Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy										DATE: February 2012	
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*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	77.622	159.396	181.693	-	181.693	234.948	178.947	166.168	124.002	Continuing	Continuing
0021: *Assault Amphibious Vehicle 7A1*	8.698	25.776	37.160	-	37.160	43.412	32.861	14.552	6.152	Continuing	Continuing
1555: *Lt Armored Vehicle Prog*	11.866	39.954	35.859	-	35.859	20.790	8.866	9.005	9.089	Continuing	Continuing
1901: *MC Grnd Wpnry Prod Improvement*	11.193	10.670	12.737	-	12.737	12.281	9.981	7.627	5.874	Continuing	Continuing
2086: *Soldier/Marine Enhancement*	4.398	5.324	3.041	-	3.041	6.178	5.235	5.357	5.425	Continuing	Continuing
2237: *Amphibious Vehicle Test*	0.915	0.934	0.933	-	0.933	0.953	0.965	0.981	0.995	Continuing	Continuing
2315: *Training Devices/Simulators*	2.315	14.642	19.492	-	19.492	14.858	11.859	12.064	10.687	Continuing	Continuing
2503: *Initial Issue*	12.840	6.888	8.244	-	8.244	9.205	7.914	7.959	8.202	Continuing	Continuing
2513: *Body Armor*	-	5.332	3.692	-	3.692	5.608	4.841	4.919	5.037	Continuing	Continuing
2928: *Exp Indirect Fire Gen Supt Wpn Sys*	1.523	1.946	2.353	-	2.353	2.405	2.448	2.488	2.548	Continuing	Continuing
3098: *Fire Support System*	13.965	27.219	17.785	-	17.785	26.612	12.681	9.021	6.619	Continuing	Continuing
4002: *Family of Raid Reconnaissance*	3.288	0.801	0.668	-	0.668	0.530	0.540	0.552	0.562	Continuing	Continuing
9C85: *Marine Personnel Carrier (MPC)*	6.621	19.910	39.729	-	39.729	92.116	80.756	91.643	62.812	Continuing	Continuing

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. It also 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 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy					DATE: February 2012
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*		
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	100.424	209.396	275.998	-	275.998
Current President's Budget	77.622	159.396	181.693	-	181.693
Total Adjustments	-22.802	-50.000	-94.305	-	-94.305
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-50.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.095	-			
• SBIR/STTR Transfer	-1.496	-			
• Program Adjustments	-	-	-94.185	-	-94.185
• Rate/Misc Adjustments	-0.001	-	-0.120	-	-0.120
• Congressional General Reductions Adjustments	-0.400	-	-	-	-
• Congressional Directed Reductions Adjustments	-24.000	-	-	-	-

Change Summary Explanation

FY 11 decreases are due to Congressional marks issued because of contract delays in both the LAV-AT program and program delays in the MPC program.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0021: *Assault Amphibious Vehicle 7A1*	8.698	25.776	37.160	-	37.160	43.412	32.861	14.552	6.152	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

AAV lifecycle and safety support and Primary Item Control Agent (PICA) functions. Funding to integrate Survivability upgrades to the AAV. AAV Family of Vehicles (FOV) Survivability Program: Capabilities based upgrade program centered on material upgrades in survivability to include, but not limited to, blast mitigating seats, belly/sponson armor, spall liner, deck liner, and external fuel tank.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: *AAV (FOV) Survivability Program	-	3.843	-	-	-
Articles:		0			
Description: AAV (FOV) Survivability: MCCDC published a new requirement for AAV Survivability in June 2010. These capabilities center on material upgrades in survivability that include, but are not limited to, blast mitigating seats, belly/sponson armor, spall liner, deck liner, and external fuel tank.					
FY 2012 Plans: Initiate development of material upgrades in survivability that include, but are not limited to, blast mitigating seats, belly/sponson armor, spall liner, deck liner, and external fuel tank.					
Title: *PM AAV Operations Support:	8.698	1.933	2.430	-	2.430
Articles:	0	0	0		0
Description: AAV Operations Support: Evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles (FOV).					
FY 2011 Accomplishments: Continue Engineering and safety fact-of-life changes to the FOV.					
FY 2012 Plans: Continue Engineering and safety fact-of-life changes to the FOV.					
FY 2013 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
AAV Operations Support: Evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles (FOV).					
Title: AAV Upgrade ***Articles:*** ***Description:*** AAV Upgrade will improve the legacy AAV and extend its service life until replaced by the Amphibious Combat Vehicle (ACV) and Marine Personnel Carrier (MPC). Capability improvements include increased mobility, survivability, lethality, C4I/situational awareness, environment/habitability and logistics. ***FY 2012 Plans:*** Initiate capability improvements to include increased mobility, survivability, lethality, C4I/situational awareness, environment/habitability and logistics. Requirements refinement using Government labs to validate concepts and material solution approaches. ***FY 2013 Base Plans:*** Continuing automotive and suspension improvements as well as potential water speed improvement. Supporting efforts include continuing survivability efforts. Lethality investigations in support of common weapon system, mount and or controls.	-	20.000 0	34.730 0	-	34.730 0
Accomplishments/Planned Programs Subtotals	8.698	25.776	37.160	-	37.160

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/2021: *AAV Mods/SLEP*	17.709	9.894	16.089	0.000	16.089	32.461	53.845	84.035	104.193	24.915	1,227.514

D. Acquisition Strategy

The USMC intends to competitively award a contract to procure 392 upgraded Assault Amphibious Vehicles. The Upgrades' 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 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 a competitive downselect with MSB in FY 13 followed by EMD and production. IOC is currently scheduled for FY17.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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*

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Casualty Scoring	WR	TBD:TBD	-	0.010	Feb 2012	-		-		-	0.000	0.010	
Upgrade Trade Study	C/CPFF	4 Vendors:TBA	-	1.000	Apr 2012	-		-		-	0.000	1.000	
Hydrodynamic/Hydrostatic Upgrade	WR	NSWC Carderock:Bethesda, MD	-	0.271	Jan 2012	-		-		-	0.000	0.271	
EMD	C/CPIF	TBD:TBD	-	-		4.000	Aug 2013	-		4.000	26.307	30.307	
Intersom Integration	TBD	TBD:TBD	-	0.400	Apr 2012	-		-		-	0.000	0.400	
Upgrades to ECPs	C/CPFF	BAE Systems:Stafford, VA	34.731	2.065	Mar 2012	-		-		-	5.873	42.669	
S1000 Support	WR	NSWC Carderock:Bethesda, MD	-	0.245	Mar 2012	-		-		-	0.000	0.245	
S1000 Support	WR	NAVAIRSYSCOM:Alexandria, VA	-	0.175	Mar 2012	-		-		-	0.000	0.175	
Turret Hatch Improvement	WR	MarcorSyscom:Quantico, VA	-	1.200	Feb 2012	-		-		-	0.000	1.200	
DMSMS	WR	Naval Undersea Warfare Center:Puget Sound, WA	-	0.198	Jan 2012	-		-		-	0.000	0.198	
Tactical Radio Refresh	WR	TBD:TBD	-	0.879	Apr 2012	2.000	Feb 2013	-		2.000	0.000	2.879	
Systems Design and Development	C/BA	TBD:TBD	-	-		20.677	Mar 2013	-		20.677	0.000	20.677	
		Subtotal	34.731	6.443		26.677		-		26.677	32.180	100.031	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Engineering Spt	C/CPFF	BAE Systems:Stafford, VA	24.827	2.027	Apr 2012	-		-		-	0.000	26.854	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Modeling Developement/ProE	WR	SPAWAR:Charleston, SC	2.000	10.606	Jan 2012	-		-		-	0.000	12.606	
Technical Engineering Spt	C/CPFF	TBA:TBA	-	-		2.885	Feb 2013	-		2.885	2.000	4.885	
Digital Integration Facility	PO	SPAWAR:Charleston, SC	-	0.800	Jan 2012	1.500	Jan 2013	-		1.500	0.000	2.300	
		Subtotal	26.827	13.433		4.385		-		4.385	2.000	46.645	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Analysis of EDMS	WR	NATC:Reno, NV	-	-		-		-		-	1.000	1.000	
Developmental/Eval Test	WR	MCOTEA/ AVTB:Quantico, VA/ Cammpen	1.028	-		-		-		-	1.000	2.028	
Live Fire Dev Test	MIPR	ATC:Aberdeen, MD	-	-		-		-		-	3.000	3.000	
T-161 Track Test	WR	AVTB:Camp Pendleton, CA	-	0.600	May 2012	-		-		-	0.000	0.600	
Studies and Analysis of Upgrade	C/BA	TBD:TBD	-	-		0.500	May 2013	-		0.500	0.000	0.500	
		Subtotal	1.028	0.600		0.500		-		0.500	5.000	7.128	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Documentation Mgmt	C/CPFF	BAE Systems:Stafford, VA	4.287	0.433	Apr 2012	-		-		-	0.000	4.720	
Documentation Mgmt	C/CPFF	TBA:TBA	-	-		0.452	Mar 2013	-		0.452	0.000	0.452	
Management Support	C/CPFF	CEOss:Quantico, VA	0.500	4.867	Mar 2012	4.909	Mar 2013	-		4.909	5.077	15.353	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	TBD	PM AAA:Woodbridge, VA	-	-		0.237	Oct 2012	-		0.237	0.000	0.237	
		Subtotal	4.787	5.300		5.598		-		5.598	5.077	20.762	

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	67.373	25.776		37.160		-		37.160	44.257	174.566	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
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*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0021				
AAV MDD	4	2012	4	2012
CDD	2	2012	2	2012
MS B	4	2013	4	2013
EMD CONTRACT AWARD	4	2013	4	2013
EMD	4	2013	4	2014
PDR	1	2014	1	2014
CDR	3	2014	3	2014
MS C (LRIP)	3	2015	3	2015
OA	2	2015	3	2015
LRIP	4	2015	2	2016
IOTE	4	2016	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1555: *Lt Armored Vehicle Prog*	11.866	39.954	35.859	-	35.859	20.790	8.866	9.005	9.089	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 four programs; the LAV Modification Program, the LAV Anti-Tank System Program, the LAV Survivability Upgrades Program, and the LAV Indirect Fire Modernization 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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: LAV MODIFICATIONS	3.853	8.314	7.495	-	7.495
Articles:	0	0	0		0
FY 2011 Accomplishments: Research and development of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase 3, Full system Live Fire Testing.					
FY 2012 Plans: Research and development of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase 4/Armored Mounts/Light Weight Hatches/Blast Shields for Vehicle Commanders and Feed Chute End Connectors.					
FY 2013 Base Plans: Research and development of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. High Capacity Light Weight Self Recovery Winch/Lighter Weight Underbelly Kit/Live Fire Testing for the Light Weight Hatches, Doors and Underbelly Kits/Dual Purposed 25mm Round.					
Title: LAV ANTI-TANK SYSTEM	8.013	10.910	9.602	-	9.602
Articles:	0	4	0		0
FY 2011 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
LAV-AT - MS-B Approval, RFP preparation and release, conduct Source Selection, Systems Requirements Review (SRR)#1, Engineering & Manufacturing Development contract award (Vehicle Integration). ***FY 2012 Plans:*** LAV-AT - Continued Engineering & Manufacturing Development contract (4 Prototypes & Vehicle Integration), Preliminary Design Review (PDR), Critical Design Review (CDR), Interfaces and Integration, Contractor Testing, Begin Developmental Testing Planning and Technical Readiness Review, SRR #2. ***FY 2013 Base Plans:*** LAV-AT - Complete design interface and prototype development, Developmental Testing, Technical Manual Updates, begin Operational Test planning and prepare MS-C documentation.					
Title: LAV SURVIVABILITY UPGRADES ***Articles:*** ***FY 2012 Plans:*** LAV SURV UPGRADES Advanced Suspension - EMD Phase RFP Development, Milestone B Development, MS B, System Development RFP Release, Source Selection. Power Pack - ECP Development and integration. ***FY 2013 Base Plans:*** LAV SURV UPGRADES Advanced Suspension - EMD contract award, Developmental Testing planning, Technical Reviews, begin DT to include LFT&E, and conduct limited user evaluations.	-	7.641 4	18.762 4	-	18.762 4
Title: LAV Indirect Fire Modernization ***Articles:*** ***FY 2012 Plans:*** LAV Indirect Fire Modernization-EMD RFP Development, Market Survey, Milestone B Development.	-	13.089 0	-	-	-
Accomplishments/Planned Programs Subtotals	11.866	39.954	35.859	-	35.859

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/2038: *LAV*	78.675	171.013	196.216	0.000	196.216	166.917	188.778	149.287	248.229	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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*

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.

The LAV Anti-Tank System program will focus on full and open competition to integrate a new turret into the LAV-AT variant with options for production. The LAV-ATM 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 will lead to the Engineering & Manufacturing Development (EMD) phase. 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 program will use information from the Office of Naval Research (ONR) effort of a "Rolling Down Select" of potential competitors with a Technology Readiness Level target of TRL7. The Power Pack effort will require ECP development, integration and testing of the new OEM recommended power pack replacement that will be used in future new production vehicles. The current power pack will be obsolete and must be replaced in the LAV fleet.

The Indirect Fire Modernization program will acquire and integrate an NDI Mortar system (ordnance and fire control system) into the refurbished existing LAV-Mortar variant chassis. The LAV Indirect Fire Modernization is an enhancement for the M252 81mm mortar of the LAV-M variant to correct operational effectiveness deficiencies. The LAV-M will have greater range, and improved responsiveness. Finalized Acquisition strategy, Acquisition Program Baselines and Test & Evaluation Master Plans will be prepared during MS B.

E. Performance Metrics

Milestone Reviews

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SYS DEV/PROTOTYPES (Surv Upgrades)	C/CPFF	TBD:TBD	-	4.023	May 2012	4.997	Mar 2013	-		4.997	0.000	9.020	
SYS DEV/ PROTOTYPES(Indirect Fire)	C/CPFF	TDB:TBD	-	6.774	Jun 2012	-		-		-	0.000	6.774	
ILS DATA DEVELOPMENT (Indirect Fire)	C/CPFF	TBD:TBD	-	2.089	Aug 2012	-		-		-	0.000	2.089	
PRODUCT DEV. (MOD)	C/CPFF	TBD:TBD	6.648	6.744	May 2012	5.999	Mar 2013	-		5.999	Continuing	Continuing	Continuing
SYS DEV/ PROTOTYPES(Anti-Tank)	C/CPFF	TBD:TBD	9.074	3.582	Mar 2012	0.535	Nov 2012	-		0.535	Continuing	Continuing	Continuing
ILS DATA DEVELOPMENT (Anti-Tank)	C/CPFF	TBD:TBD	-	1.497	Mar 2012	3.102	Nov 2012	-		3.102	Continuing	Continuing	Continuing
		Subtotal	15.722	24.709		14.633		-		14.633			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt (Surv Upgrades)	MIPR	TACOM:Warren, MI	-	1.742	Nov 2011	1.659	Oct 2012	-		1.659	0.000	3.401	
Program Mgmt (Indirect Fire)	MIPR	TACOM:Warren, MI	-	3.992	Nov 2011	-		-		-	0.000	3.992	
Program Mgmt (MOD)	MIPR	TACOM:Warren, MI	0.292	0.591	Jan 2012	0.614	Oct 2012	-		0.614	Continuing	Continuing	Continuing
Program Mgmt (Anti-Tank)	MIPR	TACOM:Warren, MI	2.587	1.354	Nov 2011	1.402	Oct 2012	-		1.402	Continuing	Continuing	Continuing
		Subtotal	2.879	7.679		3.675		-		3.675			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Devl/Oper. T&E (Indirect Fire)	MIPR	TBD:TBD	-	-		-		-		-	0.000	0.000	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Devl/Oper. T&E (Surv. Upgrades)	MIPR	TBD:TBD	-	1.657	Jun 2012	11.882	Apr 2013	-		11.882	0.000	13.539	
Test Equipment (Indirect Fire)	C/FP	TBD:TBD	-	0.014	Sep 2012	-		-		-	0.000	0.014	
Devl/Oper. T&E (MOD)	MIPR	TBD:TBD	0.837	0.720	Jun 2012	0.666	Mar 2013	-		0.666	Continuing	Continuing	Continuing
Devl/Oper. T&E (Anti-Tank)	MIPR	TBD:TBD	-	3.853	Jun 2012	3.875	Oct 2012	-		3.875	Continuing	Continuing	Continuing
		Subtotal	0.837	6.244		16.423		-		16.423			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Tech. Eng. Services (Indirect Fire)	C/FP	TBD:TBD	-	0.220	May 2012	-		-		-	0.000	0.220	
Tech. Eng. Services (Surv. Upgrades)	C/FP	TBD:TBD	-	0.219	May 2012	0.224	May 2013	-		0.224	0.000	0.443	
Tech. Eng. Services (MOD)	C/FP	TBD:TBD	0.199	0.259	May 2012	0.269	May 2013	-		0.269	Continuing	Continuing	Continuing
Tech. Eng. Services (Anti-Tank)	C/FP	TBD:TBD	2.258	0.624	May 2012	0.635	May 2013	-		0.635	Continuing	Continuing	Continuing
		Subtotal	2.457	1.322		1.128		-		1.128			

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	21.895	39.954		35.859		-		35.859			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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*

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
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

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
LAV Anti-Tank Modernization				
IOC	4	2016	4	2016
MS-B	1	2011	3	2011
Developmental Testing	1	2013	1	2014
Operational Testing	2	2014	4	2014
MS-C	4	2014	4	2014
Production Contract Award	4	2014	4	2014
LAV Survivability Upgrades (Advanced Suspension)				
Production Contract Award	1	2015	1	2015
Operational Testing	4	2014	1	2015
Developmental Testing	4	2013	4	2014
MS-C	1	2015	1	2015
MS-B	3	2012	3	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1901: *MC Grnd Wpnry Prod Improvement*	11.193	10.670	12.737	-	12.737	12.281	9.981	7.627	5.874	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Company and Battalion Mortars.	0.498	0.509	-	-	-
Articles:	0	0			
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 2011 Accomplishments: This funding will be used to conduct determination testing on inconel (metal alloys in high temperature applications) cannons in order to define firm condemnation criteria.					
FY 2012 Plans: This funding will be used to conduct destructive testing on inconel cannons in order to define firm condemnation criteria.					
Title: Infantry Weapons Mods.	1.329	1.242	1.257	-	1.257
Articles:	0	0	0		0
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. The funding permits economical level-of-effort project participation to analyze, design, develop, and field modifications. This level-of-effort funding line allows timely response to safety and performance issues that require immediate attention to maintain operational readiness.					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: The Infantry Weapons Modification program is supporting reliability testing on Quick Change Barrels for M2 Heavy Machine Guns. It will also be used for testing of suppressors, buttstocks, and floating barrels on rifles used by USMC Infantry. ***FY 2012 Plans:*** The Infantry Weapons Modification program will test suppressors, collapsible buttstocks, and floating barrels on various rifles used by Infantry Marines to evaluate their performance as compared to requirements. It will also evaluate performance of various types of ammunition currently under development. The funding will permit economical level-of-effort project participation, to analyze, design, develop, and field modifications. ***FY 2013 Base Plans:*** The Infantry Weapons Modification program will continue to develop joint and Marine Corps unique improvements to infantry weapons and fire support technology. The improvements will address critical operational and logistics deficiencies in fielded infantry weapon systems and equipment. The funding will permit economical level-of-effort project participation, to analyze, design, develop, and field modifications. This level-of-effort funding line will allow timely response to safety and performance issues that require immediate attention to maintain operational readiness.					
Title: Mission Payload Module (MPM). ***Articles:*** ***Description:*** New weapon system that launches non-lethal payloads to greater ranges with broader area coverage, a 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 2011 Accomplishments:*** Conducted Government confirmation tests to evaluate the effectiveness and Risk of Significant Injury (RSI) of the Vendors' non-lethal munitions designs. The tests were performed to determine the threshold levels of light, sound, heat, blast overpressure and fragmentation produced by the contractor's muntions. The data was analyzed using Government developed models through the Joint Non-Lethal Weapons Directorate (JNLWD), Human Center of Excellence (HECOE) to determine the level of suppression and RSI achieved by munitions. Additionally, the Government evaluated the technical adequacy of the proposed system design to ensure that	2.568 0	1.920 0	4.606 0	-	4.606 0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
the technology within the proposed system design met the performance specifications described in the SPS and that readiness level of the technology presented was at a Technology Readiness Level (TRL) of 6 or greater. ***FY 2012 Plans:*** To issue a new Request for Proposal for a full and open competition to transition the program to the Engineering and Manufacturer Development (EMD) phase during 1st Quarter FY12. Contract award to a single contractor is anticipated following a favorable Milestone B decision. The planned FY 2012 efforts will include, but are not limited, a System Requirement Review, and Preliminary Design Review ***FY 2013 Base Plans:*** 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 operational assessment (EOA), Functional Configuration Audit (FCA), and proof of principle demonstration by the contractor. In conjunction with finalizing system design, a Level of Repair Analysis (LORA) and Failure Mode and Effects Analysis (FMECA) will be conducted, development of operator and maintenance manuals, as well as conducting Instructor & Key Personnel Training (I&KPT) in support of EOA.					
Title: Night Vision Mod Line. (NVM) ***Articles:*** ***Description:*** The Night Vision Mod Line is a level of effort line and is used to research and develop potential modification kits and provide essential test and evaluation services to maintain and improve quality of service, performance, safety, and life-cycle support of legacy Principle End Items (PEIs). The NVM program provides a means of maintaining and upgrading the Marine Corps NVE through technological advances and to develop Engineering Change Proposals (ECPs) for legacy PEIs. ***FY 2011 Accomplishments:*** Joint participation and Marine Corps unique activities were conducted for evaluation of safety, lethality, weight reduction and technology improvements for Marine Corps night vision devices. A detailed reliability analysis/ prediction was conducted to look at both the physics and the statistical failures of night vision devices to accurately predict the life expectancy of legacy systems. Further upgrades to I2 devices were pursued to provide the war-fighter with a potential fused solution upgrade to currently fielded equipment. ***FY 2012 Plans:***	2.311 0	2.361 0	2.392 0	-	2.392 0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Will conduct Joint participation as well as Marine Corps unique activities for evaluation of safety, lethality, weight reduction and technology improvements for Marine Corps night vision devices. ***FY 2013 Base Plans:*** Continued Joint participation and Marine Corps unique activities for evaluation of safety, lethality, weight reduction and technology improvements for Marine Corps night vision devices.					
Title: Escalation of Force Equipment (EOFE) ***Articles:*** ***Description:*** The EoF-E program, a level of effort line, supports the Marine Corps requirement for Non-Lethal and Force Protection capabilities for use during escalation of force (EoF) situations. This program supports modification requirements based on upgrades, refurbishments and refreshments of existing kits, sets, and systems (e.g. LA-9/P,EoF-MM) to meet current and future needs to enhance system capabilities. This program also provides future escalation of force systems as they move to, and past full operational capability. Funding provides an enhanced set of EoF equipment for the MARFORs to meet CMCs Vision and Strategy 2025 that directs DC CD&I to Significantly increase the capacity and capability of non-lethal systems to limit collateral damage and lethal effects. ***FY 2011 Accomplishments:*** Conducted testing on brackets that mount a non-lethal tube-launched munitions system (NL/TLMS) on a MRAP Vehicle and a M3 Machinegun-Tri-Pod. ***FY 2012 Plans:*** To evaluate 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 Warfights ability to inspect and detect threats such as IEDs inside of vehicles. ***FY 2013 Base Plans:*** Continue to fund system engineering and program management, system test and evaluation, development of engineering documentation, and Human Effects Center of Excellence support.	0.142 0	0.054 0	0.300 0	-	0.300 0
Title: Ocular Interuption (OI). ***Articles:***	1.699 0	2.701 0	0.938 0	-	0.938 0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Ocular Interruption (OI) is the replacement 'Dazzling Laser" program for the B.E. Meyers GBD-IIIC and the Glare Mount 532P-M (Mini Green) laser. OI will be an 'eye-safe' system that will be used in Escalation of Force Missions. ***FY 2011 Accomplishments:*** Funded system engineering and program management, system test and evaluation, development engineering, Human Effects Center of Excellence support and Engineering and Manufacturing Development Contract. ***FY 2012 Plans:*** Continue to fund system engineering and program management, system test and evaluation, development engineering, Human Effects Center of Excellence support and Engineering and Manufacturing Development Contract. ***FY 2013 Base Plans:*** Completion of contractor system level verification testing/demonstration.					
Title: Sniper System Capability Set (SSCS).	0.299	0.308	0.315	-	0.315
Articles:	0	0	0		0
FY 2011 Accomplishments: Funded the testing of a modular stock for the M40A5 Sniper Rifle and an evaluation of the life cycle and endurance of the M110 Semi-Automatic Sniper System (SASS). Conducted testing for a longer range sniper rifle capability beyond that of the M40A5 Sniper Rifle. ***FY 2012 Plans:*** Funds will be used to conduct testing for a longer range sniper rifle capability outside of the M40A5 Sniper Rifle. Funds are planned to conduct testing for a lightweight barrel for the M40 Series Sniper Rifle. The current system has increased in weight since its fielding due to the addition of multiple ancillary items and the potential addition of a metal stock. The test will evaluate the feasibility of obtaining a shorter, lightweight barrel that allows the system to maintain an accuracy of 1.0 Minutes-of-Angle. In addition, funds will be used for testing to evaluate the probability of hit for the M40 Sniper Rifle. ***FY 2013 Base Plans:*** Funds will be used to conduct testing for a longer range sniper rifle capability outside of the M40A5 Sniper Rifle. Funds are planned to conduct testing for a lightweight barrel for the M40 Series Sniper Rifle. The current system has increased in weight since its fielding due to the addition of multiple ancillary items and the potential addition					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
of a metal stock. The test will evaluate the feasibility of obtaining a shorter, lightweight barrel that allows the system to maintain an accuracy of 1.0 Minutes-of-Angle. In addition, funds will be used for testing to evaluate the probability of hit for the M40 Sniper Rifle.					
Title: Disable Point Target (DPT) ***Articles:*** ***Description:*** Disable Point Target: The DPT will be employed during Escalation of Force (EoF) situations to control individuals by rendering the target incapable of defensive and offensive actions, with no direct contact between the Marine and the target(s). The DPT will incapacitate single or multiple personnel from beyond the range of thrown objects (i.e. bottles, rocks, etc.) with precision. ***FY 2013 Base Plans:*** Conduct TD Phase activities and obtain a Milestone B decision.	-	-	1.298 0	-	1.298 0
Title: Family of Optical Systems. (FOS) ***Articles:*** ***Description:*** Family of Optical Systems (FOS). Transitions Family of Individual Optics to Family of Optical Systems to encompass all Optical Systems into this program. Provides handheld, helmet mounted and weapons optics systems including various thermal, image intensifier, magnified optical, laser range-finding, illuminating, and pointer functionalities. Replaces multiple single-purpose Night Vision Equipment (NVE) fielded to the Marine Corps. ***FY 2011 Accomplishments:*** This funding was utilized to support improvements on the technology currently used and to develop enabling technology to be used in future optical systems. Research efforts evaluated the possibility of combining / integrating disparate sensor technology to increase the overall capability. One example was to combine the Infrared (IR) and Image Intensificaton (I2) technologies into one system. To enable future technology development, an Analysis of Alternatives is planned to be conducted. ***FY 2012 Plans:*** This funding will continue to be utilized to 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	2.347 0	1.575 0	1.631 0	-	1.631 0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
the possibility of combining / integrating disparate sensor technologies to increase the overall capability. One example will be combining the (IR) and (I2) technologies into one system. ***FY 2013 Base Plans:*** Will continue to 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. One example will be combining the (IR) and (I2) technologies into one system.					
Accomplishments/Planned Programs Subtotals	11.193	10.670	12.737	-	12.737

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDTEN/0603851M/2319: *CBG Non Lethal Weapons*	3.046	4.664	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.510
• PMC/220837: *Weapons Enhancement Program (EoF-E)*	19.253	1.372	1.661	0.000	1.661	1.428	0.138	1.481	1.506	0.000	36.317
• PMC/2208001: *Weapons Enhncmnt Program (MPM)*	0.000	0.000	0.000	0.000	0.000	0.000	6.044	7.152	2.330	Continuing	Continuing
• PMC/2208002: *Weapons Enhncmnt Program (OI)*	0.000	0.000	0.000	0.000	0.000	4.303	11.965	5.220	4.619	Continuing	Continuing
• PMC/493000: *Night Vision Equiment*	3.720	16.697	18.084	30.652	48.736	12.988	13.849	11.616	11.815	Continuing	Continuing
• PMC/220800: *Mission Payload Module-Reserves*	0.000	0.000	0.000	0.000	0.000	0.000	8.995	0.000	4.948	0.000	13.943

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Payload Module	C/CPFF	TBD-EMD:Quantico	-	-		2.374	Jun 2013	-		2.374	Continuing	Continuing	Continuing
Ocular Interuption	Various	TBD-EMD:CONTRACT	0.673	0.226	Dec 2011	-		-		-	Continuing	Continuing	Continuing
Disable Point Target (DPT)	TBD	TBD:TBD	-	-		1.298	Sep 2013	-		1.298	Continuing	Continuing	Continuing
Ocular Interuption	Various	AFRL:San Antonio,TX	0.190	0.190	Feb 2012	0.215	Nov 2012	-		0.215	Continuing	Continuing	Continuing
Mission Payload Module	Various	AFRL:San Antonio,TX	1.145	0.746	Nov 2011	0.550	Nov 2012	-		0.550	Continuing	Continuing	Continuing
Night Vision Mod	Various	Various (Contract Industry):TBD	3.333	1.557	Nov 2011	1.582	Nov 2012	-		1.582	Continuing	Continuing	Continuing
Night Vision Mod	Various	NVESD:Ft. Belvoir, VA	4.068	-		-		-		-	Continuing	Continuing	Continuing
Scout Sniper Cap Sets	C/FFP	MCSC:Quantico, VA	0.618	-	Jan 2012	0.159	Nov 2012	-		0.159	Continuing	Continuing	Continuing
Family of Optical Systems	Various	Night Vision Lab:Ft. Belvoir, VA	0.935	0.586	Dec 2011	0.573	Nov 2012	-		0.573	Continuing	Continuing	Continuing
Family of Optical Systems	Various	Contract Industry:TBD	0.777	0.443	Dec 2011	0.511	Nov 2012	-		0.511	Continuing	Continuing	Continuing
Ocular Interuption	Various	VARIOUS:NSWA, CRANE, IN	0.040	0.190	Feb 2012	0.100	Nov 2012	-		0.100	Continuing	Continuing	Continuing
Ocular Interuption	Various	VARIOUS:NSWC DAHLGREN, VA	0.040	0.190	Feb 2012	0.070	Nov 2012	-		0.070	Continuing	Continuing	Continuing
Ocular Interuption	C/CPFF	Contracts:TBD	0.040	1.585	May 2012	0.253	May 2013	-		0.253	Continuing	Continuing	Continuing
		Subtotal	11.859	5.713		7.685		-		7.685			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ocular Interuption	Various	HQMC CDnI:Quantico, VA	0.191	-		-		-		-	Continuing	Continuing	Continuing
Ocular Interuption	Various	Travel:Quantico, VA	0.030	-		-		-		-	Continuing	Continuing	Continuing
Ocular Interuption	Various	MCSC:Quantivo, VA	0.191	0.320	Jun 2012	0.190	Sep 2013	-		0.190	Continuing	Continuing	Continuing
Mission Payload Module	Various	MCSC:Quantico, VA	2.475	0.948	Nov 2011	1.136	Nov 2012	-		1.136	Continuing	Continuing	Continuing
Night Vision Mod	Various	WR:Various Navy Labs	2.390	0.593	Dec 2011	0.562	Nov 2012	-		0.562	Continuing	Continuing	Continuing
Infantry Weapons Mods	C/FFP	MCSC:Quantico, VA	2.807	0.357	Dec 2011	0.352	Dec 2012	-		0.352	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy			DATE: February 2012
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Optical Systems	Various	MCSC:Quantico, VA	0.554	0.362	Dec 2011	0.374	Nov 2012	-		0.374	Continuing	Continuing	Continuing
		Subtotal	8.638	2.580		2.614		-		2.614			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Co and Bn Mortars	WR	NSWC:Dahlgren, Va	3.919	0.509	Feb 2012	-		-		-	0.000	4.428	
Ocular Interuption	Various	MCOTEA:QUANTICO, VA	0.122	-	Oct 2012	0.110	Sep 2013	-		0.110	Continuing	Continuing	Continuing
Ocular Interuption	Various	MCSC:Quantioc	0.005	-		-		-		-	Continuing	Continuing	Continuing
Mission Payload Module	Various	MCOTEA:Quantico, VA	0.361	0.226	Nov 2011	0.546	Nov 2012	-		0.546	Continuing	Continuing	Continuing
Escalation of Force Equipment	Various	TBD:TBD	0.048	0.054	Sep 2012	0.300	Nov 2012	-		0.300	Continuing	Continuing	Continuing
Night Vision Mod	Various	NSWC,:Dahlgren, VA	1.102	0.211	Apr 2012	0.248	Nov 2012	-		0.248	Continuing	Continuing	Continuing
Infantry Weapons Mods	C/FFP	MCOTEA:Quantico, VA	0.226	0.150	Jan 2012	0.150	Mar 2013	-		0.150	Continuing	Continuing	Continuing
Infantry Weapons Mods	WR	NSWC:Crane, IN	2.404	0.452	Mar 2012	0.460	Mar 2013	-		0.460	Continuing	Continuing	Continuing
Infantry Weapons Mods	C/FFP	MCSC:Quantico, VA	1.299	0.283	Dec 2011	0.295	Jan 2013	-		0.295	Continuing	Continuing	Continuing
Family of Optical Systems	Various	ESED:Fallbrook, CA	0.252	0.184	Apr 2012	0.173	Dec 2012	-		0.173	Continuing	Continuing	Continuing
Scout Sniper Cap Set	C/FFP	MCSC:Quantico, VA	0.299	0.308	Mar 2012	0.156	Nov 2012	-		0.156	Continuing	Continuing	Continuing
		Subtotal	10.037	2.377		2.438		-		2.438			

Remarks

This is estimated to be a two year effort (FYs 11 and 12). Test Inconel Cannons to define firm condemnation criteria.

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	30.534	10.670		12.737		-		12.737			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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*

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
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*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1901				
MPM	1	2011	4	2017
MPM - Engineering & Manufacturing Phase	2	2011	4	2014
MPM - Low Rate Initial Production (LRIP)	1	2015	2	2015
MPM - Production & Deployment Phase	3	2015	4	2017
MPM - EMD Contract Award	2	2012	2	2012
MPM - LRIP Contract Award	1	2015	1	2015
MPM - Full Rate Production Contract Award	4	2015	4	2015
MPM Technology Development Phase	1	2011	2	2011
DPT	2	2011	4	2016
DPT - MDD	2	2011	2	2011
DPT - Material SA Phase	3	2011	4	2012
DPT - Technical Development Phase	2	2013	3	2014
DPT - EMD	4	2014	1	2016
DPT - LRIP	2	2016	2	2016
DPT - Production Readiness Review	4	2016	4	2016
DPR - FRP	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2086: *Soldier/Marine Enhancement*	4.398	5.324	3.041	-	3.041	6.178	5.235	5.357	5.425	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: MEP	2.694	2.320	0.789	-	0.789
Articles:	0	0	0		0
FY 2011 Accomplishments: MEP provided funding for testing and qualification of MANTA rails, new Vickers two point sling, hearing armor, and SPACES/renewable energy sources.					
FY 2012 Plans: Based on the mission and the nature of the MEP as an accelerated acquisition process based on future MEP candidate submissions/selections the projected projects we may fund for FY12 are yet to be determined.					
FY 2013 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Based on the mission and the nature of the MEP as an accelerated acquisition process based on future MEP candidate submissions/selections the projected projects we may fund for FY13 are yet to be determined.					
Title: Marine Expeditionary Rifle Squad (MERS)	1.704	3.004	2.252	-	2.252
Articles:	0	0	0		0
FY 2011 Accomplishments: Supporting Marine Corps Systems Command program offices that provide equipment to the Marine rifle squad or provide mobility platforms that support the squad. Continue to develop Helmet mounted day, thermal and infrared I2 sensors as components of an integrated Headborne System. Continue to manage the Squad as a System and quantify weight, thermal and ergonomic effects in operational conditions. Will conduct data collection utilizing the Load Effects Assessment Program and conduct mobility assessments with 1st and 2nd MarDiv infantry battalions. Fully transition the Gruntworks Squad Integration Facility to Camp Barrett through reconfiguration and upgrades to government R&D facility. This significant effort is to upgrade electrical, Heating, Ventilation and Air Conditioning (HVAC), plumbing and work spaces into a fully capable R&D facility. The capability analysis conducted with Fires & Maneuver Integration Division (FMID) on the Ground Soldier System and Joint Battle Command Platform (JBCP) systems will conclude during this fiscal year enabling the Marine Corps to respond with integrated capabilities and attributes needed for the infantry squad in the future. This will support decision briefs on direction the infantry will process in providing command and control digitally to the squad level. Continue to develop methodologies for internal routing of data and power in order to eliminate failure points of connectors and snag hazards. Work with PM ICE on finalization of Improved Modular Tactical Vest (IMTV) and Plate Carrier with Tactical Assault Panel on final integration checks as well as supporting integration work on Enhanced Combat Helmet (ECH). Assist PM ICE on new pack project and crew served weapons pack. Anticipate additional work with PM Infantry Weapons and PM Optics on powered rail solutions and integrated rifle control system for accessories. Continue efforts resident in 2010 that will include recommendations and implementation of the various studies conducted. Provide a Marine Corps position on level of involvement with Ground Soldier System. MERS Infantry Integration Working Group will determine prioritization of integration projects.					
FY 2012 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. Complete any remaining initiatives on transition to on-base Squad Integration Facility. Continue with recommendations and prototypes of command and control solutions to the rifle squad based on FY11 capability analysis conducted and follow-on decisions.					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Insert Reconfigurable Vehicle Simulator into the Gruntworks Squad Integration Facility and provide direct link with Joint Light Tactical Vehicle (JLTV) on internal configurations to support equipped Marines. Utilize data collected from Marine Corps Load Effects Assessment Program (MC-LEAP) to determine integration issues directly effecting or enhancing mobility of a combat Marine. Objectively utilize MC-LEAP to make alterations of equipment that contributes positive effects to mobility metrics. Continue R&D efforts to develop an integrated headborne system solution. Complete powered rail and rifle accessory controller solution for transition to fielding of system. Re-evaluate the impact of Improved Modular Tactical Vest (IMTV), Plate Carrier (PC), and Tactical Assault Panel (TAP) in the operational environment in order to determine if changes are needed based on length of wear data from the operating forces. Continue to conduct in theater assessments and post deployment surveys with select infantry battalions. Work with Marine Corps Warfighting Laboratory (MCWL) on determining the material solutions that will be required for Expeditionary Marine Air-Ground Task Force (MAGTF) Operations as the replacement for Enhanced Company Operations. This transition will require increased work with Intelligence systems in order to provide sensor and biometric data to and from the rifle squad. Anticipate additional weapons and optics work to continue modernization of the lethality of the rifle squad. Continue to work integrated power solutions with expeditionary power systems and embedded power/ data solution to optimize electrical components while minimizing training and cable hazards. The MERS Infantry Integration Working Group is composed of representatives from the Headquarters Marine Corps policy operations ground, the combat development directorate for Fires & Maneuver Integration and MERS. This group determines the prioritization of integration projects.					
FY 2013 Base 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					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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 FY-12.					
Accomplishments/Planned Programs Subtotals	4.398	5.324	3.041	-	3.041

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC BLI 220800: *Marine Enhancement Program*	3.261	3.266	2.330	0.000	2.330	2.466	2.594	2.673	2.735	0.000	30.005

D. Acquisition Strategy

Non Developmental Item/ Contractor of the Shelf (NDI/COTS)

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Product Development	C/FFP	Marine Corps Systems Command:Quantico, VA	2.490	1.132	Mar 2012	0.812	Mar 2013	-		0.812	0.000	4.434	Continuing
MEP Product Development	C/FFP	Marine Corps Systems Command:Quantico, VA	2.372	0.650	Mar 2012	0.590	Mar 2013	-		0.590	0.000	3.612	Continuing
		Subtotal	4.862	1.782		1.402		-		1.402	0.000	8.046	

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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Operational Test & Evaluation	C/FFP	Marine Corps Systems Command:Qunatico, VA	-	-		0.600	Mar 2013	-		0.600	0.000	0.600	
MEP Operational Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	1.514	0.400	Mar 2012	-		-		-	0.000	1.914	Continuing
		Subtotal	1.514	0.400		0.600		-		0.600	0.000	2.514	

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total 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	-		0.840	0.000	3.834	Continuing
MEP Developmental Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	3.760	0.569	Mar 2012	0.199	Mar 2013	-		0.199	0.000	4.528	Continuing
		Subtotal	5.632	1.691		1.039		-		1.039	0.000	8.362	

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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total 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	0.750	Mar 2012	-		-		-	0.000	3.284	Continuing
MEP Program Mgmt/Tech Spt	C/FFP	Marine Corps Systems Command:Quantico, VA	2.125	0.701	Mar 2012	-		-		-	0.000	2.826	Continuing
		Subtotal	4.659	1.451		-		-		-	0.000	6.110	

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.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.667	5.324		3.041		-		3.041	0.000	25.032	

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2237: *Amphibious Vehicle Test*	0.915	0.934	0.933	-	0.933	0.953	0.965	0.981	0.995	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) The Amphibious Vehicle Test Branch (AVTB) is a one-of-a-kind Department of Defense test facility for amphibious vehicles and supports the requirements of all services. The AVTB conducts developmental, combined developmental/operational, and follow-on testing and evaluation of production hardware. It also conducts Product Assurance Testing and Substitute or alternative parts and material testing for amphibious vehicles and associated equipment. Because of its year-round temperate climate, diverse terrain, and 17 miles of coastline, the AVTB is ideal for the amphibious vehicle, as well as ship related testing. The AVTB is in close proximity to San Clemente Island which is used frequently for live fire sea-to-shore testing and high-speed water testing. The AVTB is committed to testing product improvement programs, engineering change proposal design changes, and field change requests. The Amphibious Vehicle Test Branch (AVTB) serves as the primary Test & Evaluation facility for all amphibious vehicles.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Support Services	0.453	0.388	0.373	-	0.373
Articles:	0	0	0		0

FY 2011 Accomplishments:

Provided the necessary support assets required to conduct safe and accurate developmental and instrumentation 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 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 2012 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,

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment. ***FY 2013 Base 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	0.462	0.546	0.560	-	0.560
Articles:	0	0	0		0
FY 2011 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 2012 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 2013 Base 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	0.915	0.934	0.933	-	0.933

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

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.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2315: *Training Devices/Simulators*	2.315	14.642	19.492	-	19.492	14.858	11.859	12.064	10.687	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Supporting Arms Virtual Trainer (SAVT)	-	0.375	0.153	-	0.153
Articles:		0	0		0
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 Plans: This is a new start initiative that provides modeling and simulation for Boeing AV8B Harrier II 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 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Provide modeling and simulation for Boeing AV8B Harrier II 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.					
Title: Squad Immersive Training Environment (SITE) ***Articles:***	-	1.978 0	1.806 0	-	1.806 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 Plans:*** This is a new start responding to the Marine Requirements Oversight Council (MROC) approval of the Squad Immersive Training Environment (SITE) Initial Capabilities Document (ICD) (Joint Interest). RDT&E funds will be used to produce acquisition, program of record, and systems engineering documentation and product development to include (1) continued Alternative of Analysis (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 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 AoA gaps. SITE funding will leverage existing and new Office of Naval Research (ONR) and Future Immersive Training Environment (FITE) Joint Capabilities Technology Demonstration (JCTD) transition deliverables to provide immersive training capabilities with existing programs and new program of record systems. ***FY 2013 Base Plans:*** RDT&E funds continues 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 leverage					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
existing and new Office of Naval Research and Future Immersive Training Environment (FITE) JCTD transition deliverables to provide immersive training capabilities with existing programs and new program of record systems.					
Title: Deployable Virtual Training Environment (DVTE) ***Articles:*** ***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 Plans:*** DVTE was supported with prior year budgets up to FY 10. FY 12 funds incremental 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) Integration and DVTE interoperability. ***FY 2013 Base Plans:*** Continue incremental 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) Integration and DVTE interoperability.	- -	3.672 0 -	2.270 0 -	- -	2.270 0 -
Title: Range Modernization/Transformation (RM/T) ***Articles:*** ***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 enhance range	0.390 0 -	2.302 0 -	6.736 0 -	-	6.736 0 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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 2011 Accomplishments:*** Worked closely with MCB Camp Pendleton, CA to complete the necessary documentation needed for the installation of the Automatic Performance Evaluation and Lessons Learned (APELL) system at the Infantry Immersion Trainer (IIT). The system was installed and initial testing has begun. The vendor continues to resolve issues and fine tune scenarios and metrics. ***FY 2012 Plans:*** To complete integration of Tactical Video Capture System (TVCS) with Marine Corps Instrumented Training System (MC-ITS). Develop interfaces for range targetry to operate in the Live/Virtual/Constructive Training Environment (LVC-TE). In the LVC-TE 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, destroyed) through the LVC-TE to constructive and virtual simulations. ***FY 2013 Base 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. Continue software upgrades to the Marine Corps-Instrumented Training System (MC-ITS) and ensure integration of numerous Immersive Infantry Training systems (i.e. Avatar, Automatic Performance Evaluation and Lessons Learned, and Tactical Video Capture System).					
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 2011 Accomplishments:*** Continue minimal Live, Virtual and Constructive (LVC) training technologies integration with the Avatars and Marine Expeditionary Force Tracking with Radio Communication (MEFTRC) systems, Instrumented Tactical Engagement System (I-TESS) and Infantry Immersion Trainers (IITs). ***FY 2012 Plans:***	0.045 0	0.050 0	0.050 0	-	0.050 0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue minimal Live, Virtual and Constructive (LVC) training technologies integration with the Instrumented Tactical Engagement System (I-TESS) and Infantry Immersion Trainers (IITs). ***FY 2013 Base 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: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simuation (MTWS) Enhancements	0.113	2.775	2.589	-	2.589
Articles:	0	0	0		0
Description: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simuation (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. With 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 2011 Accomplishments:*** Provided software development for the MAGTF Tactical Warfare Simulation (MTWS) program which remains in sustainment status. Minimal development of the High Level Architecture (HLA) Bridge and integration in the Joint Live, Virtual, and Contstructive (JLVC) Federation has been accomplished. ***FY 2012 Plans:*** Increase 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 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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.					
Title: Combined Arms Command and Control Trainer Upgrade System (CACCTUS)	0.224	3.430	5.828	-	5.828
Articles:	0	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 Combined Arms Staff Training (CAST) that provides fire support training the 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 2011 Accomplishments:*** Funding included Naval Air Warfare Center Training Systems Division (NAWCTSD) Orlando, FL integration of a trainee and staff software communications system into CACCTUS. ***FY 2012 Plans:*** Increase 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 Base Plans:*** Continue development of LVC training capabilities and to refine warfare specific software application in support of key company, battalion, regimental and MEB staff training requirements.					
Title: Training Support	1.543	0.060	0.060	-	0.060
Articles:	0	0	0		0
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					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
capabilities to provide fully coordinated Marine Air Ground Training Force (MAGTF) training exercises that realistically simulate the operating environment. ***FY 2011 Accomplishments:*** Program supported the development of Marine Expeditionary Brigade (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 2012 Plans:*** Continue 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 Base 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.					
Accomplishments/Planned Programs Subtotals	2.315	14.642	19.492	-	19.492

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/BLI#6532001: *Training Devices, CACCTUS*	4.134	3.242	3.180	0.000	3.180	3.269	2.526	2.600	2.645	Continuing	Continuing
• PMC/BLI#6532002: *Training Devices, MILES*	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.268
• PMC/BLI#6532003: *Training Devices, RM/T*	51.634	8.035	40.982	0.000	40.982	31.627	32.433	33.417	33.995	Continuing	Continuing
• PMC/BLI#6532004: *Training Devices, DVTE*	0.000	0.714	2.303	0.000	2.303	1.282	0.000	0.000	1.570	0.000	5.869
• PMC/BLI#6532005: *Training Devices, SAVT*	0.678	0.661	0.599	0.000	0.599	0.000	0.000	0.000	0.000	0.000	1.938

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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D. Acquisition Strategy

(U) CACCTUS - Competitive software development contract (T&M), Commercial Enterprise Omnibus Support Services (CEOSS) contract (C/FFP), and Work Request to NSWC
(U) DVTE - Competitively award IDIQ contract, Small Business Set-Aside
(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.
(U) SAVT - Government engineering lab labor (Work Request) to NAWC-TSD
(U) MTWS - Sole Source Firm Fixed Price (SS/FFP) and MIPR to Ft Monmouth to be placed on Army contract
(U) SITE - Competitive Cost plus Fixed Fee (CPFF) and Work Request to NAWCTSD
(U) Training Support - MTWS MIPR to Ft Monmouth to be placed on Army contract; DVTE Competitively award IDIQ contract, Small Business Set-Aside

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy			DATE: February 2012
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total 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	14.826	
CACCTUS - S/W Dev	Various	Various:Various	2.640	-		-		-		-	0.000	2.640	
Training Support -CACCTUS	C/T&M	Riptide:Oviedo, FL	1.664	-		-		-		-	0.000	1.664	
CACCTUS - S/W Dev	C/T&M	Riptide:Oviedo, FL	-	2.813	Nov 2011	5.200	Nov 2012	-		5.200	0.000	8.013	
DVTE - S/W Dev	MIPR	Lockheed:Orlando, FL	2.222	-		-		-		-	0.000	2.222	
DVTE - S/W Dev	Various	Various:Various	1.739	-		-		-		-	0.000	1.739	
DVTE - S/W Dev - VBS2	C/FFP	Bohemia Interactive:Orlando, FL	6.661	1.450	Mar 2012	2.000	Apr 2013	-		2.000	0.000	10.111	
DVTE - S/W Dev - CAN	C/IDIQ	TBD:TBD	-	2.222	Apr 2012	0.270	Apr 2013	-		0.270	0.000	2.492	
Training Support - DVTE-S/W Dev - CAN	C/CPFF	TBD:TBD	-	-		0.060	Apr 2013	-		0.060	0.000	0.060	
MILES Technology Insertion	C/CPFF	SARNOFF:Princeton, NJ	0.050	-		-		-		-	0.000	0.050	
MILES MC-ITS Development	C/CPFF	Lockheed Martin:Orlando, FL	1.429	-		-		-		-	0.000	1.429	
MILES Continuous Technology Refresh	C/FFP	Saab:Orlando, FL	0.091	0.050	Nov 2011	0.050	Nov 2012	-		0.050	Continuing	Continuing	Continuing
MTWS - S/W Dev	SS/FFP	L-3 Communications:San Diego, CA	10.070	2.647	Mar 2012	2.419	Jan 2013	-		2.419	0.000	15.136	
RM/T TACS Dev	WR	NSWC:Corona, CA	2.619	-		-		-		-	0.000	2.619	
RM/T OV-1 Dev	C/FFP	MITRE:Orlando, FL	0.073	-		-		-		-	0.000	0.073	
RM/T APELL	C/CPFF	SARNOFF:Princeton, NJ	4.050	-		-		-		-	0.000	4.050	
RM/T PLI Integration	C/FP	CTC:Orlando, FL	1.278	-		-		-		-	0.000	1.278	
RM/T Range Safety Test	MIPR	US Army:Aberdeen Proving Ground	0.274	-		-		-		-	0.000	0.274	
RM/T DITS	C/FP	SAAB USA:Orlando, FL	1.045	-		-		-		-	0.000	1.045	
RM/T Competitive BAA	C/FP	Various:Various	1.251	-		-		-		-	0.000	1.251	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RM/T MC-ITS Development	MIPR	PEOSTRI/ TRADE:Orlando, FL	-	2.302	Dec 2011	6.736	Dec 2012	-		6.736	Continuing	Continuing	Continuing
SAVT Lab Effort	WR	NAWC TSD:Orlando, FL	-	0.375	Feb 2012	0.153	Jan 2013	-		0.153	Continuing	Continuing	Continuing
SITE - Material Solution Anlaysis	C/CPFF	TBD:TBD	-	1.278	Feb 2012	1.106	Dec 2012	-		1.106	0.000	2.384	
		Subtotal	51.982	13.137		17.994		-		17.994			

Remarks

DVTE SW Dev-CAN and Tng Spt DVTE SW Dev-CAN - Contract is being competed in FY12 and will be IDIQ, Small Business Set-Aside.

SITE: The Analysis of Alternatives (AoA) is currently being conducted and Alternatives 2 and 3a should be finalized and approved by the end of FY 11. The results of this analysis will identify what capability gaps need to be filled which will determine the contract vehicle used (new contract and/or existing).

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CACCTUS - S/W Dev Support	WR	NAVAIR:Orlando, FL	1.444	0.257	Oct 2011	0.181	Oct 2012	-		0.181	Continuing	Continuing	Continuing
CACCTUS - CEOSS Support	C/FFP	L-3 Communications:Orlando, FL	-	0.360	Feb 2012	0.447	Jun 2013	-		0.447	0.000	0.807	
Training Support-MTWS S/W Dev	MIPR	MITRE:Fort Monmouth, NJ	-	0.060	Feb 2012	-		-		-	0.000	0.060	
MTWS - S/W Dev Support	MIPR	Department of Energy (DOE):Livemore, CA	0.318	-		-		-		-	0.000	0.318	
MTWS - S/W Dev Support	MIPR	MITRE:Fort Monmouth, NJ	12.127	0.128	Feb 2012	0.170	Feb 2013	-		0.170	Continuing	Continuing	Continuing
SITE - Material Solution Analysis	WR	NAWCTSD:Orlando, FL	-	0.200	Oct 2011	0.200	Oct 2012	-		0.200	Continuing	Continuing	Continuing
SITE - Material Solution Analysis	C/FFP	L-3 Communications:San Diego, CA	-	0.500	Feb 2012	0.500	Feb 2013	-		0.500	0.000	1.000	

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	13.889	1.505		1.498		-		1.498			

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	65.871	14.642		19.492		-		19.492			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2315				
CACCTUS Program Support	1	2011	4	2017
CACCTUS - SW Dev Release	2	2011	2	2017
DVTE - SW Releases	2	2012	2	2017
Training Support/DVTE S/W Dev Contract	2	2013	2	2013
MILES Continuous Technology Refresh	1	2012	4	2017
MTWS - S/W Dev Contract	4	2011	4	2017
MTWS - S/W Dev Support	4	2011	4	2017
MTWS - Hardware Refresh	4	2013	4	2013
Training Support/MTWS S/W Dev Contract FY12	2	2012	2	2012
Training Support/MTWS S/W Dev Contract FY14-FY17	2	2014	2	2017
RM/T MC-ITS Development	1	2012	4	2017
SAVT Government Engineering Lab Labor	2	2012	4	2014
SITE - Material Solution Analysis	1	2012	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2503: *Initial Issue*	12.840	6.888	8.244	-	8.244	9.205	7.914	7.959	8.202	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: *Family of Ballistic Protection Systems	6.507	-	-	-	-
Articles:	0				
FY 2011 Accomplishments: Explored and implemented new commercial technologies to be inserted into body armor to reduce weight, increase survivability, lethality and mobility. Both torso and head/neck ballistic studies will be conducted to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight. Modeling and simulation initiatives will be used to baseline current equipment and enable configuration/compatibility management of new equipment.					
Title: *Clothing and Flame Resistant Organizational Gear	1.055	0.727	0.772	-	0.772
Articles:	0	0	0		0
FY 2011 Accomplishments: Implemented improved design, prototype, user surveys, textile and physical properties testing into the full range of clothing design in response to new uniform initiatives.					
FY 2012 Plans: Flame Resistant Organizational Gear (FROG) will research and take advantage of advanced technology in fabric and design in conjunction with focus groups and lessons learned from OIF and OEF to improve the present					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
configuration and will perform fabric lab testing and field user evaluation to down select items that will be used to achieve final designs. Funds will also be used on any new uniform initiatives from the Marine Corps Uniform Board (MCUB) or CMC. ***FY 2013 Base Plans:*** Continue efforts to utilize technological advances in fabric and design in conjunction with focus groups and lessons learned from OIF and OEF to improve the present configuration. Finalize fabric lab testing and choose a vendor to achieve final designs. Provide funds for a new MCUB and CMC uniform requirement.					
Title: *Family of Mountain Cold Weather Clothing & Equipment (FMCWCE) ***Articles:***	1.006 0	1.240 0	1.264 0	-	1.264 0
FY 2011 Accomplishments: Implemented and provided Family of Mountain Cold Weather Clothing and Equipment (MCWCE) capability set of clothing and equipment to facilitate Marine Air-Ground Task Force (MAGTF) operations in mountainous and cold weather environments. Demonstrated progress to reduce the individual load (weight/volume) of the Extreme Cold Weather Bag. Mobility, survivability and sustainability requirements for the Command Element (CE), Combat Service Support Element (CSSE), and the Air Combat Element (ACE) has also been met. This program has substantially improved current inventory items and has added new capabilities such as steep earth and alpine ice equipment for which we train Marines yet have no assets to perform these missions within the operating forces. Rapid technological advances in the outdoor commercial market make it possible to continuously update the capability provided by FMCWCE. ***FY 2012 Plans:*** Family of Mountain Cold Weather Clothing and Equipment (MCWCE) will provide a capability set of clothing and equipment to facilitate Marine Air-Ground Task Force (MAGTF) operations in mountainous and cold weather environments. The intent is 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 Command Element (CE), Combat Service Support Element (CSSE), and the Air Combat Element (ACE) will also be met. This program will substantially improve current inventory items and add new capabilities such as steep earth and alpine ice equipment for which we train Marines yet have no assets to perform these missions within the operating forces. Rapid technological advances in the outdoor commercial market make it possible to continuously update the capability provided by FMCWCE. ***FY 2013 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Complete product improvements through research of advanced technology necessary to continue FMCWCE capabilities. Continue to improve the capability set of clothing and equipment to facilitate Marine Air-Ground Task Force (MAGTF) operations in mountainous and cold weather environments. Continue to improve current inventory items and implement new capabilities such as casualty evacuation and equipment sleds. Implement rapid technological advances in the outdoor commercial market make it necessary to continuously updates.					
Title: *Family of Improved Load Bearing Equipment	0.460	0.328	0.335	-	0.335
Articles:	0	0	0		0
FY 2011 Accomplishments: Implemented and supported the Marine Corps requirements for a replacement load bearing system, USMC Pack, Chest Rigs and individual water purifier for system improvements throughout the life-cycle of the equipment.					
FY 2012 Plans: This program will support the Marine Corps requirements for a replacement load bearing system, Corpsman Assault Pack and individual water purifier and will support continual system improvement throughout the life-cycle of the equipment.					
FY 2013 Base Plans: This program will support the Marine Corps new requirement for load carriage equipment (Pouch Suite) in MarPat. On-going support of individual water purification and load bearing systems throughout the life-cycle of the equipment.					
Title: *Family of Individual Warfighter Equipment (formerly Combat Support Equipment)	0.056	0.138	0.141	-	0.141
Articles:	0	0	0		0
FY 2011 Accomplishments: Implemented an E-Tool replacement capability. Researched and initiated MBK Ladder initiatives to continue unit operational improvements.					
FY 2012 Plans: Individual Warfighter Equipment will improve the unit operational capabilities for the field tarp and poncho initiatives.					
FY 2013 Base Plans:					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Individual Warfighter Equipment will continue to improve the unit operational capabilities by enhancing the folding mat, poncho liner, helmet mounted light.					
Title: *Family of Field Medical Equipment	3.286	3.761	4.507	-	4.507
Articles:	0	0	0		0
FY 2011 Accomplishments: Continued development of Vaccine and Reagent Refrigeration System (VARRS) to replace all refrigeration except the HEMACOOL blood refrigerator in the AMAL inventory. The VARRS is rugged, well insulated, and will operate on battery power. The rugged design will improve survivability over the current refrigeration systems in austere environments. Developed Commercial-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items to evaluate their functionality to improve the quality of warfighter's healthcare. Tested 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 and for the replacement of the obsolete Narkomed ruggedized anesthesia machine. Tested other medical equipment items to evaluate their functionality improving the quality of warfighter healthcare and to reduce the logistics footprint of USMC medical equipment. Planned testing and initiation of technology insertion into AMAL/ADALs.					
FY 2012 Plans: Continue 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 and for the replacement of the obsolete Narkomed ruggedized anesthesia machine. 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. Planned completion of testing and initiation of technology insertion. Testing of mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy.					
FY 2013 Base 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. Test other 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. Plan to complete testing and initiation of technology insertion. Test mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy. Research					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
and Development Studies on the application of Freeze Dried Pooled Plasma within the USMC Health Service Support organization.					
Title: *Family of Shelters and Shelter Equipment (FSSE) ***Articles:***	0.134 0	0.077 0	0.826 0	-	0.826 0
FY 2011 Accomplishments: Command and Control Systems have out grown the current Modular Command Post Shelter in size and performance. Changing operational doctrine, logistic support systems and advances in technology require development of an advanced lightweight rapid deploying tactical shelter with a minimum of 420 sq. ft. Designed and engineered a soft wall shelter to increase capability, reduce weight, cost and cube. Explored and tested new technologies in coordination with the U.S. Army for insertion into the shelter. ***FY 2012 Plans:*** The FY12 FSSE program will continue the exploration and testing of new technologies in coordination with the U.S. Army for insertion into the shelter. ***FY 2013 Base Plans:*** The Family of Shelters and Shelter Equipment (FSSE) provides various expeditionary shelters (Rigid & Soft Wall), heating and lighting systems for individual Marines, Personnel Quarters, Command Post, Electronics Maintenance Shelters, Combat Operations Centers, and Forward Operating Bases that directly support Marines in all combat environments. In FY13 the FSSE program will continue 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 missions.					
Title: *Family of Combat Field Feeding ***Articles:***	0.336 0	0.617 0	0.399 0	-	0.399 0
FY 2011 Accomplishments: Completed research and development for an improved combat field feeding system for heating individual rations. Tested individual ration heater concepts and equipment. Researched and completed analysis to reduce the hazardous components within the Enhanced Tray Ration Heating System (ETRHS) Sink. Completed research and analysis of the improved Expeditionary Field Kitchen (EFK) Light set. ***FY 2012 Plans:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue research to improvements on current technology for heating individual rations will be explored to test individual ration heater concepts and equipment. Initiate research of current Tray Ration Heater System to reduce the footprint size. ***FY 2013 Base Plans:*** Continue to research and test multiple solutions to reduce the foot print size for the Tray Ration Heater System. Research and initiate analysis for improving current sanitation systems.					
Accomplishments/Planned Programs Subtotals	12.840	6.888	8.244	-	8.244

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/652200: *Field Medical Equipment*	4.805	32.386	15.317	0.000	15.317	19.823	20.272	9.380	11.464	0.000	156.811
• PMC/661300: *Combat Field Feeding System*	4.424	5.026	8.365	0.000	8.365	5.221	2.861	2.883	2.944	0.000	57.831
• PMC/652201: *Family of Shelters & Shelter Equipment*	0.000	0.000	31.502	0.000	31.502	16.306	3.875	3.555	3.375	0.000	58.613

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy			DATE: February 2012
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	7.168	-		-		-		-	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	WR	NRL:Washington, DC	16.093	-		-		-		-	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	WR	ONR:Arlington, VA	0.346	-		-		-		-	Continuing	Continuing	Continuing
Improved Load Bearing Equipment	MIPR	USA NSRDEC:Natick, MA	2.726	0.328	Jan 2012	0.335	Jan 2013	-		0.335	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	4.082	0.310	Jan 2012	0.143	Jan 2013	-		0.143	Continuing	Continuing	Continuing
Combat Field Feeding Systems	MIPR	USA NSRDEC:Natick, MA	1.727	0.401	Jan 2012	0.323	Jan 2013	-		0.323	Continuing	Continuing	Continuing
Individual Warfighter Equipment	MIPR	USA NSRDEC:Natick, MA	0.145	0.064	Mar 2012	0.114	Jan 2013	-		0.114	Continuing	Continuing	Continuing
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	2.794	0.494	Dec 2011	0.524	Jan 2013	-		0.524	Continuing	Continuing	Continuing
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.211	-		-		-		-	0.000	0.211	
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.316	-		-		-		-	0.000	0.316	
Family of Field Medical	WR	NMRC:Silver Spring, MD	1.042	1.795	Jan 2012	-		-		-	0.000	2.837	
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	3.148	1.356	Feb 2012	0.741	Feb 2013	-		0.741	0.000	5.245	
		Subtotal	39.798	4.748		2.180		-		2.180			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total 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	1.096	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.736	0.360		-		-		-	0.000	1.096	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Individual Warfighter Equipment	MIPR	USA NSRDEC:Natick, MA	-	-		0.015	Jan 2013	-		0.015	0.000	0.015	
Family of Individual Warfighter Equipment	C/FP	MCSC:Quantico, VA	-	-		0.012	Jan 2013	-		0.012	0.000	0.012	
Family of Combat Field Feeding	MIPR	USA NSRDEC:Natick, MA	-	-		0.076	Jan 2013	-		0.076	0.000	0.076	
Family of Shelter and Shelter Equipment	MIPR	ATC:Aberdeen Proving Ground	-	-		0.014	Feb 2013	-		0.014	0.000	0.014	
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.135	-		-		-		-	0.000	0.135	
Family of Field Medical	MIPR	USAMRAA:Ft. Detrick, MD	1.140	-		-		-		-	0.000	1.140	
Family of Shelters & Shelter Equipment	MIPR	USA NSRDEC:Natick, MA	0.281	0.077	Dec 2011	0.812	Jan 2013	-		0.812	0.000	1.170	
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	7.201	-		-		-		-	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	SS/CPFF	MCSC:Quantico VA	2.859	-		-		-		-	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	2.949	0.425	Dec 2011	0.675	Jan 2013	-		0.675	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	C/FP	MCSC:Quantico, VA	0.070	-		-		-		-	Continuing	Continuing	Continuing
Family of Field Medical	WR	NAMRUSA:San Antonio, TX	-	0.060	Jan 2012	-		-		-	0.000	0.060	
Family of Field Medical	WR	NHRC:San Diego, CA	-	0.053	Dec 2011	-		-		-	0.000	0.053	

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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	-	0.137	Dec 2011	3.766	Feb 2013	-		3.766	0.000	3.903	
		Subtotal	14.635	0.752		5.370		-		5.370			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Field Medical	Various	MCSC:Quantico, VA	0.060	-		-		-		-	0.000	0.060	
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	2.042	0.505	Dec 2011	0.446	Jan 2013	-		0.446	Continuing	Continuing	Continuing
Family of Individual Warfighter Equpment	C/FP	MCSC:Quantico, VA	0.302	0.074	Jan 2012	-		-		-	0.000	0.376	
Combat Field Feeding Systems	C/FP	MCSC:Quantico, VA	0.498	0.216	Dec 2011	-		-		-	Continuing	Continuing	Continuing
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	1.143	0.233	Dec 2011	0.248	Dec 2012	-		0.248	Continuing	Continuing	Continuing
		Subtotal	4.045	1.028		0.694		-		0.694			

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	59.214	6.888		8.244		-		8.244			

Remarks

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COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2513: *Body Armor*	-	5.332	3.692	-	3.692	5.608	4.841	4.919	5.037	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

This project was previously in Project C2503 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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Body Armor Development	-	5.332	3.692	-	3.692
Articles:		0	0		0
FY 2012 Plans: Explore new commercial technologies to be inserted into body armor to reduce weight, increase survivability, lethality and mobility. Conduct both torso and head/neck ballistic 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, Next Generation Vests). Modeling and simulation initiatives will baseline current equipment and enable configuration/compatibility management of new equipment.					
FY 2013 Base Plans: Continue to explore new commercial technologies to be inserted into body armor to reduce weight, increase survivability, lethality and mobility. Conduct both torso and head/neck ballistic studies to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight. Modeling and simulation initiatives will baseline current equipment and enable configuration/ compatibility management of new equipment (Next Generation Tactical Vest, FSBE Product Enhancements).					
Accomplishments/Planned Programs Subtotals	-	5.332	3.692	-	3.692

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C. Other Program Funding Summary ($ in Millions)

N/A

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 PM-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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Ballistic Protection System	MIPR	USA NSRDEC:Natick, MA	6.333	0.835	Jan 2012	0.900	Jan 2013	-		0.900	0.000	8.068	
Family of Ballistic Protection	WR	NRL:Washington DC	13.205	2.924	Jan 2012	1.312	Jan 2013	-		1.312	0.000	17.441	
Family of Ballistic Protection	WR	NCTRF:Natick MA	0.246	0.100	Jan 2012	0.105	Jan 2013	-		0.105	0.000	0.451	
		Subtotal	19.784	3.859		2.317		-		2.317	0.000	25.960	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total 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	0.875	Nov 2012	-		0.875	0.000	8.076	
Family of Ballistic Protection	SS/CPFF	MCSC:Quantico, VA	2.344	0.515	Dec 2011	0.500	Dec 2012	-		0.500	0.000	3.359	
		Subtotal	8.587	1.473		1.375		-		1.375	0.000	11.435	

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.371	5.332		3.692		-		3.692	0.000	37.395	

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2928: *Exp Indirect Fire Gen Supt Wpn Sys*	1.523	1.946	2.353	-	2.353	2.405	2.448	2.488	2.548	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 currently fielded ground fire support systems. During a 24 hour period, the system will be 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 missle 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 missle 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 variance 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 will satisfy 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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: HIMARS Systems Engineering	1.173	1.786	1.260	-	1.260
Articles:	0	0	0		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 emerging requirements such as armor upgrades and enhanced					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
communications. This element provides engineering support to meet the unique requirements of the Marine Corps and for the integration of the changes into the all Marine Corps inventory. ***FY 2011 Accomplishments:*** Develop improved Guided Multiple Launch Rocket System (GMLRS) Ignition safety devices and conduct development on improved fire control systems. ***FY 2012 Plans:*** Conduct development on improved fire control systems and to provide engineering support to the Army activity program office to develop alternate warheads. ***FY 2013 Base Plans:*** Conduct development on improved fire control systems and to provide engineering support to the Army activity program office to develop alternate warheads.					
Title: HIMARS Testing ***Articles:*** ***Description:*** Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office continues to provide improvements such as the alternate warheads. This funding includes support and oversight to ensure testing supports Marine Corps requirements. ***FY 2011 Accomplishments:*** Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office continues to provide improvements such as the alternate warheads. This funding includes support and oversight to ensure testing supports Marine Corps requirements. ***FY 2013 Base Plans:*** Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office continues to provide improvements such as the alternate warheads. This funding includes support and oversight to ensure testing supports Marine Corps requirements.	0.205 0	-	0.914 0	-	0.914 0
Title: HIMARS Program Support ***Articles:***	0.145 0	0.160 0	0.179 0	-	0.179 0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Program Management at Quantico, Marine Corps Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support. HIMARS is a joint program run from the Army Program Office at Huntsville, AL. Marine Corps provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning. ***FY 2011 Accomplishments:*** Program Management at Quantico, Marine Corps Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support. HIMARS is a joint program run from the Army Program Office at Huntsville, AL. Marine Corps provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning. ***FY 2012 Plans:*** Program Management at Quantico, Marine Corps Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support. HIMARS is a joint program run from the Army Program Office at Huntsville, AL. Marine Corps provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning. ***FY 2013 Base Plans:*** Program Management at Quantico, Marine Corps Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support. HIMARS is a joint program run from the Army Program Office at Huntsville, AL. Marine Corps provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning.					
Accomplishments/Planned Programs Subtotals	1.523	1.946	2.353	-	2.353

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/BLI 221200: *High Mobility Artillery Rocket System (HIMARS)*	165.301	25.183	156.859	0.000	156.859	50.123	90.636	50.691	50.247	Continuing	Continuing

D. Acquisition Strategy

USMC HIMARS is procuring the Army rocket launcher, the current/future Multiple Launch Rocket System Family of Munitions (MFOM) and developing an 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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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while providing associated evaluation and oversight, and the development of associated rocket munitions in conjuction 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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy			DATE: February 2012
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	MIPR	Redstone Arsenal:Redstone, AL	4.017	1.786	Feb 2012	1.260	Mar 2013	-		1.260	0.000	7.063	
		Subtotal	4.017	1.786		1.260		-		1.260	0.000	7.063	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval	MIPR	Redstone Test Ctr:Redstone, AL	1.922	-		0.913	Mar 2013	-		0.913	0.000	2.835	
		Subtotal	1.922	-		0.913		-		0.913	0.000	2.835	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mngmnt	C/FFP	MCSC:Quantico, VA	5.400	0.160	Jan 2012	0.180	Jun 2013	-		0.180	0.000	5.740	
		Subtotal	5.400	0.160		0.180		-		0.180	0.000	5.740	

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	11.339	1.946		2.353		-		2.353	0.000	15.638	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
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*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2928				
GMLRS: GMLRS Alternative Warhead Milestone B: GMLRS Alternative Warhead Milestone B	1	2011	1	2011
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

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3098: *Fire Support System*	13.965	27.219	17.785	-	17.785	26.612	12.681	9.021	6.619	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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). The Expeditionary Fire Support System 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. 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 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 Common Laser Ranger Finder (CLRF) as well as for upgrades, engineering change proposals, and modifications for guided munitions and fire control systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Common Laser Range Finder (CLRF)	1.713	11.610	0.920	-	0.920
Articles:	0	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 of Equipment. CLRF IC provides the observer the ability to perform target detection, recognition, identification, and location determination in a suite of systems.					
FY 2011 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Developed capabilities identified in the Advanced Eye safe Rangefinder Observation System (AEROS) Operational Requirements Document (ORD). This change established the requirement for a CLRF that integrates the capabilities of a suite of five components into one handheld device (CLRF IC). ***FY 2012 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. ***FY 2013 Base 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.					
Title: Modeled Meteorological Information Manager (MMIM)	0.950	0.486	0.249	-	0.249
Articles:	0	0	0		0
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 2011 Accomplishments:*** In FY11 MMIM obtained a MS B decision and conducted Functional Integration Testing (FIT). ***FY 2012 Plans:*** MMIM will complete the Engineering Manufacturing Development phase, obtain a MS C decision, undergo a Field User Evaluation (FUE) and begin fielding. MMIM removes 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 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
MMIM will integrate existing MET sensors with the Air Force Weather Agency (AFWA) data.					
Title: Expeditionary Fire Support Systems (EFSS)	7.852	12.181	7.027	-	7.027
Articles:	0	0	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 2011 Accomplishments:*** In FY11 the program provided EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Also provided were extended range guided ammunition development, and it also developed and produced hardware for the guided rounds and had the various field activities test the hardware. Integration to ballistics and firing tables (software development) and qualification of energetics were also performed. ***FY 2012 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 produce 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. ***FY 2013 Base 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.					
Title: Fire Support Mods (FSM)	1.807	1.518	1.950	-	1.950
Articles:	0	0	0		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					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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 meteorological systems. Funding is also used for upgrades, ECP and modifications for guided munitions and fire control systems which falls within Fire Support Systems for the Marine Corps. ***FY 2011 Accomplishments:*** Funding was used to develop and mature precise azimuth sensing technology and research MET sensor integration, event classification and digital communications for GCFS. ***FY 2012 Plans:*** 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 Base Plans:*** Funding will be used for development and testing of event classification for GCFS.					
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 2011 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 2012 Plans:*** Support development of Advanced Cannon Artillery (ACAAP) and Excalibur to include Weapons Systems Explosives Safety Review Board (WSESRB) testing, program support, and travel. Actively monitor and provide funding for U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts. ***FY 2013 Base Plans:***	0.510 0	0.316 0	0.323 0	-	0.323 0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
XM112 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	1.133	1.108	1.138	-	1.138
Articles:	0	0	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 and 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 2011 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 developed an enterprise knowledge repository designed, evolved and updated to facilitate knowledge dominance. MAKE provided the enterprise web based access to data and information to enable the decision making process. ***FY 2012 Plans:*** Two programs are included in the Insensitive Munitions (IM) funding line; Insensitive Munitions and Marine Ammunition Knowledge Enterprise (MAKE). The IM development will focus 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 Base Plans:*** Continued support for all IM Testing as needed.					
Title: Internally Transportable Vehicle (ITV)	-	-	6.178	-	6.178
Articles:			0		0

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Internally Transportable Vehicle (ITV) program fields expeditionary vehicles to ground units to support various operations. It provides the Marine Air-Ground Task Force (MAGTF) gound 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). ***FY 2013 Base Plans:*** Develop a tech data package for Internally Transportable Vehicle (ITV); to mitigate risks in supply and to enable government to compete requirement and introduce competition in future years.					
Accomplishments/Planned Programs Subtotals	13.965	27.219	17.785	-	17.785

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/2064: *Expeditionary Fire Support Systems*	9.802	11.961	2.502	0.000	2.502	0.604	10.382	24.385	26.401	0.000	153.712
• PMC/4733: *Common Laser Range Finder (CLRF)*	0.000	0.035	3.249	0.000	3.249	8.582	11.337	11.531	11.728	0.000	46.462
• *PMC/4733: *Modeled Meterological Information Manager (MMIM)*	1.329	1.921	1.500	0.000	1.500	0.250	0.250	0.500	0.500	0.000	6.936
• **PMC/4733: *Fire Support Mods*	7.140	2.549	2.570	0.000	2.570	3.495	3.767	3.881	3.997	0.000	67.036

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ITV Reverse Engineer	TBD	TBD:Contract	-	-		5.000	Feb 2013	-		5.000	0.000	5.000	
EFSS	C/FFP	GDOTS:St. Petersburg, FL	23.190	9.931	May 2012	7.027	Jan 2013	-		7.027	0.000	40.148	
Fire Support Mods	TBD	TBD:Contract	8.063	1.518	Jan 2012	-		-		-	0.000	9.581	
Fire Support Mods	WR	NSWC DD:Dahlgren, VA	-	-		1.195	Nov 2012	-		1.195	0.000	1.195	
CLRF	TBD	TBD:Contract	3.183	11.610	Feb 2012	-		-		-	0.000	14.793	
CLRF	WR	NSWC DD:Dahlgren, VA	-	-		0.920	Nov 2012	-		0.920	0.000	0.920	
MMIM	MIPR	FT. Monmouth:Ft. Monmouth, MJ	-	0.300	Nov 2011	-		-		-	0.000	0.300	
MMIM	MIPR	ARL:White Sands, NM	-	0.186	Dec 2011	-		-		-	0.000	0.186	
Insensitive Munitions1	C/FFP	GDOTS:St. Petersburg, FL	1.820	1.108	Jun 2012	-		-		-	0.000	2.928	
Insensitive Munitions	TBD	Not Specified:Not Specified	-	-		1.138	Jan 2013	-		1.138	0.000	1.138	
		Subtotal	36.256	24.653		15.280		-		15.280	0.000	76.189	

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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Need Item Text	C/BA	Not Specified:Not Specified	-	-		-		-		-	0.000	0.000	
Fam Artillery Munitions	WR	BAEST:Stafford, VA	1.699	0.316	Jun 2012	-		-		-	0.000	2.015	
		Subtotal	1.699	0.316		-		-		-	0.000	2.015	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ITV	MIPR	APG:Aberdeen, MD	-	-		1.000	Aug 2013	-		1.000	0.000	1.000	
EFSS	WR	NSWCDD:Dahlgren, VA	3.862	2.000	Mar 2012	-		-		-	0.000	5.862	
EFSS	WR	MCPD:Fallbrook, CA	6.259	0.250	Mar 2012	-		-		-	0.000	6.509	
MMIM	WR	NSWC DD:Dahlgren, VA	-	-		0.249	Dec 2012	-		0.249	0.000	0.249	
Fire Support Mods	WR	NSWC DD:Dahlgren, VA	-	-		0.495	Nov 2012	-		0.495	0.000	0.495	
Fire Support Mods	Allot	MCOTEA:MCOTEA	-	-		0.260	Nov 2012	-		0.260	0.000	0.260	
FAM	WR	Aberdeen Proving Ground:Aberdeen, MD	-	-		0.323	Jan 2013	-		0.323	0.000	0.323	
		Subtotal	10.121	2.250		2.327		-		2.327	0.000	14.698	

Remarks

Prototype testing required to validate configuration; will begin at Aberdeen Proving Ground in Fiscal Year 2013.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ITV	C/FFP	TBD:TBD	-	-		0.178	Oct 2012	-		0.178	0.000	0.178	
		Subtotal	-	-		0.178		-		0.178	0.000	0.178	

Remarks

To acquire necessary skills in support of program management for ITV.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	48.076	27.219		17.785		-		17.785	0.000	93.080	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
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

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3098				
EFSS Full Operation Capability	4	2012	4	2012
MMIM MS B	1	2011	1	2011
MMIM System Integration & Test	2	2011	4	2011
MMIM LUE	2	2012	2	2012
MMIM MS C	2	2012	2	2012
MMIM IOC	4	2012	4	2012
MMIM MSG Phase Out	4	2012	2	2014
MMIM FOC (FY13)	3	2013	3	2013
CLRF MS A	3	2011	3	2011
CLRF PDR	3	2012	3	2012
CLRF MS B	4	2012	4	2012
CLRF System Integration	4	2012	4	2012
CLRF System Demo	3	2013	4	2013
CLRF MS C	4	2013	4	2013
CLRF LRIP	4	2013	4	2013
CLRF IOT&E	1	2014	1	2014
CLRF FRPD	2	2014	2	2014
CLRF IOC	3	2014	3	2014

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
4002: *Family of Raid Reconnaissance*	3.288	0.801	0.668	-	0.668	0.530	0.540	0.552	0.562	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Family of Raid/Reconnaissance Equipment (FRRE)	1.100	0.412	0.418	-	0.418
Articles:	0	0	0		0
FY 2011 Accomplishments: Developed new Tandem Offset Resupply Delivery System (TORDS) canopy and evaluated life cycle replacement for Military Tandem Tethered Bundle (MTTB) system.					
FY 2012 Plans: Continue and complete testing and development of the Tandem Offset Resupply Delivery System (TORDS) canopy and the Military Tandem Tethered Bundle (MTTB) System.					
FY 2013 Base Plans: FFRE efforts in FY13 will include technology upgrades and evaluation of emerging reliability challenges presented by fielded systems.					
Title: Underwater Reconnaissance Capability (URC)	2.188	0.389	0.250	-	0.250
Articles:	0	0	0		0
FY 2011 Accomplishments: Designed components and interconnections of Tactical Hydrographic Survey Equipment (THSE) system to meet USMC performance requirements for underwater mapping and navigation.					
FY 2012 Plans: Continue THSE system integration and testing.					
FY 2013 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Complete THSE testing and documentation.					
Accomplishments/Planned Programs Subtotals	3.288	0.801	0.668	-	0.668

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/0206211M: *6518 AMPHIB SPT EQUIP*	11.657	5.533	13.089	0.000	13.089	7.256	7.167	5.263	5.357	0.000	55.322

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 engineering demonstration models, 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.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012
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)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9C85: *Marine Personnel Carrier (MPC)*	6.621	19.910	39.729	-	39.729	92.116	80.756	91.643	62.812	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Marine Personnel Carrier (MPC) is part of a portfolio of capabilities that provide closure to real world operational gaps and shortfalls in the ability of the Marine Air Ground Task Force to conduct ground based maneuver tasks. The MPC, as the medium capability category platform, provides a bridge in capability between the Amphibious Combat Vehicle and Joint Light Tactical Vehicle and a balance between the performance, protection and payload attributes. The MPC family of vehicles includes the baseline armored personnel carrier and two supporting mission role variants: a command and control variant, and a recovery and maintenance variant.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Pre-MDAP	4.621	17.719	24.805	-	24.805
Articles:	0	0	0		0
FY 2011 Accomplishments: MPC - Performed studies and analyses for technology demonstrator weight and trade space analysis; Turret Trade study; weight and blast study; and survivability and force protection.					
FY 2012 Plans: MPC - Prepare for Material Development Decision. Acquire Remote Weapon Station (RWS) and prepare for swim analysis and conduct survivability demonstration. Perform studies and analyses that include mobility analysis and swim; diagnostics integrations; lethality analysis and marinization of RWS. Development of digital backbone and architecture.					
FY 2013 Base Plans: MPC - Perform and support offeror swim and blast analyses. Continue development of digital backbone and architecture. Complete RWS demonstration and GFE selection and packaging. Continue support of MPC technology demonstrator.					
Title: Test and Evaluation	-	-	2.463	-	2.463
Articles:			0		0
Description: Perform developmental testing, operational testing, and live fire testing for the MPC personnel, command, and recovery variants.					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2013 Base Plans: Perform developmental test and evaluations to include hull form/NRL Armor demonstration and testing, and Human Factors Evaluation and Survivability testing. Initiate contract action for direct fire armor demonstration.					
Title: Contract Advisory and Assistance Services	0.746	0.295	5.529	-	5.529
Articles:	0	0	0		0
Description: Contractor Support ***FY 2011 Accomplishments:*** Provided contractor technical, engineering and management support for initial program planning, program documentation development, analysis and execution. Continued development of MPC mission requirements, and survivability analysis. ***FY 2012 Plans:*** Support program requirements generation and survivability analysis and support. ***FY 2013 Base Plans:*** Provide contractor technical, engineering and management support for program planning, program documentation, analysis and execution. Support government laboratory vehicle technology development and evaluation.					
Title: In-house Technical Support	1.254	1.896	6.932	-	6.932
Articles:	0	0	0		0
Description: In-house Support ***FY 2011 Accomplishments:*** Provided in-house technical engineering for program planning, analysis and execution. Initiated software design, development, and analysis efforts for digital backbone conceptual performance specifications and architecture. ***FY 2012 Plans:*** Continue in-house technical engineering and integrated logistics support for program planning, analysis and execution. Continue in-house digital architecture technology and software design, development, and analysis efforts. Perform travel in support of the MPC program. ***FY 2013 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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	6.621	19.910	39.729	-	39.729

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/203700: *Marine Personnel Carrier (MPC)*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.422	85.269	Continuing	Continuing

D. Acquisition Strategy

The Marine Personnel Carrier (MPC) program will utilize Full and Open competition for EMD. The MPC is a family of vehicles consisting of a personnel carrier, a command and control platform and a maintenance and recovery vehicle. 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 prime provider of MPC and support a Milestone Decision. The results of the EMD efforts will be used to support a Milestone C Decision as well as determine the Low Rate Initial Production manufacturer.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Design & Development	MIPR	TBD:TBD	6.915	17.719	May 2012	24.805	Nov 2012	-		24.805	281.445	330.884	
		Subtotal	6.915	17.719		24.805		-		24.805	281.445	330.884	

Remarks

Modeling and Simulation of ballistics and mobility. Competitive Awards and other Government Agencies not yet determined.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	TBD	Not Specified:Not Specified	-	-		-		-		-	5.223	5.223	
Training Devices/Simulators	TBD	Not Specified:Not Specified	-	-		-		-		-	25.891	25.891	
Technical Data & Pubs Development	TBD	Not Specified:Not Specified	-	-		-		-		-	6.000	6.000	
Program Management	MIPR	TACOM:Warren, MI	-	-		-		-		-	0.000	0.000	
		Subtotal	-	-		-		-		-	37.114	37.114	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	Various	NRL:Not Specified	-	-		2.463	Nov 2012	-		2.463	88.596	91.059	
		Subtotal	-	-		2.463		-		2.463	88.596	91.059	

Remarks

Evaluation of Technology Demonstrator Test Bed Vehicle. Government Agencies not yet determined.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy		DATE: February 2012
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)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	C/FFP	Various:TBD	0.769	-		4.377	Dec 2012	-		4.377	40.812	45.958	
Studies and Analyses	C/FFP	Various:TBD	-	0.229	May 2012	0.228	Nov 2012	-		0.228	11.702	12.159	
In-house Technical Support	WR	Various:TBD	1.755	0.896	May 2012	4.933	Dec 2012	-		4.933	6.001	13.585	
Travel	Various	Various:TBD	0.150	1.000	Oct 2011	2.000	Oct 2012	-		2.000	7.500	10.650	
Program Management Support	C/BA	Various:TBD	-	-		-		-		-	0.000	0.000	
Technical Eng. Services	C/FFP	Various:TBD	0.120	0.066	May 2012	0.923	Nov 2012	-		0.923	12.685	13.794	
		Subtotal	2.794	2.191		12.461		-		12.461	78.700	96.146	

Remarks

A Systems Integration Lab stood up in FY11 and continues in FY12. Competitive Awards and other Government Agencies not yet determined.

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.709	19.910		39.729		-		39.729	485.855	555.203	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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)*

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
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)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Marine Personnel Carrier (MPC)				
MATERIAL DESIGN DECISION	1	2013	1	2013
CAPABILITIES DEVELOPMENT DOCUMENT	2	2014	2	2014
ANALYSIS OF ALTERNATIVES	1	2014	1	2014
MILESTONE B	1	2015	1	2015
PROTOTYPE CONTRACT A&B	2	2015	2	2015
COMPETITIVE TEST (DRIVE-OFF)	3	2017	4	2017