS U is the only variant currently in production, integrating a multi-mode fuse and high explosive warhead making it an all weather, low collateral damage, precision strike rocket. GMLRS U expands the MLRS target set into urban and complex environments by adding point, proximity, and delay fusing modes. GMLRS U are being fired in support of Overseas Contingency Operations (OCO), and has demonstrated high effectiveness and low collateral damage while supporting Marines in combat. A third variant of GMLRS, the alternative warhead (AW/Increment 3) is being developed to replace DPICM and meet the requirements outlined in a 25 June 2008 cluster munitions policy, which requires all cluster munitions by 2019 to produce less than 1% Unexploded Ordinance (UXO) on the battlefield. HIMARS satisfies the Marine Corps requirement for an indirect fire system that is responsive, maneuverable, and is capable of engaging targets at long range. The Reduced Range Practice Rocket (RRPR) includes training devices for tactical training, classroom training and handling exercises.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: HIMARS Systems Engineering									1.786	0.000	0.000	
Articles:									0			
Description: Primary and ancillary hardware development and systems engineering support, includes Navy, Marine Corps, Army and contractor development efforts. The U.S. Army Program Office continues to provide system updates to accommodate												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
emerging requirements such as armor upgrades and enhanced communications. This element provides engineering support to meet the unique requirements of the Marine Corps and for the integration of the changes into the Marine Corps inventory.			
FY 2012 Accomplishments: Conducted development on improved fire control systems and provided engineering support to the Army activity program office to develop alternate warheads.			
Title: HIMARS Testing		0.000	0.000
Articles: Description: Executed in conjunction with the U.S. Army, the Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office continues to provide improvements to these end items (i.e. alternate warheads). This funding will be used to provide adequate support and oversight to ensure testing supports Marine Corps requirements FY 2014 Plans: Execution will be in conjunction with the U.S. Army, the Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office provides improvements to these end items (i.e. alternate warheads). This funding will be used to provide adequate support and oversight to ensure testing supports Marine Corps requirements for the following: Shipboard Shock & Vibration Testing: Shock testing will derive from MIL-S-901 (Near-Miss Shock Qualification using the WOX-7B shock machine) and vibration using MIL-STD-167-1. This test will be a 20 day event at Dahlgren, Va. HERO Testing: The Government will conduct HERO testing at Redstone Test Center (RTC) as required by the Marine Corps Systems Command and NSWCDD. The Government will perform the HERO test IAW the HERO Test Plan for the Guided Multiple Launch Rocket System (GMLRS) Alternate Warhead (AW) prepared by NSWCDD Electromagnetic Effects Branch. The HERO test environment will derive from the DoD Interface Standard MIL-STD-464 for E3 Requirements for Systems. This standard defines the external Electro-Magnetic Emission (EME) for systems capable of shipboard operations (including topside equipment and aircraft operating from ships) and ordnance. The HERO test will be designed to simulate or duplicate conditions and procedures normally expected during in-service operation of the system. The GMLRS AW RP will be evaluated in all conditions representing stowage and transportation on board navy ships, taking into account the transitional configurations that occur during the specified transportation, storage, handling, and loading/unloading operations.			2.190 0
Title: HIMARS Program Support		0.064 0	0.179 0
Articles:			0.201 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy							DATE: April 2013					
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys			PROJECT 2928: Exp Indirect Fire Gen Supt Wpn Sys					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2012		FY 2013		FY 2014	
Description: HIMARS is a joint program run from the Army Program Office in Huntsville, AL. Funding supports Program Management at Quantico, Marine Corps Liaison Officer at Army Program Office (Huntsville) and contractor support. Marine Corps onsite liaison officer resides at Huntsville to support joint acquisition and program planning. FY 2012 Accomplishments: HIMARS is a joint program run from the Army Program Office in Huntsville, AL. Funding supported Program Management at Quantico, Marine Corps Liaison Officer at Army Program Office (Huntsville) and contractor support. Marine Corps onsite liaison officer resides at Huntsville to support joint acquisition and program planning. FY 2013 Plans: HIMARS is a joint program run from the Army Program Office in Huntsville, AL. Funding supports Program Management at Quantico, Marine Corps Liaison Officer at Army Program Office (Huntsville) and contractor support. Marine Corps onsite liaison officer resides at Huntsville to support joint acquisition and program planning. FY 2014 Plans: HIMARS is a joint program run from the Army Program Office in Huntsville, AL. Funding supports Program Management at Quantico, Marine Corps Liaison Officer at Army Program Office (Huntsville) and contractor support. Marine Corps onsite liaison officer resides at Huntsville to support joint acquisition and program planning.												
Title: HIMARS AWP Test Articles Articles: FY 2013 Plans: Procure three (3) GMLRS Alternative Warhead (AW) Rocket pods and associated Performance Oriented Packaging (POP) boxes for USMC shipboard shock and vibration testing. Each pod will contain one live rocket and five mass simulators. The live rockets will be located in tube #4 and the other five tubes shall contain the mass simulators. The live rockets will be GMLRS AW variants with all electronics, energetics and fuzing. Testing will be conducted in FY14 at Naval Surface Warfare Center, Dahlgren Division (NSWC/DD).							0.000		2.174 0		0.000	
Accomplishments/Planned Programs Subtotals							1.850		2.353		2.391	
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• PMC/BLI 221200: High Mobility Artillery Rocket System (HIMARS)	26.896	156.859	5.467		5.467	19.531	19.567	49.101	49.985	Continuing	Continuing	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>					R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>			PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Complete</u>	<u>Total Cost</u>
Remarks											
D. Acquisition Strategy											
USMC HIMARS is procuring the Army rocket launcher, the current/future Multiple Launch Rocket System Family of Munitions (MFOM) and a Medium Tactical Vehicle Replacement (MTVR) based Resupply System (truck(s) with associated trailer(s)). The Marine Corps launcher and ammo requirements closely match U.S. Army requirements. The US Army HIMARS program received increased funding and is now an Acquisition Category ACAT IC level program. Marine Corps Resupply System requirements are unique. Accordingly, the Marine Corps is an integrator and must ensure the required warfighting capability is fielded to the Marine Corps operating forces. The USMC has aligned funds to reflect an emphasis on not only hardware development, but also the integration of these principle end items while providing associated evaluation and oversight, and the development of associated rocket munitions in conjunction with the Army. Additionally, the Marine Corps program is establishing the training and support methodologies that will result in associated skill sets required within the Marine Corps. The Marine Corps strategy is incorporating acquisition and capability upgrades to both the systems and rocket munitions. These improvements parallel the US Army's acquisition strategy.											
E. Performance Metrics											
Milestone Reviews											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 2928: Exp Indirect Fire Gen Supt Wpn Sys					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	MIPR	Redstone Arsenal:Redstone, AL	4.017	1.786	Feb 2012	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			4.017	1.786		0.000		0.000		0.000		0.000			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval	WR	NSWC:Dahlgren, Va	0.000	0.000		0.000		1.229	Jan 2014	-		1.229	0.000	1.229	
Dev Test & Eval	MIPR	Redstone Test Ctr:Redstone, AL	1.922	0.000		2.174	Mar 2013	0.961	Mar 2014	-		0.961	Continuing	Continuing	Continuing
Subtotal			1.922	0.000		2.174		2.190		0.000		2.190			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 Mngmnt	C/FFP	MCSC:Quantico, VA	5.400	0.064	Jan 2012	0.179	Jan 2013	0.201	Jan 2014	-		0.201	Continuing	Continuing	Continuing
Subtotal			5.400	0.064		0.179		0.201		0.000		0.201			
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			11.339	1.850		2.353		2.391		0.000		2.391			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy																								DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY												R-1 ITEM NOMENCLATURE								PROJECT								
1319: Research, Development, Test & Evaluation, Navy												PE 0206623M: MC Ground Cmbt Spt Arms								2928: Exp Indirect Fire Gen Supt Wpn Sys								
BA 7: Operational Systems Development												Sys																
Proj 2928	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
GMLRS	▲												▲						▲	▲								
2013PB - 0206623M - 2928																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 2928</i>				
GMLRS: GMLRS Alternative Warhead Milestone C: GMLRS Alternative Warhead Milestone C	1	2014	1	2014
GMLRS: GMLRS Alternative Warhead Operational Test: GMLRS Alternative Warhead Operational Test	2	2015	2	2015
GMLRS: GMLRS Alternative Warhead Full Rate Production: GMLRS Alternative Warhead Full Rate Production	3	2015	3	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 3098: Fire Support System			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
3098: Fire Support System	69.576	26.745	17.785	16.221	-	16.221	14.575	9.013	6.619	6.735	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
This project develops Joint and Marine Corps unique improvements to artillery fire support technology that supports the artillery triad of fires and fire support equipment. These initiatives include but are not limited to the following: the Expeditionary Fire Support System (EFSS), munitions development & testing (to include rocket munitions), as well as testing and development of the Family of Artillery Munitions (FAM), Common Laser Ranger Finder (CLRF) integrated capability, and the Modeled Meteorological Information Manager (MMIM). EFSS is an all-weather, ground based indirect fire system designed to support the vertical assault element of the Ship-To-Objective Maneuver (STOM) force. The EFSS is defined as a Launcher, Mobility Platform (prime mover), Ammunition, Ammunition Supply Vehicle, and Technical Fire Direction and Control equipment necessary for orienting weapons to an azimuth of fire. EFSS supports irregular warfare and distributed operations. FAM is used to develop and mature artillery munitions for the Marine Corps triad of fire. The CLRF is a lightweight, eye-safe target laser rangefinder capable of being carried and employed by a single Marine. CLRF Integrated Capability (CLRF IC) is a replacement to the existing CLRF Suite of Equipment. CLRF IC provides the observer the ability to perform target detection, recognition, identification, and location determination in a suite of systems. The Modeled Meteorological Information Manager (MMIM) will be the primary artillery meteorological capability at the artillery battalion and regiment providing the ability to create, receive, manage, and transmit near real time gridded meteorological information supporting artillery and target acquisition systems significantly enhancing the accuracy of meteorological information. The Fire Support Mod Line provides technical refresh, development of target acquisition, and artillery survey and meteorological systems. Funding is used to ensure Clinger Cohen Act (CCA) and Information Assurance (IA) requirements are met, execution of product improvements/modifications, and upgrades to system hardware and software for the Ground Counter Fire Sensor (GCFS), Marine Artillery Survey Set (MASS), Meteorological Station Group (MSG), Global Positioning System Survey (GPS-S) and the Improved Position Azimuth Determining System (IPADS), Lightweight Target Designator (LTD) and the CLRF as well as for upgrades, engineering change proposals, and modifications for guided munitions and fire control systems. The Internally Transportable Vehicle (ITV) is a program in this project that is a lightweight, highly mobile vehicle that provides a deployed Marine Air-Ground Task Force (MAGTF) with a ground vehicle that's internally transportable in the MV-22 and CV-22 tilt-rotor aircraft as well as the CH-53 and MH-47 aircraft. The ITV has two configurations: The Light Strike Vehicle (ITV-LSV) and EFSS Prime Mover (ITV-PM).												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
Title: Common Laser Range Finder (CLRF)										11.883	0.920	0.400
Articles:										0	0	0
Description: The Common Laser Range Finder (CLRF) is a lightweight, eye-safe target laser rangefinder capable of being carried and employed by a single Marine. CLRF Integrated Capability (CLRF IC) is a replacement to the existing CLRF Suite												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys	PROJECT 3098: Fire Support System		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
of Equipment. CLRF IC provides the observer the ability to perform target detection, recognition, identification, and location determination in a suite of systems. FY 2012 Accomplishments: CLRF-IC development efforts continued in the Technology Development Phase focusing on weight reduction and integration of a precise, non-magnetic azimuth sensing capability. FY 2013 Plans: CLRF IC development efforts continue in the Technology Development Phase focusing on weight reduction and integration of a precise, non-magnetic azimuth sensing capability and will start the Engineering and Manufacturing (E&M) Development Phase. FY 2014 Plans: CLRF IC development efforts continue in the E&M Development Phase.				
Title: Modeled Meteorological Information Manager (MMIM) Articles: Description: The Modeled Meteorological Information Manager (MMIM) will be the primary artillery meteorological capability at the artillery battalion and regiment providing the ability to create, receive, manage, and transmit near real time gridded meteorological information supporting artillery and target acquisition systems significantly enhancing the accuracy of meteorological information. MMIM will save over \$1.3 million in annual operations, maintenance, and fuel costs by eliminating the requirement for 42 M1152 High Mobility Multi-purpose Wheeled Vehicles, 21 M101A3 Trailers and 21 OV-103 Generator Groups associated with the current legacy capability. FY 2012 Accomplishments: MMIM completed the Engineering Manufacturing Development phase, obtained a MS C decision, underwent a Field User Evaluation (FUE) and began fielding. MMIM removed the requirement to employ balloon borne radiosondes eliminating the logistical requirements associated with the current capability. In addition to significant savings in operation and maintenance expenses, MMIM enhances capability by providing real time information and autonomy required to support current combat operations and future operational concepts consistent with the Marine Corps. FY 2013 Plans: MMIM will begin integrating existing MET sensors with the Air Force Weather Agency (AFWA) data. FY 2014 Plans: MMIM will continue to integrate existing MET sensors with the Air Force Weather Agency (AFWA) data.		0.477 0	0.249 0	0.249 0
Title: Expeditionary Fire Support Systems (EFSS)		11.501	7.027	11.887

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2012	FY 2013
		Articles:	0	0
Description: EFSS is an all-weather, ground based indirect fire system designed to support the vertical assault element of the Ship-To-Objective Maneuver (STOM) force. EFSS is defined as a Launcher, Mobility Platform (prime mover), Ammunition, ammunition Supply Vehicle, and Technical Fire Direction and control equipment necessary for orienting weapons to an azimuth of fire. EFSS supports irregular warfare and distributed operations. FY 2012 Accomplishments: EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Extended range guided ammunition development. Developed and produced hardware for the guided rounds and have the various field activities test the hardware. Integration to ballistics and firing tables (software development) and qualification of energetics. Additionally, FY12 R&D was used to incrementally fund the development of the Precision Extended Range Munition (PERM). PERM is a 120mm mortar round consisting of a tail charge assembly, rocket motor, warhead, and fuze. PERM will also include a guidance system designed to be fired from the EFSS 120mm mortar. This funding will specifically procure the development of over 30 contract CDRLs and test articles that will support a demonstration test of up to three different vendor designs. This funding will also support the Government conduct of the PERM demonstration test. FY 2013 Plans: EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Extended range guided ammunition development. Develop and test hardware for the guided rounds and have the various field activities test the hardware. Integration to ballistics and firing tables (software development) and qualification of energetics. Additionally, FY13 R&D is being used to incrementally fund the development of the Precision Extended Range Munition (PERM). FY 2014 Plans: FY14 R&D is being used to incrementally fund the development of the Precision Extended Range Munition (PERM). The increase in FY14 funding will support the Government conduct of the PERM demonstration test.				
Title: Fire Support Mods (FSM)		Articles:	1.488 0	1.950 0
Description: Funding is used for upgrades, engineering change proposals (ECP), and modifications to system hardware and software for the Ground Counter Fire Sensor (GCFS), Marine Artillery Survey Set (MASS), Meteorological Station Group (MSG), Global Positioning System Survey (GPS-S), the Improved Position Azimuth Determining System (IPADS), and the Joint Terminal Attack Controller-Laser Target Designator (JTAC-LTD) as well as technical refresh for target acquisition, and artillery survey and				1.979 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys		PROJECT 3098: Fire Support System
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
meteorological systems. Funding is also used for upgrades, engineering change proposals (ECPs) and modifications for guided munitions and fire control systems which falls within Fire Support Systems for the Marine Corps. FY 2012 Accomplishments: Funding will be used to develop, build, test, and deliver GCFS Command Post Computer software to run on Intel hardware platform and communicate digitally with AFATDS. FY 2013 Plans: Funding will be used for development and testing of event classification for GCFS. FY 2014 Plans: Software Integration Support: Requirements to transmit information digitally to support current artillery and target acquisition systems dictates that survey, meteorological, and targeting information conform to current and anticipated established variable message formatting to ensure continued compatibility with communication and fire support systems. The funding for this will be provided to ARDEC to update and integrate digital message formats from the IPADS, GCFS & MMIM to meet required standards associated with new digital transmission kernels. FSS IA Support: This funding is necessary to meet the Clinger-Cohen requirements for FSS systems. Support is required to develop & conduct IA activities, Develop DoD required architecture and Information Support plans. Acoustics Analysis: This funding supports the analysis of the current acoustic capability to determine sustainment, enhancement, suitability and affordability opportunities associated with continued development of a system that meets the CPD & MROC validated capability.				
Title: Family of Artillery Munitions (FAM) Articles: Description: Funding is used to develop and mature atrillery munitions for the Marine Corps triad of fire. FY 2012 Accomplishments: Supported development of Advanced Cannon Artillery (ACAAP) and Excalibur to include Weapons Systems Explosives Safety Review Board (WSESRB) testing, program support, and travel. Actively monitored and provided funding for U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts. FY 2013 Plans:		0.310 0	0.323 0	0.333 0

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013
Ammunition CATT I/II development at Aberdeen Proving Ground. Actively monitor and provide funding for U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts.			
FY 2014 Plans: Ammunition CATT I/II development at Aberdeen Proving Ground. Actively monitor and provide funding for U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts.			
Title: Insensitive Munitions		1.086	1.138
Articles:		0	0
Description: All DoD services are required to field munitions that are insensitive munitions (IM) compliant. IM compliancy is measured by the performance of munitions to six tests; Fast Cook-Off, Slow Cook-Off, Bullet Impact, Fragment Impact, Sympathetic Detonation, and Shape Charge Jet. Services are required to submit IM Strategic Plans annually delineating how they intend on executing their Service IM effort to maximize IM improvements to both new development and legacy munitions. These IM Strategic Plans, Supporting Plan of Actions, and Milestones, with funding trial, are submitted to the JROC, demonstrating each Service's commitment to the continuing effort to improve IM, for approval. In order to achieve the system's IM performance, a weapon system's developer must have new technology to apply to its poorly performing IM system.			
FY 2012 Accomplishments: Two programs are included in the Insensitive Munitions (IM) funding line; Insensitive Munitions and Marine Ammunition Knowledge Enterprise (MAKE). The IM development focused on improved packaging materials/design, venting technology, development/ incorporation of a less sensitive propelling charge, and all associated munitions qualification testing of the incorporated technologies. The MAKE effort develops an enterprise knowledge repository designed, evolved and updated to facilitate knowledge dominance. MAKE provides the enterprise web based access to data and information to enable the decision making process.			
FY 2013 Plans: Continue support for all IM Testing as needed.			
FY 2014 Plans: Continue support for all IM Testing as needed.			
Title: Internally Transportable Vehicle (ITV)		0.000	6.178
Articles:			0
Description: Internally Transportable Vehicle (ITV) program fields expeditionary vehicles to ground units to support various operations. Provides the Marine Air-Ground Task Force (MAGTF) ground combat units with a vehicle transportable in CH53-E and MV-22 aircraft. The ITV is an integral part of the Expeditionary Fire Support System (EFSS).			0.214

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 3098: Fire Support System				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
FY 2013 Plans: FY 2013 plans consist of testing and developmental evaluation tasks; continuing to improve the Internally Transportable Vehicle (ITV) from prior year efforts. These efforts include: improving the braking system by developing a modified Anti-lock Braking System, developing a Mechanical Air Compressor, Battery Cut-Off Switch, and the Prime Mover Driveshaft Safety Loop among other tasks.												
FY 2014 Plans: FY 2014 plans include funding program management support for the Internally Transportable Vehicle (ITV).												
Accomplishments/Planned Programs Subtotals										26.745	17.785	16.221
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
• PMC/206400: Expeditionary Fire Support Systems	9.663	2.502	0.589		0.589	10.385	10.386	10.405	10.876	0.000	131.608	
• PMC/473300: Common Laser Range Finder (CLRF)	0.035	3.249	0.001		0.001	11.346	11.540	11.736	11.949	0.000	49.856	
• PMC/473301: Modeled Meterological Information Manager (MMIM)	2.321	1.500	0.250		0.250	0.250	0.500	0.500	0.509	0.000	7.845	
• PMC/473302: Fire Support Mods	2.734	2.570	3.498		3.498	3.812	3.926	4.047	4.116	0.000	71.480	
Remarks												
D. Acquisition Strategy												
These programs range from off-the-shelf modifications to developmental items. Development will typically be conducted at government labs. Provides WESRB certification to bring ordnance into the Marine Corps inventory. Fire power enhancement used selected upgrades from Army developmental programs to create a system that more readily meets Marine Corps requirements. MMIM will consist almost entirely of component integration and testing followed by a Limited User Evaluation and fielding. CLRF-IC is a developmental program utilizing progressive competition. GCFS effort consists of development and testing at a government facility.												
E. Performance Metrics												
N/A												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 3098: Fire Support System					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ITV Anti-Braking System Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.400	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Mechanical Air Compressor Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.250	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Prime Mover Driveshaft Safety Loop Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.150	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Battery Cut-Off Switch Dvelopment	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.100	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Ammo Trailer Brake Modification Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.400	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Roll Cage Lightening Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.200	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Aramid Fiber Composite Hood Development	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		0.300	May 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV	Various	Various:Various	21.500	0.000		0.000		0.000		-		0.000	0.000	21.500	
ITV EFI Engine Integration & Windshield Testing	MIPR	Aberdeen Testing Center:Aberdeen Proving Ground, MD	0.000	0.000		1.200	May 2013	0.000		-		0.000	0.000	1.200	
EFSS (PERM)	TBD	TBD:Contractors	0.000	0.000		7.027	Mar 2013	11.887	Nov 2013	-		11.887	0.000	18.914	
Fire Support Mods	MIPR	ARDEC:Picatinny, NJ	0.000	0.000		0.000		0.750	Nov 2013	-		0.750	0.000	0.750	
EFSS	C/FFP	GDOTS:St. Petersburg, FL	23.190	10.984	Aug 2012	0.000		0.000		-		0.000	0.000	34.174	
Fire Support Mods	MIPR	Army Research Lab:Adelphi, MD	8.063	1.488	Jan 2012	0.000		0.000		-		0.000	0.000	9.551	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 3098: Fire Support System					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fire Support Mods	WR	NSWC DD:Dahlgren, VA	0.000	0.000		1.195	Nov 2012	0.000		-		0.000	0.000	1.195	
CLRF	TBD	TBD:Contract	3.183	11.883	Sep 2012	0.920	Mar 2013	0.000		-		0.000	0.000	15.986	
CLRF	WR	NSWC DD:Dahlgren, VA	0.000	0.000		0.000		0.400	Nov 2013	-		0.400	0.000	0.400	
MMIM	MIPR	FT. Monmouth:Ft. Monmouth, MJ	0.000	0.291	Nov 2011	0.000		0.000		-		0.000	0.000	0.291	
MMIM	MIPR	ARL:Adelphi, MD	0.000	0.186	Dec 2011	0.000		0.000		-		0.000	0.000	0.186	
Insensitive Munitions1	C/FFP	GDOTS:St. Petersburg, FL	1.820	1.086	Jun 2012	0.000		0.000		-		0.000	0.000	2.906	
Insensitive Munitions	TBD	TBD:TBD	0.000	0.000		1.138	Jan 2013	1.159	Jan 2014	-		1.159	0.000	2.297	
Subtotal			57.756	25.918		13.280		14.196		0.000		14.196			
Remarks															
Funds will be used to develop a tech data package based on rapid reverse engineer technique. Prototype development will concurrently be performed to allow for test and validation of the tech data package.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fire Support Mods	TBD	TBD:TBD	0.000	0.000		0.000		1.229	Nov 2013	-		1.229	0.000	1.229	
Fam Artillery Munitions	WR	BAEST:Stafford, VA	1.699	0.310	Jun 2012	0.000		0.000		-		0.000	0.000	2.009	
Subtotal			1.699	0.310		0.000		1.229		0.000		1.229	0.000	3.238	
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ITV Anti-Braking System Development	C/FFP	TBD:TBD	0.000	0.000		0.800	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys					PROJECT 3098: Fire Support System				
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ITV Mechanical Air Compressor Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.600	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Prime Mover Driveshaft Safety Loop Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.100	Aug 2013	0.214	Oct 2013	-		0.214	Continuing	Continuing	Continuing
ITV Battery Cut-Off Switch Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.200	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Ammo Trailer Brake Modification Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.200	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV Roll Cage Lightening Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.200	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
ITV EFI Engine Integration & Windshield Testing	C/FFP	TBD:TBD	0.000	0.000		0.600	Aug 2013	0.000		-		0.000	0.000	0.600	
ITV Aramid Fiber Composite Hood Testing & Evaluation	C/FFP	TBD:TBD	0.000	0.000		0.300	Aug 2013	0.000		-		0.000	Continuing	Continuing	Continuing
EFSS	WR	NSWCDD:Dahlgren, VA	3.862	0.517	Mar 2012	0.000		0.000		-		0.000	0.000	4.379	
EFSS	WR	MCPD:Fallbrook, CA	6.259	0.000		0.000		0.000		-		0.000	0.000	6.259	
MMIM	WR	NSWC DD:Dahlgren, VA	0.000	0.000		0.249	Dec 2012	0.249	Dec 2013	-		0.249	0.000	0.498	
Fire Support Mods	WR	NSWC DD:Dahlgren, VA	0.000	0.000		0.495	Nov 2012	0.000		-		0.000	0.000	0.495	
Fire Support Mods	Allot	MCOTEA:MCOTEA	0.000	0.000		0.260	Nov 2012	0.000		-		0.000	0.000	0.260	
FAM	WR	Aberdeen Proving Ground:Aberdeen, MD	0.000	0.000		0.323	Jan 2013	0.333	Jan 2014	-		0.333	0.000	0.656	
Subtotal			10.121	0.517		4.327		0.796		0.000		0.796			
Remarks Prototype testing required to validate configuration; will begin at Aberdeen Proving Ground in Fiscal Year 2013.															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>						PROJECT 3098: <i>Fire Support System</i>			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ITV	C/FFP	MCSC:MCSC	0.000	0.000		0.178	Oct 2012	0.000		-		0.000	0.000	0.178	
Subtotal			0.000	0.000		0.178		0.000		0.000		0.000	0.000	0.178	
Remarks To acquire necessary skills in support of program management for ITV.															
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			69.576	26.745		17.785		16.221		0.000		16.221			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

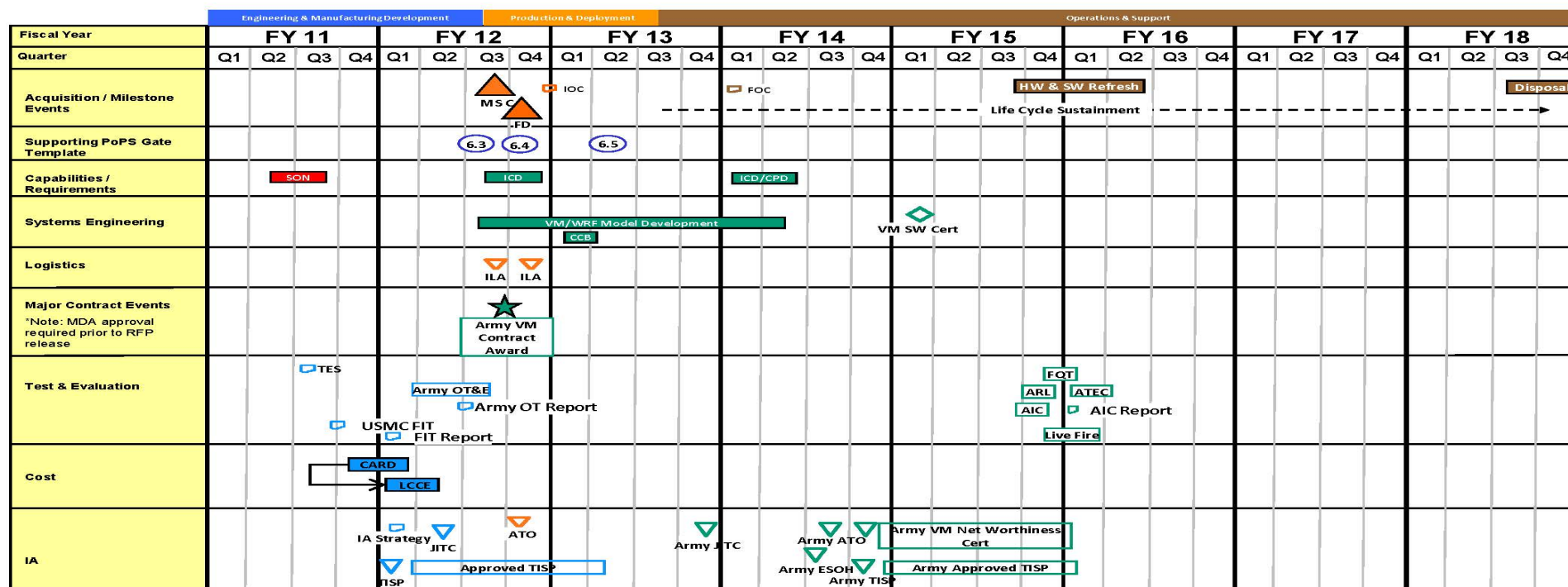
PE 0206623M: MC Ground Cmbt Spt Arms Sys

PROJECT

3098: Fire Support System



MMIM (240310) Program Schedule



★

MDA Decision Approval (non-MS)

◆

Review

■

Documentation

▲

Milestone / Key Acquisition Event

▼

Assessments, Test, Proposals

GREEN schedule items indicate follow-on Army Led efforts to implement Virtual Machine

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

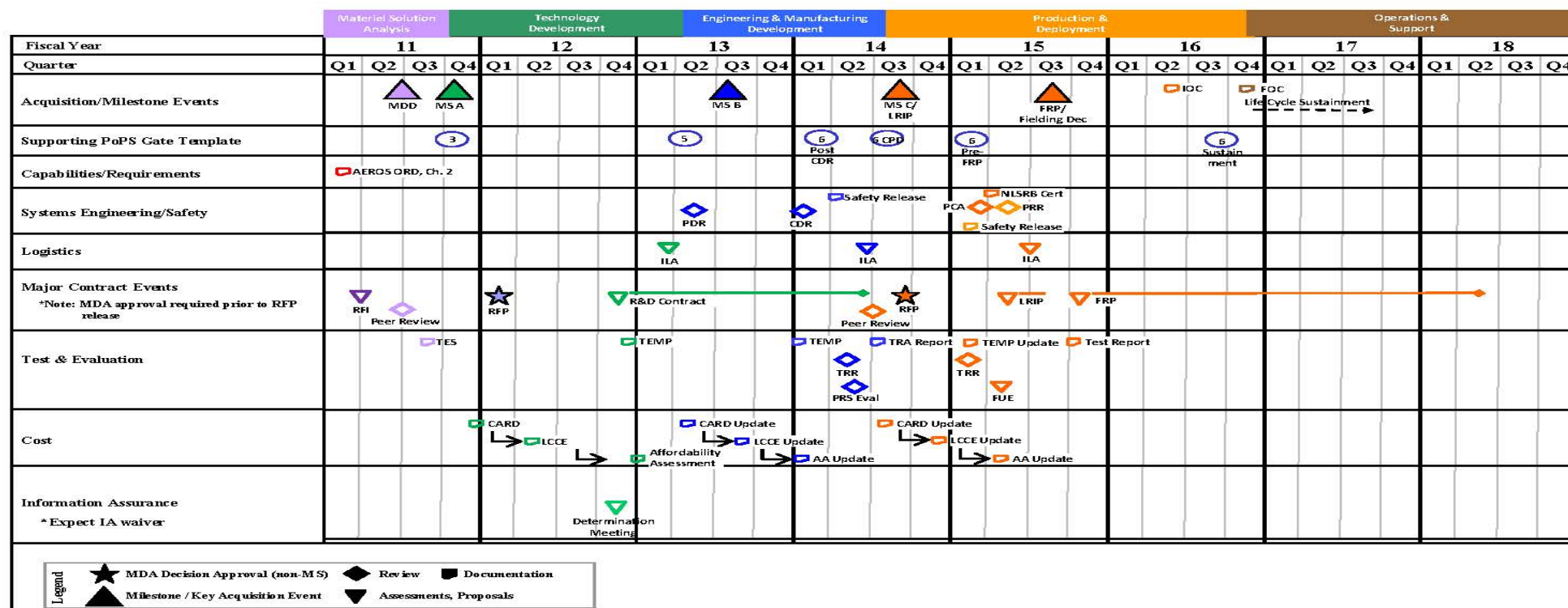
PE 0206623M: MC Ground Cmbt Spt Arms Sys

PROJECT

3098: Fire Support System



CLRF (214102) Program Schedule



• Overarching schedule that will support multiple vendor contracts through the Technology Development and Engineering and Manufacturing Development Phase

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy

BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0206623M: MC Ground Cmbt Spt Arms

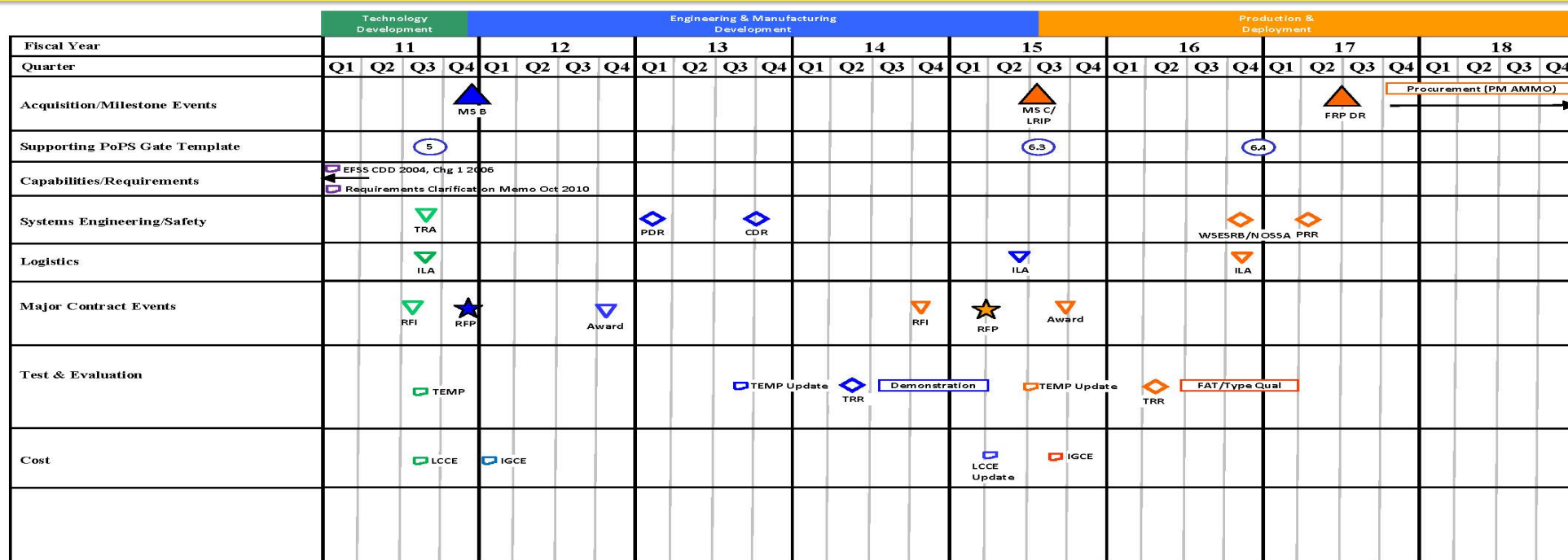
Sys

PROJECT

3098: Fire Support System



EFSS - PERM (240904) Program Schedule



Legend
 ★ MDA Decision Approval (non-MS) ◆ Review ■ Documentation
 ▲ Milestone / Key Acquisition Event ▼ Assessments, Proposals

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0206623M: MC Ground Cmbt Spt Arms
Sys

PROJECT

3098: Fire Support System

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3098				
MMIM: MS C	3	2012	3	2013
MMIM: FOC	1	2014	1	2014
CLRF: PDR	2	2013	2	2013
CLRF: MS B	3	2013	3	2013
CLRF: CDR	1	2014	1	2014
CLRF: PRR	2	2014	2	2014
CLRF: MS C	3	2014	3	2014
CLRF: PCA	1	2015	1	2015
CLRF: FRP/FIELDING DECISION	3	2015	3	2015
CLRF: IOC	2	2016	2	2016
CLRF: FOC	4	2016	4	2016
EFSS - PERM: PDR	2	2013	2	2013
EFSS - PERM: CDR	4	2013	4	2013
EFSS - PERM: DEMO	4	2014	3	2015
EFSS - PERM: MS C/LRIP	3	2015	3	2015
EFSS - PERM: PRR 1	1	2016	1	2016
EFSS - PERM: FAT/TYPE QUAL/USER TEST	2	2016	4	2017
EFSS - PERM: WSERB/NOSSA	4	2016	4	2016
EFSS - PERM: PRR 2	2	2017	2	2017
EFSS - PERM: FRP DR	2	2017	2	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy									DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 4002: Family of Raid Reconnaissance			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
4002: Family of Raid Reconnaissance	3.167	1.436	0.668	0.528	-	0.528	0.540	0.552	0.563	0.572	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
Project supports multiple airborne/parachuting and specialized reconnaissance related programs focusing on immediate capability enhancements to numerous insertion and personnel equipment shortfalls currently existing in reconnaissance units throughout the operating forces. This includes improving airborne capability equipment and items for direct action missions that use specialized raid equipment.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2012	FY 2013	FY 2014	
Title: Family of Raid/Reconnaissance Equipment (FRRE) Articles:									0.350	0.418	0.425	
									0	0	0	
FY 2012 Accomplishments: Completed testing and development of the Tandem Offset Resupply Delivery System (TORDS) canopy and the Military Tandem Tethered Bundle (MTTB) System.												
FY 2013 Plans: Perform technology upgrades and evaluation of equipment for the Marine Assault Breacher Kit. Test the Advanced Combat Helmet for use as a Military Free Fall Helmet.												
FY 2014 Plans: Perform technology upgrades and evaluation of emerging reliability challenges presented by fielded systems.												
Title: Underwater Reconnaissance Capability (URC) Articles:									0.381	0.250	0.103	
									0	0	0	
FY 2012 Accomplishments: Continued Tactical Hydrographic Survey Equipment (THSE) system integration and testing.												
FY 2013 Plans: Complete THSE testing and documentation.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>			PROJECT 4002: <i>Family of Raid Reconnaissance</i>			

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2012	FY 2013	FY 2014
Conduct research and development on a hands free diver propulsion device.						
Title: Joint Precision Air Drop System (JPADS) Articles:				0.705 0	0.000	0.000
FY 2012 Accomplishments: Evaluating soft good, hardware and software modifications to the JPADS 2K MAGU for integration with the MC-5 Canopy.						
Accomplishments/Planned Programs Subtotals				1.436	0.668	0.528

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/6518: <i>AMPHIB SPT EQUIP</i>	5.533	13.089	4.827		4.827	7.897	5.749	5.360	5.453	0.000	59.565
Remarks											

D. Acquisition Strategy

(U) Family of Raid and Reconnaissance Equipment (FRRE) acquisition strategy is to fund engineering changes and product upgrade testing and development for various Reconnaissance Special Purpose Equipment for aerial delivery, parachuting, and close quarter combat, to include the Parachutist's High Altitude Oxygen System (PHAOS); Automatic Activation Device (AAD); Tandem Offset Resupply Delivery System (TORDS)/Military Tandem Tethered Bundle (MTTB) System; and the Marine Individual Assault Kit (MIAK).

(U) Underwater Reconnaissance Capability (URC) acquisition strategy for the Tactical Hydrographic Survey Equipment (THSE) consists of technology integration and developmental testing, with production of two prototypes, four production representative articles, and technical data. The technical data will be used to develop a solicitation for production of THSE on a competitive contract.

E. Performance Metrics

Milestone reviews.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 4002: Family of Raid Reconnaissance					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Raid/Recon Equip	Reqn	MCSC:Quantico, VA	0.000	0.030	May 2012	0.000		0.000		-		0.000	0.000	0.030	
Family of Raid/Recon Equip	MIPR	US Army RDECOM:Natick, MA	0.035	0.000		0.376	Feb 2013	0.000		-		0.000	0.000	0.411	
Family of Raid/Recon Equip	TBD	TBD:TBD	0.000	0.000		0.000		0.425	Apr 2014	-		0.425	Continuing	Continuing	Continuing
Underwater Recon Capability	C/FFP	NAVSEA:Wash, DC	1.280	0.350	Mar 2012	0.050	Dec 2012	0.000		-		0.000	0.000	1.680	
Underwater Recon Capability	TBD	TBD:TBD	0.000	0.000		0.000		0.103	Apr 2014	-		0.103	Continuing	Continuing	Continuing
Joint Precision Air Drop System	MIPR	US Army RDECOM:Natick, MA	1.000	0.705	May 2012	0.000		0.000		-		0.000	0.000	1.705	
Subtotal			2.315	1.085		0.426		0.528		0.000		0.528			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Raid/Recon Equip	C/FFP	MCSC:Quantico, VA	0.815	0.204	Dec 2011	0.000		0.000		-		0.000	0.000	1.019	
Family of Raid/Recon Equip IMPAC	Reqn	MCSC:Quantico, VA	0.017	0.012	Sep 2012	0.000		0.000		-		0.000	0.000	0.029	
Family of Raid/Recon Equip Tvl	Various	MCSC:Quantico, VA	0.000	0.073	Sep 2012	0.000		0.000		-		0.000	0.000	0.073	
Underwater Recon Capability	Various	MCSC:Quantico, VA	0.000	0.007	Oct 2012	0.000		0.000		-		0.000	0.000	0.007	
Subtotal			0.832	0.296		0.000		0.000		0.000		0.000	0.000	1.128	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>						PROJECT 4002: <i>Family of Raid Reconnaissance</i>			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Raid/Recon Equip	WR	NAVAIR:PAX River, MD	0.020	0.031	Apr 2013	0.000		0.000		-		0.000	0.000	0.051	
Family of Raid/Recon Equip	WR	NSWC-Carderock:Bethesda, MD	0.000	0.000		0.042	Apr 2013	0.000		-		0.000	0.000	0.042	
Underwater Recon Capability	C/FFP	NAVSEA:Wash, DC	0.000	0.000		0.050	Jan 2013	0.000		-		0.000	0.000	0.050	
Underwater Recon Capability	WR	NAVSEA:Newport, RI	0.000	0.024	Aug 2012	0.053	Nov 2012	0.000		-		0.000	0.000	0.077	
Underwater Recon Capability	WR	TBD:TBD	0.000	0.000		0.097	Jul 2013	0.000		-		0.000	0.000	0.097	
Subtotal			0.020	0.055		0.242		0.000		0.000		0.000	0.000	0.317	
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			3.167	1.436		0.668		0.528		0.000		0.528			
Remarks															

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 9C85: Marine Personnel Carrier (MPC)			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
9C85: Marine Personnel Carrier (MPC)	10.209	18.673	39.729	20.875	-	20.875	64.944	73.137	61.286	62.227	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The Marine Personnel Carrier (MPC) satisfies the medium lift capability of the Amphibious Combat Vehicle (ACV)/Joint Light Tacticle Vehicle (JLTV)/MPC triad. The MPC supports expeditionary maneuver warfare of the Ground Combat Element (GCE) and enhances Marine Operating Forces tactical and operational mobility on a platform that is highly mobile on land while maneuvering with all USMC wheeled and tracked combat, and tactical vehicles. MPC provides armored protection and lethality to protect the vehicle and support dismounted infantry in the attack, while providing payload to carry the infantry's combat loads, mission-essential equipment, and up to two days of supply.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2012	FY 2013	FY 2014
Title: Product Development										16.704	27.041	3.167
										Articles: 0	0	0
FY 2012 Accomplishments: Issued Request for Proposal, received Bids, conducted Source Selection, and awarded 4 contracts to MPC prime contractors (BAE, SAIC, Lockheed Martin, General Dynamics) to perform studies and demonstration on Commercial Off The Shelf (COTS) MPC vehicles to demonstrate swim, survivability, and human factors capability. Issued contract to maintain the MPC-Technology Demonstrator (TD). Issued contract for the evaluation (to include marinization) of Remote Weapons Stations (RWS) of various calibers to assess applicability to all amphibious platforms. Performed reserve buoyancy requirements analysis and support.												
FY 2013 Plans: Complete studies and demonstration on COTS MPC vehicles to demonstrate capabilities such as, swim, survivability (blast), and human factors. Continue to maintain the MPC-TD which will inform the Capabilities Development Document (CDD).												
FY 2014 Plans: Prepare and conduct Pre-EMD Review leading to early FY15 Milestone (MS) B. Issue RFP for competitive MPC bids yielding two prime contractors to compete in MPC drive-off. Procure two suites of communication equipment for integration and prototype testing. Continue to maintain the MPC-TD.												
Title: Contract Advisory and Assistance Services										0.712	9.480	10.009

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy			DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys		PROJECT 9C85: Marine Personnel Carrier (MPC)		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2012	FY 2013	FY 2014
Articles:				0	0	0
FY 2012 Accomplishments: Provided program management and technical support for program requirements generation and survivability analysis.						
FY 2013 Plans: Provide contractor technical, engineering and management support for program planning, program documentation, analysis and execution. Support government laboratory vehicle technology development and evaluation including common digital integration facilitization efforts.						
FY 2014 Plans: Continue contractor technical, engineering and management support for program planning, program documentation, analysis and execution. Continue to support government laboratory vehicle technology development and evaluation. Continue common digital integration facilitization efforts in support of digital architecture software design, development, and analysis.						
Title: In-House Technical Support				1.257	3.208	7.699
Articles:				0	0	0
FY 2012 Accomplishments: Provided in-house technical engineering and integrated logistics support for program planning, analysis and execution. Provided in-house digital architecture technology and software design, development, and analysis efforts. Performed travel in support of the MPC program.						
FY 2013 Plans: Continue in-house technical engineering and integrated logistics support for program planning, analysis and execution. Continue in-house digital architecture software design, development, and analysis efforts. Continue technology development and evaluations. Perform travel in support of the MPC program.						
FY 2014 Plans: Continue in-house technical engineering and integrated logistics support for program planning, analysis and execution. Continue in-house digital architecture software design, development, and analysis efforts. Continue technology development and evaluations. Perform travel in support of the MPC program.						
Accomplishments/Planned Programs Subtotals				18.673	39.729	20.875
C. Other Program Funding Summary (\$ in Millions)						
N/A						
Remarks						

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms</i> Sys	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
D. Acquisition Strategy The Marine Personnel Carrier (MPC) program will utilize full and open competition for Engineering and Manufacturing Development (EMD). A source selection will be held to select up to two contractors. Each of these contractors will provide three prototype personnel carrier vehicles that will be subjected to Government evaluation. The results of this evaluation will be used to downselect to one contractor and support a milestone decision. The results of the EMD efforts will be used to support a MS C decision as well as determine the Low Rate Initial Production (LRIP) manufacturer.		
E. Performance Metrics N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys				PROJECT 9C85: Marine Personnel Carrier (MPC)					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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 Design & Development	Various	Not Specified:Various	7.193	16.704	Aug 2012	27.041	Dec 2012	3.167	Mar 2014	-		3.167	Continuing	Continuing	Continuing
Subtotal			7.193	16.704		27.041		3.167		0.000		3.167			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	C/FFP	Various:Various	0.286	0.000		2.054	Apr 2013	4.739	Apr 2014	-		4.739	Continuing	Continuing	Continuing
Studies and Analyses	C/FFP	Various:Various	0.000	0.229	May 2012	0.000	Mar 2013	0.000		-		0.000	Continuing	Continuing	Continuing
In-house Technical Support	WR	Various:Various	1.394	1.257	May 2012	2.103	Feb 2013	6.199	Feb 2014	-		6.199	Continuing	Continuing	Continuing
Travel	Various	Various:Various	1.150	0.000		1.105	Sep 2013	1.500	Sep 2014	-		1.500	Continuing	Continuing	Continuing
Technical Eng. Services	C/FFP	Various:Various	0.186	0.483	May 2012	7.426	Mar 2013	5.270	Mar 2014	-		5.270	Continuing	Continuing	Continuing
Subtotal			3.016	1.969		12.688		17.708		0.000		17.708			
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			10.209	18.673		39.729		20.875		0.000		20.875			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

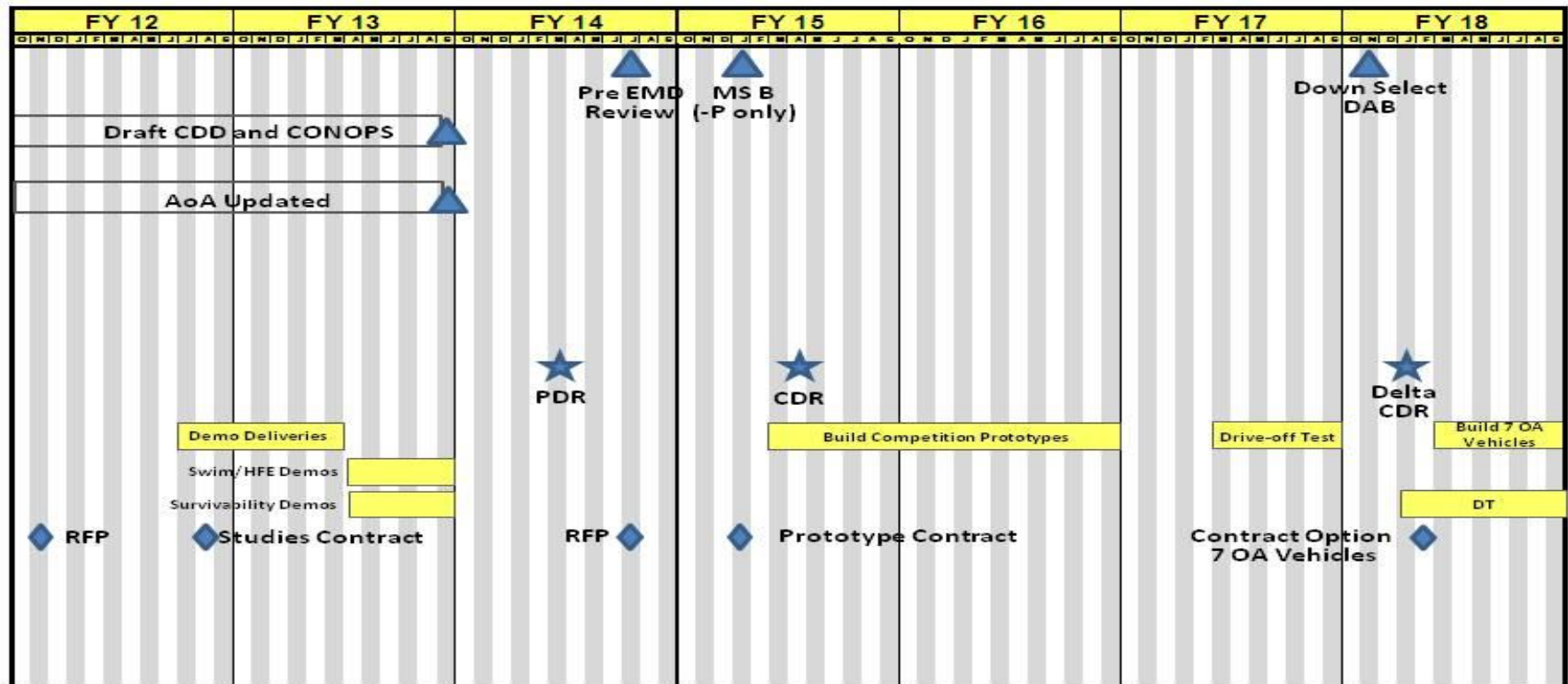
R-1 ITEM NOMENCLATURE

PE 0206623M: MC Ground Cmbt Spt Arms Sys

PROJECT

9C85: Marine Personnel Carrier (MPC)

MPC Schedule Summary



Updated 16 May 12

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C85				
Studies and Demonstration Contract	4	2012	4	2012
Capabilities Development Document (CDD)	4	2013	4	2013
Analysis of Alternatives	4	2013	4	2013
Preliminary Design Review (PDR)	2	2014	2	2014
Milestone B Decision	2	2015	2	2015
Prototype Contract	2	2015	2	2015
Critical Design Review (CDR)	3	2015	3	2015
Drive-Off Testing	2	2017	4	2017
Contract Option 7 OA Vehicles	2	2018	2	2018