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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	99.158	100.424	209.396	-	209.396	275.998	334.393	189.720	191.222	Continuing	Continuing
0021: <i>Assault Amphibious Vehicle 7A1</i>	25.533	1.887	60.776	-	60.776	73.945	75.960	19.125	6.674	Continuing	Continuing
1555: <i>Lt Armored Vehicle Prog</i>	6.140	14.760	39.954	-	39.954	58.702	62.083	2.305	2.355	Continuing	Continuing
1901: <i>MC Grnd Wpnrty Prod Improvement</i>	8.437	11.514	10.670	-	10.670	12.691	10.801	7.817	6.430	Continuing	Continuing
2086: <i>Soldier/Marine Enhancement</i>	2.957	4.534	5.324	-	5.324	5.466	5.634	5.808	5.936	Continuing	Continuing
2112: <i>Lightweight 155mm Howitzer</i>	1.584	-	-	-	-	-	2.346	2.398	2.437	Continuing	Continuing
2237: <i>Amphibious Vehicle Test</i>	0.816	0.929	0.934	-	0.934	0.940	0.959	0.976	0.993	Continuing	Continuing
2315: <i>Training Devices/Simulators</i>	12.328	2.226	14.642	-	14.642	20.091	15.499	12.291	12.487	Continuing	Continuing
2503: <i>Initial Issue</i>	9.075	12.271	6.888	-	6.888	8.973	7.585	7.521	7.613	Continuing	Continuing
2513: <i>Body Armor</i>	-	-	5.332	-	5.332	5.436	5.576	5.752	5.852	Continuing	Continuing
2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	1.923	1.542	1.946	-	1.946	2.372	2.420	2.472	2.516	Continuing	Continuing
3098: <i>Fire Support System</i>	19.255	20.559	27.219	-	27.219	20.008	18.072	7.563	7.451	Continuing	Continuing
4002: <i>Family of Raid Reconnaissance</i>	3.562	3.391	0.801	-	0.801	0.421	0.430	0.439	0.448	Continuing	Continuing
9999: <i>Congressional Adds</i>	4.461	-	-	-	-	-	-	-	-	0.000	4.461
9C85: <i>Marine Personnel Carrier (MPC)</i>	3.087	26.811	34.910	-	34.910	66.953	127.028	115.253	130.030	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 because it encompasses engineering and manufacturing and manufacturing development for upgrades of existing systems.

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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	108.857	100.424	169.193	-	169.193
Current President's Budget	99.158	100.424	209.396	-	209.396
Total Adjustments	-9.699	-	40.203	-	40.203
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-6.828	-			
• SBIR/STTR Transfer	-5.568	-			
• Program Adjustments	0.001	-	41.696	-	41.696
• Rate/Misc Adjustments	-	-	-1.493	-	-1.493
• Congressional General Reductions Adjustments	-0.004	-	-	-	-
• Congressional Directed Reductions Adjustments	2.700	-	-	-	-

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: Congressional Adds

- Congressional Add: *Marine Corps Cultural and Language Training Platform*
- Congressional Add: *Expandable Rigid Wall Composite Shelter*
- Congressional Add: *Remote Aiming and Sighting Optical Retrofit*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2010	FY 2011
	0.637	-
	0.797	-
	3.027	-
Congressional Add Subtotals for Project: 9999	4.461	-
Congressional Add Totals for all Projects	4.461	-

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0021: <i>Assault Amphibious Vehicle 7A1</i>	25.533	1.887	60.776	-	60.776	73.945	75.960	19.125	6.674	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Three (3) Survivability Engineering Design Models (EDMs).

A. Mission Description and Budget Item Justification

(U) AAV lifecycle 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: *AAV SC&E Program</p> <p align="right">Articles:</p> <p>Description: AAV FOV Survivability, C4I , Environment/Habitability (SCE) Upgrade Program is a capabilities based upgrade program centered on material upgrades, and survivability, C4I, and Environment/habitability(SCE). The SCE development effort was completed in FY10. The Marine Corps Combat Development Command (MCCDC) published a new AAV Survivability requirement that begins development in FY12.</p> <p>FY 2010 Accomplishments: SCE: Continued work on fourteen (14) AAV SCE upgrades for Survivability, Command Control Communications Computers Intelligence (C4I), and Environmental upgrades. Coordinated with the Marine Corps Combat Development Center (MCCDC) to reduce the scope to five (5) selected Survivability Upgrades. Remaining upgrades will be developed for potential implementation as Engineering Change Proposals (ECPs) in the Modification funding line. Will begin baseline testing of vehicles and proof of concept field tests (not to production representative prototypes) for selected survivability upgrades as follow: Sponson/belly armor, blast mitigating seats, spall liner, deck liner, and external fuel tank. Improved Upgunned Weapon Station (UGWS): Completed baseline testing of existing Up Gunned Weapons Station with Naval Surface Warfare Center (NSWC) Dahlgren and Amphibious Vehicle Test Branch. Worked</p>	23.400	-	-	-	-
	0				

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
with NSWC Crane for development of two (2) IUGWS Prototypes. The IUGWS prototypes have the same weapons and turret structure as the existing vehicles; however, the IUGWS will include stabilized proportional controls, a ballistic computer, a laser range finder, and ergonomic improvements.					
<p>Title: *AAV (FOV) Survivability Program</p> <p align="right">Articles:</p> <p>Description: AAV (FOV) Survivability Program: MCCDC published a new requirement for AAV Survivability in June 2010 that is funded in FYs 12-17. 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.</p> <p>FY 2012 Base 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.</p>	-	-	13.843 0	-	13.843 0
<p>Title: *PM AAV Operations Support:</p> <p align="right">Articles:</p> <p>Description: AAV Operations Support: Evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles (FOV).</p> <p>FY 2010 Accomplishments: Continue Engineering and safety fact-of-life changes to the FOV.</p> <p>FY 2011 Plans: Continue Engineering and safety fact-of-life changes to the FOV.</p> <p>FY 2012 Base Plans: Continue Engineering and safety fact-of-life changes to the FOV.</p>	2.133 0	1.887 0	1.933 0	-	1.933 0
<p>Title: AAV SLEP</p> <p align="right">Articles:</p> <p>Description: AAV SLEP will improve the legacy AAV and extend its service life until replaced by the Next Amphibious Vehicle (NAV) and Marine Personnel Carrier (MPC). Capability improvements include increased mobility, survivability, lethality, C4I/situational awareness, environment/habitability and logistics.</p>	-	-	45.000 0	-	45.000 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2012 Base Plans:</i> Initiate capability improvements to include increased mobility, survivability, lethality, C4I/situational awareness, environment/habitability and logistics. During FY12 this will also requirement refinement using Government labs to validate concepts and material solution approaches.					
Accomplishments/Planned Programs Subtotals	25.533	1.887	60.776	-	60.776

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

N/A

D. Acquisition Strategy

TBD

E. Performance Metrics

AAV Survivability Milestone B FY11.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Safety Analysis	WR	NSWC:Dahlgren VA	0.350	0.200	Mar 2011	0.200	Mar 2012	-		0.200	0.000	0.750	
RAM/Safety	WR	NSWC:Dahlgren VA	0.080	-		-		-		-	0.000	0.080	
Dev/Eval	C/CPFF	NSWC:Dahlgren VA	0.705	-		-		-		-	0.000	0.705	
Comp ID/Demo-Tests	C/CPFF	NSWC:Dahlgren	5.403	-		-		-		-	0.000	5.403	
Comp ID/Demo-Tests	C/CPFF	BAE Systems*:Stafford VA	9.954	-		-		-		-	0.000	9.954	
Safety Analysis	C/CPFF	BAE Systems*:Stafford VA	7.150	-		-		-		-	0.000	7.150	
RAM Safety	C/CPFF	BAE Systems*:Stafford VA	1.500	-		-		-		-	0.000	1.500	
Comp ID/Demo-Tests	WR	NWSC:Crane IN	0.800	-		-		-		-	0.000	0.800	
Test Analysis	WR	AVTB:Camp Pendleton	0.350	-		2.000	Mar 2012	-		2.000	0.000	2.350	
Comp Dev	C/CPFF	BAE Systems*:Stafford VA	6.000	-		-		-		-	0.000	6.000	
Survivability Fuel Tank Development	C/CPFF	BAE Systems:Stafford VA	-	-		2.480	Feb 2012	-		2.480	0.000	2.480	
Survivability EDM1	C/CPFF	BAE Systems:Stafford VA	-	-		2.000	Feb 2012	-		2.000	0.000	2.000	
Survivability EDM2	C/CPFF	BAE Systems:Stafford VA	-	-		2.000	Feb 2012	-		2.000	0.000	2.000	
Survivability EDM3	C/CPFF	BAE Systems:Stafford VA	-	-		2.000	Feb 2012	-		2.000	0.000	2.000	
Survivability Underbody,armor, seats	C/CPFF	BAE Systems:Stafford VA	-	-		2.000	Feb 2012	-		2.000	0.000	2.000	
Lethality weapn system	C/CPFF	BAE Systems:Stafford VA	-	-		7.480	Feb 2012	-		7.480	0.000	7.480	
C4I/Situational Awareness	C/CPFF	BAE Systems:Stafford VA	-	-		5.400	Feb 2012	-		5.400	0.000	5.400	
Environment/Habitability	C/CPFF	BAE Systems:Stafford VA	-	-		6.500	Feb 2012	-		6.500	0.000	6.500	
Logistics diagnostics, IETMS	C/CPFF		-	-		7.480	Feb 2012	-		7.480	0.000	7.480	

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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
		BAE Systems:Stafford VA												
Subtotal			32.292	0.200			39.540			-		39.540	0.000	72.032

Remarks
* FULL AND OPEN COMPETITION, NEW CONTRACT AWARD ANTICIPATED 2ND Q FY12

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical \$ Engineering Spt	WR	SPAWAR:Charleston SC	0.063	-		-		-		-	0.000	0.063	
Technical \$ Engineering Spt	WR	NSWC:Dahlgren/Crane	10.449	-		-		-		-	0.000	10.449	
Technical \$ Engineering Spt	C/CPFF	BAE Systems*:Triangle VA	8.615	1.000	Feb 2011	1.848	Feb 2012	-		1.848	0.000	11.463	
Documentation	C/CPFF	BAE Sysrtems*:Triangle VA	2.132	0.150	Feb 2011	-		-		-	0.000	2.282	
Support	C/CPFF	BAE Systems*:Triangle VA	2.531	0.150	Feb 2011	-		-		-	0.000	2.681	
Documentation	C/FP	CEOss:Quantico VA	0.200	-		2.000	Dec 2011	-		2.000	0.000	2.200	
Technical \$ Engineering Spt	C/CPFF	BAE Systems:Triangle VA	-	-		1.500	Feb 2012	-		1.500	0.000	1.500	
Documentation	C/CPFF	BAE Systems:Triangle VA	-	-		0.500	Feb 2012	-		0.500	0.000	0.500	
Support	C/CPFF	BAE Systems:Triangle VA	-	-		0.200	Feb 2012	-		0.200	0.000	0.200	
Subtotal			23.990	1.300		6.048		-		6.048	0.000	31.338	

Remarks
* FULL AND OPEN COMPETITION, NEW CONTRACT AWARD ANTICIPATED 2ND Q FY12

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TEMP/LCCE/CDD	WR	MCCDC:Quantico VA	0.740	-		-		-		-	0.000	0.740	
Field Test	PO	29 Palms:MCB CA	0.035	-		-		-		-	0.000	0.035	
Field Test	PO	Camp LeJeune:MCB NC	0.030	-		-		-		-	0.000	0.030	
Test and Eval	PO	MCOTEA:Quantico VA	1.028	-		-		-		-	0.000	1.028	
Decon Verification	C/CPFF	BAE Systems*:Stafford VA	0.100	-		-		-		-	0.000	0.100	
Testing	C/CPFF	BAE Systems*:Stafford VA	4.000	-		0.500	Feb 2012	-		0.500	0.000	4.500	
Integration Testing	C/CPFF	MCOTEA:Quantico VA	1.000	-		1.000	Feb 2012	-		1.000	0.000	2.000	
Survivability Fuel Store LiveFire Evaluation	C/CPFF	BAE Systems:Triangle VA	-	-		2.000	Feb 2012	-		2.000	0.000	2.000	
Subtotal			6.933	-		3.500		-		3.500	0.000	10.433	

Remarks
* FULL AND OPEN COMPETITION, NEW CONTRACT AWARD ANTICIPATED 2ND Q FY12

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management	C/CPFF	BAE Systems*:Triangle VA	4.100	0.187	Feb 2011	-		-		-	0.000	4.287	
Various Management	WR	Government:Various	13.448	-		4.733	Jan 2012	-		4.733	0.000	18.181	
Travel	Allot	Government:Various	0.436	0.200	Oct 2010	0.755	Jan 2012	-		0.755	0.000	1.391	
Management	C/CPFF	BAE Systems:Triangle VA	-	-		6.200	Feb 2012	-		6.200	0.000	6.200	
Subtotal			17.984	0.387		11.688		-		11.688	0.000	30.059	

Remarks
* FULL AND OPEN COMPETITION, NEW CONTRACT AWARD ANTICIPATED 2ND Q FY12

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Proj 0021																													
AAVC7 Upgrade MSC		■																											
AAVC7 Upgrade LRIP		■	■																										
AAVC7 DT	■																												
AAVC7 IOT&E			■	■																									
AAV Survivability Upgrade MSB					■																								
AAV Survivability Upgrade MSC													■																
AAV Survivability LRIP													■	■	■														
AAV Survivability DT									■	■	■																		
AAV Survivability IOT&E													■	■	■														
AAV SLEP MSB												■																	
AAV SLEP DT																	■	■	■										
AAV SLEP OT																		■	■										
AAV SLEP MSC																			■										
AAV SLEP LRIP																									■	■	■		

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0021				
AAVC7 Upgrade MSC	2	2010	2	2010
AAVC7 Upgrade LRIP	2	2010	3	2010
AAVC7 DT	1	2010	1	2010
AAVC7 IOT&E	3	2010	4	2010
AAV Survivability Upgrade MSB	1	2011	1	2011
AAV Survivability Upgrade MSC	3	2013	3	2013
AAV Survivability LRIP	3	2013	2	2014
AAV Survivability DT	2	2012	4	2012
AAV Survivability IOT&E	1	2013	1	2014
AAV SLEP MSB	4	2012	4	2012
AAV SLEP DT	1	2014	1	2015
AAV SLEP OT	3	2014	1	2015
AAV SLEP MSC	4	2014	4	2014
AAV SLEP LRIP	4	2014	3	2015

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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
1555: <i>Lt Armored Vehicle Prog</i>	6.140	14.760	39.954	-	39.954	58.702	62.083	2.305	2.355	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 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: LAV MODIFICATIONS	0.490	2.251	8.314	-	8.314
Articles:	0	0	0		0
FY 2010 Accomplishments: Research and development of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase 1&2/Recovery Aids.					
FY 2011 Plans: Research and development of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase 3/Internal Stowage provisions/Driver's cooler/heater testing.					
FY 2012 Base Plans: Research and development of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Self Recovery Winch/Lightweight Underbelly Kit/Electrical Upgrade Phase 4/Technical Data Package/MRV Vehicle Commander Blast Shield/System Technical Support Contract.					
Title: LAV ANTI-TANK SYSTEM	5.650	12.509	10.910	-	10.910
Articles:	0	0	0		0
FY 2010 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
LAV-AT - Developed Milestone B documentation, conducted Business Case Analysis, test planning, and completed Analysis of Alternatives. FY 2011 Plans: LAV-AT - MS-B Approval, conduct Source Selection, Engineering & Manufacturing Development contract award (4 Prototypes/Vehicle Integration), Preliminary Design Review (PDR), Systems Requirements Review (SRR) FY 2012 Base Plans: LAV-AT - Critical Design Review, Complete Interfaces and Integration, Contractor Testing, Begin Developmental Testing and Technical Readiness Review.					
Title: LAV SURVIVABILITY UPGRADES Articles:	-	-	7.641 0	-	7.641 0
FY 2012 Base Plans: LAV SURV UPGRADES-EMD Phase RFP Development, Milestone B Development, MS B, System Development RFP Release, Source Selection					
Title: LAV Indirect Fire Modernization Articles:	-	-	13.089 0	-	13.089 0
FY 2012 Base Plans: LAV Indirect Fire Modernization-EMD Phase RFP Development, Milestone B Development, MS B, System Development RFP Release, Source Selection					
Accomplishments/Planned Programs Subtotals	6.140	14.760	39.954	-	39.954

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/2038: LAV	73.471	193.610	147.051	171.400	318.451	245.467	222.696	188.478	149.071	Continuing	Continuing

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	1555: <i>Lt Armored Vehicle Prog</i>

"(U)ACQUISITION STRATEGY: 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 is scheduled for Jan 2011 approval, leading 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.

"(U)ACQUISITION STRATEGY: 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. Currently, the Office of Naval Research (ONR) has been conducting a "Rolling Down Select" of potential competitors with a Technology Readiness Level target of TRL7 that will result in a system capable of meeting this requirement. The Power Pack effort will require 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.

(U) D. ACQUISITION STRATEGY: 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 a replacement for the M252 81mm mortar of the LAV-M variant to correct operational effectiveness deficiencies. The LAV-M will have greater range, improved lethality and greater responsiveness. The preferred material solution was determined from a trade off analysis completed in 2Q04. The study methodology was approved by the AoA IPT later that fiscal year. That analysis leveraged off the results of the completed EFSS AoA. Finalized Acquisition strategy, Acquisition Program Baselines and Test & Evaluation Master Plans will be prepared during MS B.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PROTOTYPES (Surv Upgrades)	C/CPFF	TBD:TBD	-	-		1.589	Mar 2012	-		1.589	0.000	1.589	
SYSTEM DEV (Surv Upgrades)	C/CPFF	TBD:TBD	-	-		2.434	Mar 2012	-		2.434	0.000	2.434	
Support Equipment (Anti-Tank)	C/FP	TBD:TBD	-	-		1.294	Jan 2012	-		1.294	0.000	1.294	
SYSTEM DEV (Indirect Fire)	C/CPFF	TDB:TBD	-	-		6.749	Mar 2012	-		6.749	Continuing	Continuing	Continuing
PRODUCT DEV. (MOD)	C/CPFF	TBD:TBD	4.876	1.826	Mar 2011	6.744	Mar 2012	-		6.744	Continuing	Continuing	Continuing
SYSTEM DEV (Anti-Tank)	C/CPFF	TBD:TBD	2.535	3.846	Jun 2011	1.322	Jan 2012	-		1.322	Continuing	Continuing	Continuing
PROTOTYPES (Anti-Tank)	C/FP	TBD:TBD	-	7.014	Jun 2011	-		-		-	0.000	7.014	
ILS DATA DEVELOPMENT (Anti-Tank)	C/FP	TBD:TBD	-	-		2.151	Jan 2012	-		2.151	Continuing	Continuing	Continuing
Subtotal			7.411	12.686		22.283		-		22.283			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt (Surv Upgrades)	MIPR	TACOM:Warren, MI	-	-		1.742	Oct 2011	-		1.742	0.000	1.742	
Program Mgmt (Indirect Fire)	MIPR	TACOM:Warren, MI	-	-		2.220	Oct 2011	-		2.220	0.000	2.220	
Program Mgmt (MOD)	MIPR	TACOM:Warren, MI	0.132	0.160	Oct 2010	0.591	Oct 2011	-		0.591	Continuing	Continuing	Continuing
Program Mgmt (Anti-Tank)	MIPR	TACOM:Warren, MI	1.476	1.112	Oct 2010	1.257	Oct 2011	-		1.257	Continuing	Continuing	Continuing
Subtotal			1.608	1.272		5.810		-		5.810			

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev/Oper. T&E (Indirect Fire)	C/FP	TBD:TBD	-	-		3.930	Jul 2012	-		3.930	0.000	3.930	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Devl/Oper. T&E (Surv. Upgrades)	Various	TBD:TBD	-	-		1.657	Jun 2012	-		1.657	0.000	1.657	
Devl/Oper. T&E (MOD)	Various	TBD:TBD	0.642	0.195	Mar 2011	0.720	Mar 2012	-		0.720	Continuing	Continuing	Continuing
Devl/Oper. T&E (Anti-Tank)	Various	TBD:TBD	-	-		4.262	Mar 2012	-		4.262	Continuing	Continuing	Continuing
Subtotal			0.642	0.195		10.569		-		10.569			

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tech. Eng. Services (Indirect Fire)	C/FP	TBD:TBD	-	-		0.190	Nov 2011	-		0.190	0.000	0.190	
Tech. Eng. Services (Surv. Upgrades)	C/FP	TBD:TBD	-	-		0.219	Nov 2011	-		0.219	0.000	0.219	
Tech. Eng. Services (MOD)	C/FP	SURVICE: Bellcamp, MD	0.129	0.070	Jan 2011	0.259	Jan 2012	-		0.259	Continuing	Continuing	Continuing
Tech. Eng. Services (Anti-Tank)	C/FP	SURVICE: Bellcamp, MD	1.715	0.537	Feb 2011	0.624	Jan 2012	-		0.624	Continuing	Continuing	Continuing
Subtotal			1.844	0.607		1.292		-		1.292			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		11.505	14.760		39.954		-	39.954			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>LAV Anti-Tank Modernization</i>				
IOC	4	2015	4	2015
MS-B	2	2011	2	2011
Developmental Testing	3	2012	2	2013
Operational Testing	4	2013	1	2014
MS-C	1	2014	1	2014
Production Contract Award	1	2014	1	2014
<i>LAV Indirect Fire Modernization</i>				
FOC	2	2016	2	2016
IOC	2	2015	2	2015
Production Contract Award	3	2013	3	2013
MS-C	3	2013	3	2013
Operational Testing	2	2013	2	2013
Developmental Testing	1	2013	1	2013
MS-B	2	2012	2	2012
<i>LAV Survivability Upgrades</i>				
Production Contract Award	1	2015	1	2015
Operational Testing	4	2014	1	2015
Developmental Testing	3	2013	3	2014
MS-C	1	2015	1	2015
MS-B	2	2012	2	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
1901: <i>MC Grnd Wpnry Prod Improvement</i>	8.437	11.514	10.670	-	10.670	12.691	10.801	7.817	6.430	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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: Company and Battalion Mortars.</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Provided system development and demonstration, pre-Milestone C activities, and purchased Non-developmental Items (NDI) for testing and evaluation of candidate systems and modifications.</p> <p>FY 2011 Plans: This funding will be 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.</p> <p>FY 2012 Base Plans: This funding will continue to be 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.</p>	0.302 0	0.501 0	0.509 0	-	0.509 0
<p>Title: Family of Individual Optics (FOIO)</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Funded technology to enable the development of the future optical system. As foreign optical development capability increases to match domestic ability, advancements were pursued to enable longer range engagements and reduced size, weight and power. Examples of these efforts included; range gated imagery</p>	1.761 0	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
collection enabling significantly increased range performance, and optical element tiling enabling the reduction of optical size and weight.					
Title: Infantry Weapons Mods.					
Articles:					
	1.041	1.240	1.242	-	1.242
	0	0	0		0
FY 2010 Accomplishments:					
The Infantry Weapons Modification program developed joint and Marine Corps unique improvements to infantry weapons and fire support technology. The improvements addressed critical operational and logistics deficiencies in fielded infantry weapon systems and equipment. The funding permitted economical level-of-effort project participation to analyze, design, develop, and field modifications. This level-of-effort funding line allowed timely response to safety and performance issues that require immediate attention to maintain operational readiness.					
FY 2011 Plans:					
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.					
FY 2012 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:					
	3.582	2.720	1.920	-	1.920
	0	0	0		0
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) on the High Mobility Multipurpose Wheeled Vehicle (HMMWV'S)					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
or the HMMWV's replacement vehicle. MPM will deliver counter-personnel, non-lethal effects applicable to controlling crowds, denying/defending areas,controlling access, and engaging threats.					
FY 2010 Accomplishments: Awarded two technology development (TD) contracts to General Dynamics and Ordnance Tactical Systems and Metal Storm Inc. The strategy is to use these contractors during the TD Phase to assess the feasibility of suppressing a human target with a thermobaric payload before proceeding into EMD with a single contractor. The TD Phase will ensure technology is at a Technology Readiness Level - 6 (TRL-6) before proceeding into EMD.					
FY 2011 Plans: Conduct government tests to evaluate the effectiveness of the non-lethal munitions payloads. These tests will determine the threshold levels of light, sound, heat, and blast overpressure produced by the contractor's munitions. The data will be analyzed using government validated and verified (VandV) models developed through the Joint Non-Lethal Weapons Directorate (JNLWD) to determine the level of suppression achieved by munitions. Additionally, the government will evaluate the technical adequacy of the proposed system design to ensure that technology within the proposed system design can meet performance specifications.					
FY 2012 Base Plans: Continue to conduct government tests to evaluate the effectiveness of the non-lethal munitions payloads. These tests will determine the threshold levels of light, sound, heat, and blast overpressure produced by the contractor's munitions. The data will be analyzed using government validated and verified (VandV) models developed through the Joint Non-Lethal Weapons Directorate (JNLWD) to determine the level of suppression achieved by munitions. Additionally, evaluate the technical adequacy of the proposed system design to ensure that technology within the proposed system design can meet the performance specifications.					
Title: Night Vision Mod Line. (NVM)					
Articles:					
	1.474	2.333	2.361	-	2.361
	0	0	0		0
FY 2010 Accomplishments: Technology improvements to current systems were pursued to include increased resolution projects for Imaging Intensifier (I2) tubes, which will provide enhanced capability to shoot and maneuver while reducing power and weight on head and weapon mounted optics.					
FY 2011 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
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.					
Title: Sniper System Capability Set (SSCS).					
Articles:					
	0.277	0.302	0.308	-	0.308
	0	0	0		0
FY 2010 Accomplishments:					
Conducted testing to evaluate feasibility of modifying the M39 Enhanced Marksman Rifle to accept a suppressor. The proposed modification was developed by Precision Weapons Section, Weapons Training Battalion and PM Infantry Weapons,. The test was conducted by the Expeditionary Systems Evaluation Division (ESED), Crane. The test demonstrated that the rifle can be safely and accurately fired with a muzzle brake and suppressor attached. Follow-on testing is required to evaluate the impact of the suppressor on the endurance and barrel life of the system.					
FY 2011 Plans:					
Funds support testing to evaluate the suitability of a replacement for the current Sniper Rifle Drag Bag, which allows a Marine to transport his rifle and other gear while moving into firing position. In addition, funds will be used to support 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). Funds will also be used to conduct an evaluation of the lifecycle of the M110 Semi-Automatic Sniper System (SASS).					
FY 2012 Base Plans:					
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.					
Title: Family of Optical Systems. (FOS)					
Articles:					
	-	2.518	1.575	-	1.575
		0	0		0
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,					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
illuminating, and pointer functionalities. Replaces multiple single-purpose Night Vision Equipment (NVE) fielded to the Marine Corps. FY 2011 Plans: This funding will 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 evaluate the possibility of combining / integrating disparate sensor technology to increase the overall capability. One example will be combining the Infrared (IR) and Image Intensificaton (I2) technologies into one system. To enable future technology development, an Analysis of Alternatives will be conducted. FY 2012 Base 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 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	8.437	11.514	10.670	-	10.670

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDTEN/0603851M/2319: <i>CBG Non Lethal Weapons</i>	3.800	2.060	3.046	0.000	3.046	0.000	0.000	0.000	0.000	0.000	8.906
• PMC/2208001: <i>Weapons Enhncmnt Program (OOTW)</i>	9.478	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.478
• PMC/2208002: <i>Weapons Enhncmnt Program (MPM)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.074	7.181	0.000	13.255
• PMC/2208003: <i>Weapons Enhncmnt Program (OI)</i>	0.000	0.000	0.000	0.000	0.000	0.000	5.531	9.578	8.387	Continuing	Continuing
• PMC/4930001: <i>Night Vision Equipment (NVM)</i>	10.328	0.000	6.847	9.850	16.697	7.258	10.999	11.368	17.595	Continuing	Continuing
	2.195	2.178	1.226	0.000	1.226	1.311	0.840	0.993	1.252	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/2220003: <i>Under \$5 Million</i> (<i>Com & Batt Mortars</i>)											

D. Acquisition Strategy

These programs range from off-the-shelf modifications to developmental items for safety, reliability, and technology up-grades to meet Marine Corps requirements.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ocular Interruption	Various	MCOTEA:Quantico, VA	-	0.325	Oct 2010	-		-		-	0.000	0.325	
Mission Payload Module	Various	AFRL:San Antonio,TX	0.663	1.145	Nov 2010	0.746	Nov 2011	-		0.746	0.000	2.554	
Night Vision Mod	Various	Various (Contract Industry):TBD	2.535	0.798	Dec 2010	1.557	Nov 2011	-		1.557	0.000	4.890	
Night Vision Mod	Various	NVESD:Ft. Belvoir, VA	3.168	0.900	Dec 2010	-		-		-	0.000	4.068	
Company/Battalion Mortar	WR	NSWC:Dahlgren, VA	3.418	0.501	Mar 2011	0.509	Mar 2012	-		0.509	Continuing	Continuing	Continuing
Scout Sniper Cap Sets	C/FFP	MCSC:Quantico, VA	0.618	-		-		-		-	0.000	0.618	
Family of Optical Systems	Various	Night Vision Lab:Ft. Belvoir, VA	-	0.935	Dec 2010	0.586	Dec 2011	-		0.586	0.000	1.521	
Family of Optical Systems	Various	Contract Industry:TBD	-	0.777	Dec 2010	0.443	Dec 2011	-		0.443	0.000	1.220	
Ocular Interruption	Various	HECOE:TBD	-	0.195	Oct 2010	-		-		-	0.000	0.195	
Ocular Interruption1	Various	TBD:TBD	-	0.851	Jul 2011	-		-		-	0.000	0.851	
Ocular Interruption2	Various	TBD:TBD	-	-		2.701	Jan 2012	-		2.701	0.000	2.701	
Subtotal			10.402	6.427		6.542		-		6.542			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Payload Module	Various	MCSC:Quantico, VA	1.275	1.200	Nov 2010	0.948	Nov 2011	-		0.948	0.000	3.423	
Night Vision Mod	Various	CEOSS:Quantico, VA	1.988	0.402	Dec 2010	0.593	Dec 2011	-		0.593	0.000	2.983	
Infantry Weapons Mods	C/FFP	MCSC:Quantico, VA	2.447	0.360	Jun 2011	0.357	Dec 2011	-		0.357	Continuing	Continuing	Continuing
Family of Optical Systems	Various	MCSC:Quantico, VA	-	0.554	Dec 2010	0.362	Dec 2011	-		0.362	0.000	0.916	
Ocular Interruption	C/FFP	MCSC:Quantico, VA	-	0.480	Jan 2011	-		-		-	0.000	0.480	
Subtotal			5.710	2.996		2.260		-		2.260			

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MPM -TD Phase Testing																												
MPM -DT Testing																												
MPM - Operational Assessment																												
MPM - Operational Testing																												
Mortar Cannons																												
Mortar Cannons - 60mm FRP																												
Mortar Cannons - 60mm Fielding																												
Mortar Cannons - 81mm Qualification																												
Mortar Cannons - 81mm FAT																												
Mortar Cannons - 81mm FRP																												
Mortar Cannons - 81mm Fielding																												
Scout Sniper Cap Sets																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1901				
Ocular Interruption	1	2010	1	2016
Ocular Interruption - Eng & Manufacturing Dev (EMD)	4	2011	1	2014
Ocular Interruption - Low Rate Initial Production (LRIP)	2	2014	2	2014
Ocular Interruption - Production & Development	4	2014	4	2014
Ocular Interruption - LRIP Option Award	2	2014	2	2014
Ocular Interruption - FRP RFP Release	4	2014	1	2015
Ocular Interruption - FRP Contract Award	2	2015	2	2015
Ocular Interruption - Preliminary Design Review	4	2011	4	2011
Ocular Interruption - Critical Design Review / DRR	2	2012	2	2012
Ocular Interruption - Test Readiness Review	4	2012	4	2012
Ocular Interruption - System Verification Review	4	2012	4	2012
Ocular Interruption - Systems Qualification	3	2012	1	2013
Ocular Interruption - N/AIOT&E	2	2014	2	2014
Ocular Interruption - Production Readiness Review	4	2012	4	2012
FOS	1	2010	4	2016
FOS (Crew Served) EMD	2	2016	4	2016
FOS AAO Increase Technology Refresh Procurements	1	2010	4	2016
FOS- (Crew Served) MS B	1	2016	2	2016
FOS- (Crew Served) Pre MS B Activities	2	2011	4	2015
FOS- (Individual) EMD	3	2016	4	2016
FOS- (Individual) MS B	2	2016	3	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
FOS - (Individual) Technology Development	3	2013	4	2015
FOS - (Individual) MS A	2	2013	3	2013
FOS- Fused Optic Pre-MS A Activities (ongoing).	1	2010	1	2013
FOS- Analysis of Alternatives	3	2011	3	2012
FOS-Reliability Study	3	2010	3	2011
MPM	1	2010	2	2015
MPM - Technology Development Phase	3	2010	3	2011
MPM - Engineering & Manufacturing Phase	1	2012	4	2014
MPM - Low Rate Initial Production (LRIP)	1	2015	3	2015
MPM - Production & Deployment Phase	3	2015	4	2015
MPM - TD Contract Award	4	2010	4	2010
MPM - EMD Contract Award	1	2012	1	2012
MPM - LRIP Contract Award	1	2015	1	2015
MPM - Full Rate Production Contract Award	4	2015	4	2015
MPM- System Requirement Review (SRR)	3	2010	3	2010
MPM - Hardware Preliminary Design Review	4	2011	4	2011
MPM - Preliminary Design Review (PDR)	2	2012	2	2012
MPM - Critical Design Review (CDR)	2	2012	2	2012
MPM - Test Readiness Review (TRR)	4	2013	4	2013
MPM -TD Phase Testing	1	2011	2	2011
MPM -DT Testing	3	2013	2	2014
MPM - Operational Assessment	2	2014	2	2014
MPM - Operational Testing	2	2015	3	2015
Mortar Cannons	1	2010	4	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Mortar Cannons - 60mm FRP	1	2010	4	2010
Mortar Cannons - 60mm Fielding	1	2011	4	2011
Mortar Cannons - 81mm Qualification	3	2011	4	2011
Mortar Cannons - 81mm FAT	1	2012	1	2012
Mortar Cannons - 81mm FRP	1	2012	2	2013
Mortar Cannons - 81mm Fielding	4	2012	4	2013
Scout Sniper Cap Sets	1	2010	1	2010

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>				PROJECT 2086: <i>Soldier/Marine Enhancement</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2086: <i>Soldier/Marine Enhancement</i>	2.957	4.534	5.324	-	5.324	5.466	5.634	5.808	5.936	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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: *MEP	1.831	2.780	2.320	-	2.320
Articles:	0	0	0		0
FY 2010 Accomplishments:					
MEP funded the following efforts: Next Generation Improved Load Bearing Equipment (ILBE), Improved Helmet Suspension/Retention System, Integrated Intra-Squad Radio (IISR) Battery Charging Adapter, and the Pocket Laser Range Finder.					
FY 2011 Plans:					
MEP will provide funding for incomplete FY10 projects, as well as the Chest Rig and Individual Water Purification System which were both originally FY10 initiatives with Program Manager - Individual Combat Equipment (PM-ICE). However, ICE had to delay receiving R&D for these items. We also strongly anticipate projects with PM-					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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EPS, additional PM-ICE projects and possibly adding the Expeditionary Individual Fitness System as an FY11 initiative.					
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FY 2012 Base 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.

Title: *Marine Expeditionary Rifle Squad (MERS)	1.126	1.754	3.004	-	3.004
Articles:	0	0	0		0

FY 2010 Accomplishments:
Continued 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. Significant efforts conducted with Improved Modular Tactical Vest (IMTV), Scalable Plate Carrier (SPC), Enhanced Combat Helmet (ECH), Joint Light Tactical Vehicle (JLTV), Joint Battle Command Platform (JBCP), and Ground Soldier System (GSS) this year. MERS received five Ground Soldier Systems from each of the three vendors to conduct a capability analysis. Performed significant efforts with JBC-P program office this year regarding a hand held device at the squad level. Conducted in theater and post deployment surveys with infantry battalions. Established and conducted data collection utilizing the Load Effects Assessment Program and conducted mobility assessments. Program Office stood up the Command's Institutional Review Board. Conducting user evaluations on various new items of infantry equipment. Began transition of Gruntworks Squad Integration facility to an on base facility at Camp Barrett. Designed 'Light' workshop recommendations, prototyping, and implemented recommendations. Accomplished significant efforts on power reductions and commonality within the squad. cContinued gathering anthropometric data on equipped Marines and physiological data while Marines conduct various tasks. Continued to engage the Science and Technology community on their various projects for integrated transition paths to programs of record. Continued to reduce weight and volume while increasing integrated capabilities with ergonomic solutions.

FY 2011 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. 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

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>with 1st and 2nd MarDiv infantry battalions. Fully transition the Gruntworks Squad Integration Facility to Camp Barrett by through reconfiguration and upgrades to government R&D facility. This significant effort is to upgrade electrical, Heating Vacuum Air Conditioning (HVAC), plumbing and work spaces into a fully capable facility. The capability analysis conducted with Fires & Maneuver Integration Division (FMID) on the Ground Soldier System and Joint Battle Command Platform (JBCEP) 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.</p> <p>FY 2012 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. 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 FY-11 capability analysis conducted and follow-on decisions. 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</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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.I This group determines the prioritization of integration projects.					
Accomplishments/Planned Programs Subtotals	2.957	4.534	5.324	-	5.324

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PMC BLI 220800: <i>Marine Enhancement Program</i>	10.680	3.261	3.266	0.000	3.266	3.368	3.482	3.598	3.675	0.000	31.330

D. Acquisition Strategy

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

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Product Development	C/FFP	Marine Corps Systems Command:Quantico, VA	1.775	0.715	Mar 2011	1.132	Mar 2012	-		1.132	0.000	3.622	Continuing
MEP Product Development	C/FFP	Marine Corps Systems Command:Quantico, VA	1.812	0.560	Mar 2011	0.650	Mar 2012	-		0.650	0.000	3.022	Continuing
Subtotal			3.587	1.275		1.782		-		1.782	0.000	6.644	

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

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MEP Operational Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	1.164	0.350	Mar 2011	0.400	Mar 2012	-		0.400	0.000	1.914	Continuing
Subtotal			1.164	0.350		0.400		-		0.400	0.000	1.914	

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

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Developmental Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	1.552	0.320	Mar 2011	1.122	Mar 2012	-		1.122	0.000	2.994	Continuing
	C/FFP		2.573	1.187	Mar 2011	0.569	Mar 2012	-		0.569	0.000	4.329	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost			
MEP Developmental Test & Eval		Various Marine Corps Systems Command: Quantico, VA												
Subtotal			4.125	1.507			1.691			-	1.691	0.000	7.323	

Remarks
Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs, therefore a specific contract award date cannot be identified. Contract award date reflects the first of multiple awards.

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost			
MERS Program Mgmt/Tech Spt	C/FFP	Marine Corps Systems Command: Quantico, VA	1.815	0.719	Mar 2011	0.750	Mar 2012	-		0.750	0.000	3.284	Continuing	
MEP Program Mgmt/Tech Spt	C/FFP	Marine Corps Systems Command: Quantico, VA	1.442	0.683	Mar 2011	0.701	Mar 2012	-		0.701	0.000	2.826	Continuing	
Subtotal			3.257	1.402		1.451		-		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 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.133	4.534	5.324	-	5.324	0.000	21.991	

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2112: <i>Lightweight 155mm Howitzer</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2112: <i>Lightweight 155mm Howitzer</i>	1.584	-	-	-	-	-	2.346	2.398	2.437	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Lightweight 155mm Howitzer (LW155), also known as the M777A2, provides direct, reinforcing, and general support fires to maneuver forces. It replaces all howitzers in all missions in the USMC and replaces the M198 howitzer as the general support artillery for light forces in the Army. The LW155 fires unassisted projectiles to a range of 15 miles and assisted projectiles to 19 miles, but the addition of the digital fire control system enables the weapon to program and fire the improved Excalibur precision-guided munition to ranges in excess of 25 miles with better than 10-meter Circular Error Probable (CEP) accuracy. The LW155 is the first ground combat system whose major structures are made of high strength titanium alloy and the system makes extensive use of hydraulics to operate the breech, load tray, recoil and wheel arms. The combination of titanium structures and the use of hydraulic systems resulted in a significant weight savings over the M198 system (7000 lbs.). Compared to the M198, the LW155 emplaces three-times faster and displaces four-times faster. It traverses 32 percent more terrain worldwide and is 70 percent more survivable than the M198. The LW155 was first introduced into the Marine Corps in April 2005 and since then 10th, 11th, 12th and 14th Marines and the schoolhouses have been fielded. The Army has been fielding the system to its Stryker Brigades and Fires Brigades. The LW155 is currently in OEF with both Services.

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

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: *LW155 Test and Evaluation	1.584	-	-	-	-
Articles:	0				
FY 2010 Accomplishments: System Test and Evaluation					
Accomplishments/Planned Programs Subtotals	1.584	-	-	-	-

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC BLI 218500: <i>155MM Lightweight Towed Howitzer</i>	60.371	113.956	5.552	16.000	21.552	5.545	6.054	6.271	6.497	0.000	1,320.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2112: <i>Lightweight 155mm Howitzer</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC BLI 700000: <i>SPARES</i>	0.904	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.078

D. Acquisition Strategy

This effort shall design, integrate and qualify a Laser Ignition System for the M777A2 Lightweight 155mm Howitzer (LW155) that will replace the current Primer Feed Mechanism (PFM) and M82 percussion primers. This product improvement will eliminate problems which have been experienced in OEF and OIF and result in significant life cycle cost savings by eliminating the needs for the acquisition of primers to fire artillery rounds.

E. Performance Metrics

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2237: <i>Amphibious Vehicle Test</i>	0.816	0.929	0.934	-	0.934	0.940	0.959	0.976	0.993	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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Support Services	0.193	0.453	0.741	-	0.741
Articles:	0	0	0		0
FY 2010 Accomplishments:					
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 and instrumentation as necessary to provide program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support 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.					
FY 2011 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 and instrumentation as necessary to provide 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 includes the upgrade of instrumentation for over the horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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 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 and instrumentation as necessary to 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		0.623	0.476	0.193	-	0.193
		Articles: 0	0	0		0
FY 2010 Accomplishments: Provide funding for necessary services provided by 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 2011 Plans: Provide funding for necessary services provided by 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 2012 Base Plans: Provide funding for necessary services provided by 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		0.816	0.929	0.934	-	0.934

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>

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

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2315: <i>Training Devices/Simulators</i>	12.328	2.226	14.642	-	14.642	20.091	15.499	12.291	12.487	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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: Supporting Arms Virtual Trainer (SAVT)</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2012 Base Plans: 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.</p>	-	-	0.375 0	-	0.375 0
<p>Title: Squad Immersive Training Environment (SITE)</p> <p align="right">Articles:</p> <p>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</p>	-	-	1.978 0	-	1.978 0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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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 Base 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). SITE funding will leverage existing and new Office Naval Research (ONR) transition deliverables to provide immersive training capabilities with existing programs and new program of record systems. The FY12 will deliver prototype/1st article of immersive training systems - specific system definition is pending prioritized findings of the AoA (Analysis of Alternatives).

Title: Deployable Virtual Training Environment (DVTE)	5.003	-	3.672	-	3.672
Articles:	0		0		0

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 2010 Accomplishments:
Awarded a software development contract to Applied Visual Technologies (AVT), Inc. The contract provides continued capabilities development for the Deployable Virtual Training Environment (DVTE). The enhancements include interoperability with Command and Control systems giving the Warfighter the opportunity to train with real tactical gear in a simulated environment. Additionally, this contract improves and enhances the DVTE Combined Arms Network simulations that simulate and stimulate a wide variety of weapons systems and platforms used in the Marine Corps.

FY 2012 Base Plans:

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2315: <i>Training Devices/Simulators</i>																			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)																							
Continues 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 and Computers Integration (C4I) and DVTE interoperability with the Combined Arms Command and Control Upgrade System (CACCTUS).																							
Title: Range Modernization/Transformation (RM/T)																							
Articles:																							
<p>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 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.</p> <p>FY 2010 Accomplishments: Upgrade and enhance the Tank Weapons Gunnery Simulation System (TWGSS)/Precision Gunnery System (PGS) hardware and software to integrate with the Instrumented-Tactical Engagement Simulation System (I-TESS). Upgrades and enhancements required for a Force-on-Force (FoF) Phase for the Operational Assessment 2 and Initial Operational Test and Evaluation (IOT&E) of the Expeditionary Fighting Vehicle (EFV), Amphibious Assault Vehicle (AAV), Light Armored Vehicle (LAV), and M1A1 Tank.</p> <p>FY 2011 Plans: Continues minimal development efforts of the Automatic Performance Evaluation and Lessons Learned (APELL) system prototypes at USMC locations.</p> <p>FY 2012 Base Plans: Complete integration of Tactical Audio Capture System (TACS) 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.</p>																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;"></th> <th style="width: 10%;">FY 2010</th> <th style="width: 10%;">FY 2011</th> <th style="width: 10%;">FY 2012 Base</th> <th style="width: 10%;">FY 2012 OCO</th> <th style="width: 10%;">FY 2012 Total</th> </tr> </thead> <tbody> <tr> <td style="text-align: right;">0.941</td> <td></td> <td>0.098</td> <td>2.302</td> <td align="center">-</td> <td>2.302</td> </tr> <tr> <td style="text-align: right;">0</td> <td align="center">0</td> <td align="center">0</td> <td align="center">0</td> <td></td> <td align="center">0</td> </tr> </tbody> </table>							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	0.941		0.098	2.302	-	2.302	0	0	0	0		0
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total																		
0.941		0.098	2.302	-	2.302																		
0	0	0	0		0																		
Title: Multiple Integrated Laser Engagement System (MILES)																							
Articles:																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="text-align: right;">0.091</td> <td></td> <td>0.050</td> <td>0.050</td> <td align="center">-</td> <td>0.050</td> </tr> <tr> <td style="text-align: right;">0</td> <td align="center">0</td> <td align="center">0</td> <td align="center">0</td> <td></td> <td align="center">0</td> </tr> </tbody> </table>						0.091		0.050	0.050	-	0.050	0	0	0	0		0						
0.091		0.050	0.050	-	0.050																		
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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2315: <i>Training Devices/Simulators</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
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 2010 Accomplishments: Upgraded and enhanced the Tank Weapons Gunnery Simulation System (TWGSS)/Precision Gunnery System (PGS) hardware and software to integrate with the Instrumented-Tactical Engagement Simulation System (I-TESS). The upgrades and enhancements were required for a FoF phase for the Operational Assessment 2 and Initial Operational Test and Evaluation (IOT&E) of the Expeditionary Fighting Vehicle (EFV), Amphibious Assault Vehicle (AAV), Light Armored Vehicle (LAV), and M1A1 Tank.					
FY 2011 Plans: Continues minimal Live, Virtual and Constructive (LVC) training technologies integration with Tactical Video Capture System (TVCS), Deployable Instrumented Tactical System (DITS) and Immersive Infantry Trainer (IIT).					
FY 2012 Base Plans: Continues minimal Live, Virtual and Constructive (LVC) training technologies integration with the Automatic Performance Evaluation and Lessons Learned (APELL) system.					
Title: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Enhancements					
Articles:					
	2.013	0.127	2.775	-	2.775
	0	0	0		0
Description: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) is the only Marine Corps aggregate-level constructive simulation system designed to support the training of Senior Commanders and their staffs in command and control processes and procedures. The system provides interactive, multi-sided, force-on-force, real-time modeling and simulation with stand-alone tactical combat scenarios for air ground, surface, and amphibious operations. With interfaces to fielded Marine Corps Command, Control, Communications and Computers (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 2010 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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Provided for the continued development of the MTWS HLA Bridge and integration into Joint Live, Virtual and Constructive (JLVC) Federation spirals 4 and 5 while providing Enhanced Mission Scenario Events List (MSEL) capability.

FY 2011 Plans:
Maintain databanks for continued development of the MTWS HLA Bridge and integration into the Joint Live, Virtual, and Constructive (JLVC) Federation.

FY 2012 Base 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) injects to focus the training audience on staff actions.

Title: Combined Arms Command and Control Trainer Upgrade System (CACCTUS)	4.280	0.236	3.430	-	3.430
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 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 and Computers (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 2010 Accomplishments:
FY10 provided funds for the incremental development and user prioritized CACCTUS simulation product developments for all required testing coupled to fielding of systems to three Combined Arms Staff Trainer (CAST) training facilities at: Camp Pendleton, CA, Marine Corps Base Hawaii, Camp Courtney, and Okinawa, Japan. Completed installation and upgrading fielded sites with the newly developed system.

FY 2011 Plans:

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue the development 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 2012 Base Plans: Continue development of LVC training capabilities and in order to refine warfare specific software application in support of key company, battalion, regimental and MEB staff training requirements.					
Title: Training Support Description: Provide training solution development efforts for the modernization of training systems by providing high fidelity, immersive simulations and capabilities. Integrates existing live, virtual, and constructive training capabilities to provide fully coordinated Marine Air Ground Training Force (MAGTF) training exercises that realistically simulate the operating environment. FY 2011 Plans: Supports 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 Base Plans: Continue to maintain databank development of the MAGTF Tactical Warfare Simulation (MTWS) High Level Architecture (HLA) bridge and integration into the Joint Live, Virtual, and Constructive (JLVC) Federation.	-	1.715 0	0.060 0	-	0.060 0
Articles:					
Accomplishments/Planned Programs Subtotals	12.328	2.226	14.642	-	14.642

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/BLI#6532001: <i>Training Devices, CACCTUS</i>	4.101	6.134	3.242	0.000	3.242	4.472	4.589	3.616	3.668	999.999	1,052.048
• PMC/BLI#6532002: <i>Training Devices, MILES</i>	0.012	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.268
	77.277	49.234	2.835	24.573	27.408	30.884	31.605	32.391	33.364	999.999	1,345.381

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PMC/BLI#6532003: <i>Training Devices, RM/T</i>											
• PMC/BLI#6532004: <i>Training Devices, DVTE</i>	0.000	0.000	0.714	0.000	0.714	2.705	1.927	0.000	0.000	0.000	5.346
• PMC/BLI#6532005: <i>Training Devices, SAVT</i>	0.000	1.078	0.661	0.000	0.661	0.656	0.000	0.000	0.000	0.000	2.395

D. Acquisition Strategy

- (U) CACCTUS - Competitive software development contract (CPFF) and Work Request to NSWC
- (U) DVTE - Competitively award development contract (CPFF)
- (U) MILES - Competitively awarded Broad Agency Announcement (BAA) Experimentation/Development contracts (CPFF)
- (U) RM/T - Competitive Cost plus Fixed Fee contract (CPFF) and Work Request to NSWC
- (U) SAVT - Government engineering lab labor (Work Request)
- (U) MTWS - Sole Source Firm Fixed Price (SS/FFP) and MIPR to Ft Monmouth
- (U) SITE - Competitive Cost plus Fixed Fee (CPFF) and Work Request to NAWCTSD

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CACCTUS - S/W Dev	SS/CPFF	Cole Engineering Systems Inc. (CESI):Orlando, FL	14.596	0.236	Jun 2011	-		-		-	0.000	14.832	
CACCTUS - S/W Dev	C/CPFF	TBD:TBD	-	-		3.249	Jun 2012	-		3.249	0.000	3.249	
CACCTUS - S/W Dev	Various	Various:Various	2.640	-		-		-		-	0.000	2.640	
Training Support -CACCTUS	C/CPFF	TBD:TBD	-	1.715	Apr 2011	-		-		-	0.000	1.715	
DVTE - S/W Dev	MIPR	Lockheed:Orlando, FL	2.222	-		-		-		-	0.000	2.222	
DVTE - S/W Dev	C/FFP	TBD:TBD	-	-		3.672	Jan 2012	-		3.672	0.000	3.672	
DVTE - S/W Dev	C/FFP	Bohemia Interactive:Orlando, FL	6.661	-		-		-		-	0.000	6.661	
DVTE - S/W Dev	Various	Various:Various	1.739	-		-		-		-	0.000	1.739	
MILES Technology Insertion	C/CPFF	SARNOFF:Princeton, NJ	-	0.050	Jan 2011	-		-		-	0.000	0.050	
MILES Continuous Technology Refresh	C/CPFF	Lockheed Martin:Orlando, FL	-	-		0.050	Dec 2011	-		0.050	0.000	0.050	
MILES MC-ITS Development	C/CPFF	Lockheed Martin:Orlando, FL	1.430	-		-		-		-	0.000	1.430	
RM/T TACS Dev	WR	NSWC:Corona, CA	2.619	-		0.450	Dec 2011	-		0.450	Continuing	Continuing	Continuing
RM/T OV-1 Dev	C/FFP	MITRE:Orlando, FL	0.073	-		-		-		-	0.000	0.073	
RM/T APELL	C/CPFF	SARNOFF:Princeton, NJ	3.952	0.098	Jan 2011	-		-		-	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	1.253	-		-		-		-	0.000	1.253	
RM/T Instrumentation Support	WR	NSWC:Corona, CA	-	-		1.500	Dec 2011	-		1.500	Continuing	Continuing	Continuing
RM/T Target Technology Development	C/CPFF	TBD:TBD	-	-		0.352	Jan 2012	-		0.352	Continuing	Continuing	Continuing
SAVT Lab Effort	WR		-	-		0.375	Feb 2012	-		0.375	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		NAWC TSD:Orlando, FL											
MTWS - S/W Dev	SS/FFP	L-3 Communications:San Diego, CA	10.070	-		2.605	Jan 2012	-		2.605	0.000	12.675	
Training Support - MTWS- SW Dev	SS/FFP	L-3 Communications:San Diego, CA	-	-		0.060	Jan 2012	-		0.060	0.000	0.060	
Subtotal			49.852	2.099		12.313		-		12.313			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CACCTUS - S/W Dev Support	WR	NAWC:Orlando, FL	1.444	-		0.181	Oct 2011	-		0.181	Continuing	Continuing	Continuing
MTWS - S/W Dev Support	MIPR	Department of Energy (DOE):Livemore, CA	0.321	-		-		-		-	0.000	0.321	
MTWS - S/W Dev Support	MIPR	MITRE:Fort Monmouth, NJ	12.000	0.127	Feb 2011	0.170	Feb 2012	-		0.170	Continuing	Continuing	Continuing
SITE - Material Solution Analysis	WR	NAWCTSD:Orlando, FL	-	-		0.500	Oct 2011	-		0.500	Continuing	Continuing	Continuing
SITE - Material Solution Analysis	C/CPFF	Cole Engineering:Orlando, FL	-	-		1.478	Nov 2011	-		1.478	0.000	1.478	
Subtotal			13.765	0.127		2.329		-		2.329			

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		63.617	2.226	14.642	-	14.642		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2315				
CACCTUS Program Support	1	2011	4	2012
CACCTUS - SW Dev Release V5	2	2010	2	2015
DVTE - SW Releases	2	2012	4	2016
MILES Technology Insertion	2	2011	4	2011
MILES Continuous Technology Refresh	1	2012	4	2012
MILES MC-ITS Development	1	2010	4	2011
MTWS - S/W Dev Contract	2	2012	4	2016
MTWS - S/W Dev Support	2	2011	2	2015
RM/T TACS Development	1	2010	4	2012
RM/T APELL Development	2	2011	4	2013
RM/T Instrumentation Support	1	2010	4	2016
RM/T Targetry Technology Development	3	2012	4	2014
SITE - Material Solution Analysis	1	2012	4	2016
SAVT Government Engineering Lab Labor	2	2012	4	2016
Training Support/CACCTUS SW Dev Rel V5	3	2011	2	2012
Training Support/MTWS S/W Dev Contract	2	2012	2	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2503: <i>Initial Issue</i>	9.075	12.271	6.888	-	6.888	8.973	7.585	7.521	7.613	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 (softwall, different frames and fabrics, etc.). The benefits will 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: *Family of Ballistic Protection Systems</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Explored new commercial technologies to be inserted into current body armor to reduce weight, increase survivability, lethality and mobility. Both torso and head/neck ballistic studies 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 are being used to baseline current equipment and enable configuration/compatibility management of new equipment.</p> <p>FY 2011 Plans: Will explore 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.</p>	3.933 0	5.296 0	-	-	-
<p>Title: *Clothing and Flame Resistant Organizational Gear</p> <p align="right">Articles:</p>	0.428 0	0.686 0	0.727 0	-	0.727 0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy		DATE: February 2011
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><i>FY 2010 Accomplishments:</i> Pursued designs, prototyping, user surveys, textile and physical properties testing and the full range of clothing design in response to new uniform initiatives.</p> <p><i>FY 2011 Plans:</i> Will pursue designing, prototyping, user surveys, textile and physical properties testing and the full range of clothing design in response to new uniform initiatives.</p> <p><i>FY 2012 Base Plans:</i> Will pursue designing, prototyping, user surveys, textile and physical properties testing and the full range of clothing design in response to new uniform initiatives.</p>					
<p><i>Title:</i> *Family of Mountain Cold Weather Clothing & Equipment (FMCWCE)</p> <p align="right"><i>Articles:</i></p>	0.850 0	1.234 0	1.240 0	-	1.240 0
<p><i>FY 2010 Accomplishments:</i> FMCWCE provided 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) is being met. This program is substantially improving current inventory items and adding 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.</p> <p><i>FY 2011 Plans:</i> FMCWCE 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</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2503: <i>Initial Issue</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
the operating forces. Rapid technological advances in the outdoor commercial market make it possible to continuously update the capability provided by FMCWCE.					
FY 2012 Base Plans: FMCWCE 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.					
Title: *Family of Improved Load Bearing Equipment					
Articles:					
	0.316	0.512	0.328	-	0.328
	0	0	0		0
FY 2010 Accomplishments: This program supported the Marine Corps requirements for a replacement load bearing system and individual water purifier and supports continual system improvement throughout the life-cycle of the equipment.					
FY 2011 Plans: This program will support the Marine Corps requirements for a replacement load bearing system and individual water purifier and will support continual system improvement throughout the life-cycle of the equipment.					
FY 2012 Base Plans: This program will support the Marine Corps requirements for a replacement load bearing system and individual water purifier and will support continual system improvement throughout the life-cycle of the equipment.					
Title: *Family of Individual Warfighter Equipment (formerly Combat Support Equipment)					
Articles:					
	0.086	0.136	0.138	-	0.138
	0	0	0		0
FY 2010 Accomplishments:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
Continued to enhance or improve unit operational capabilities and enhance unit morale. In addition, some items such as the field tarp and poncho will greatly enhance survivability, mobility and provide significantly improved field equipment to Marines.					
FY 2011 Plans: Continue to enhance or improve unit operational capabilities and enhance unit morale. In addition, some items such as the field tarp and poncho will greatly enhance survivability, mobility and provide significantly improved field equipment to Marines.					
FY 2012 Base Plans: Continue to enhance or improve unit operational capabilities and enhance unit morale. In addition, some items such as the field tarp and poncho will greatly enhance survivability, mobility and provide significantly improved field equipment to Marines.					
Title: *Family of Field Medical Equipment					
Articles:					
	2.897	3.651	3.761	-	3.761
	0	0	0		0
FY 2010 Accomplishments: Family of Field Medical Equipment: Continue the development of Vaccine and Reagent Refrigeration System (VARRS) to replace all refrigeration except the HEMACOOOL 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. Development of Commercial-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items to evaluate their functionality to improve the quality of warfighter's healthcare. 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. Plan to complete testing and initiation of technology insertion.					
FY 2011 Plans: Family of Field Medical Equipment: Complete the development of Vaccine and Reagent Refrigeration System (VARRS) to replace all refrigeration except the HEMACOOOL 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. Development of Commercial-off-					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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the-shelf/Non-developmental (COTS/NDI) medical equipment items to evaluate their functionality to improve the quality of warfighter's healthcare. 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. Plan to complete testing and initiation of technology insertion.

FY 2012 Base Plans:

Family of Field Medical Equipment: 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 exceed life expectancy.

Title: *Family of Shelters and Shelter Equipment	0.122	0.149	0.077	-	0.077
Articles:	0	0	0		0

FY 2010 Accomplishments:

Family of Shelters and Shelter Equipment: 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 to increase capability, reduce weight, cost and cube of soft wall shelters. Explored and tested new technologies in coordination with the US. Army for insertion into the shelter.

FY 2011 Plans:

Family of Shelters and Shelter Equipment: 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

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>minimum of 420 sq. ft. Design and engineering to increase capability, reduce weight, cost and cube of soft wall shelters. Explore and test new technologies in coordination with the US. Army for insertion into the shelter.</p> <p>FY 2012 Base Plans: Family of Shelters and Shelter Equipment: 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. Design and engineering to increase capability, reduce weight, cost and cube of soft wall shelters. Explore and test new technologies in coordination with the US. Army for insertion into the shelter.</p>					
<p>Title: Family of Combat Field Feeding</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Improvements on current technology for heating individual rations were explored to test individual ration heater concepts and equipment. Although some progress has been made in recent years to improve field feeding equipment, most current field messing equipment consists of manpower and maintenance intensive M59 ranges utilizing M2 burners setup within tents. The current Tray Ration Heater System has a large footprint, lacks a quick displacement capability, includes unsafe and hazardous components (specifically the M2 burners), and does not conform to the single fuel concept. Also, this current system is not compatible with tenets of Operational Maneuver from the Sea (OMFTS) and does not facilitate maneuverable warfare operations. Current cookware sanitizing equipment consists of 30 gallon containers used in consonance with immersion water heaters, fueled by gasoline (MOGAS).</p> <p>FY 2011 Plans: Improvements on current technology for heating individual rations will be explored to test individual ration heater concepts and equipment. Although some progress has been made in recent years to improve field feeding equipment, most current field messing equipment consists of manpower and maintenance intensive M59 ranges utilizing M2 burners setup within tents. The current Tray Ration Heater System has a large footprint, lacks a quick displacement capability, includes unsafe and hazardous components (specifically the M2 burners), and does not conform to the single fuel concept. Also, this current system is not compatible with tenets of Operational Maneuver from the Sea (OMFTS) and does not facilitate maneuverable warfare operations. Current</p>	0.443 0	0.607 0	0.617 0	-	0.617 0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
cookware sanitizing equipment consists of 30 gallon containers used in consonance with immersion water heaters, fueled by gasoline (MOGAS).					
<i>FY 2012 Base Plans:</i> Improvements on current technology for heating individual rations will be explored to test individual ration heater concepts and equipment. Although some progress has been made in recent years to improve field feeding equipment, most current field messing equipment consists of manpower and maintenance intensive M59 ranges utilizing M2 burners setup within tents. The current Tray Ration Heater System has a large footprint, lacks a quick displacement capability, includes unsafe and hazardous components (specifically the M2 burners), and does not conform to the single fuel concept. Also, this current system is not compatible with tenets of Operational Maneuver from the Sea (OMFTS) and does not facilitate maneuverable warfare operations. Current cookware sanitizing equipment consists of 30 gallon containers used in consonance with immersion water heaters, fueled by gasoline (MOGAS).					
Accomplishments/Planned Programs Subtotals	9.075	12.271	6.888	-	6.888

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/652200: <i>Field Medical Equipment</i>	21.384	3.432	24.079	16.744	40.823	15.297	26.217	11.986	10.877	0.000	151.996
• PMC/661300: <i>Combat Field Feeding System</i>	2.207	4.283	5.026	0.000	5.026	5.111	5.201	5.291	5.380	0.000	56.399

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	2503: <i>Initial Issue</i>

Family of Field Medical Equipment: These programs leverage heavily on current development and technology in the commercial medical industry. The field medical acquisition strategy is to modify Non-Developmental Items (NDI) and adopt Commercial-Off-the-Shelf (COTS) items.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	6.333	0.835	Feb 2011	-		-		-	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	WR	NRL:Washington, DC	13.205	2.888	Feb 2011	-		-		-	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	WR	ONR:Arlington, VA	0.246	0.100	Feb 2011	-		-		-	Continuing	Continuing	Continuing
Improved Load Bearing Equipment	MIPR	USA NSRDEC:Natick, MA	2.214	0.512	Mar 2011	0.328	Jan 2012	-		0.328	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	3.783	0.299	Jan 2011	0.310	Jan 2012	-		0.310	Continuing	Continuing	Continuing
Combat Field Feeding Systems	MIPR	USA NSRDEC:Natick, MA	1.333	0.394	Mar 2011	0.401	Jan 2012	-		0.401	Continuing	Continuing	Continuing
Individual Warfighter Equipment	MIPR	USA NSRDEC:Natick, MA	0.070	0.075	Mar 2011	0.064	Mar 2012	-		0.064	Continuing	Continuing	Continuing
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	2.310	0.484	Dec 2010	0.494	Dec 2011	-		0.494	Continuing	Continuing	Continuing
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.106	0.105	Dec 2010	-		-		-	0.000	0.211	
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.159	0.157	Dec 2010	-		-		-	0.000	0.316	
Family of Field Medical	WR	NMRC:Silver Spring, MD	0.517	0.525	Dec 2010	1.795	Jan 2012	-		1.795	0.000	2.837	
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	1.373	1.775	Mar 2011	1.356	Jan 2012	-		1.356	0.000	4.504	
Subtotal			31.649	8.149		4.748		-		4.748			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Field Medical	WR	NHRC:San Diego, CA	0.360	0.376	Dec 2010	0.360	Dec 2011	-		0.360	0.000	1.096	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.360	0.376		0.360		-		0.360	0.000	1.096	

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.060	0.075	Jun 2011	-		-		-	0.000	0.135	
Family of Field Medical	MIPR	USAMRAA:Ft. Detrick, MD	0.532	0.608	Jun 2011	-		-		-	0.000	1.140	
Family of Shelters & Shelter Equipment	MIPR	USA NSRDEC:Natick, MA	0.132	0.149	Mar 2011	0.077	Dec 2011	-		0.077	0.000	0.358	
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	6.243	0.958	Nov 2010	-		-		-	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	SS/CPFF	MCSC:Quantico VA	2.344	0.515	Dec 2010	-		-		-	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	2.544	0.405	Dec 2010	0.425	Dec 2011	-		0.425	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	C/FP	MCSC:Quantico, VA	0.030	0.040	Dec 2010	-		-		-	Continuing	Continuing	Continuing
Family of Field Medical	WR	NAMRUSA:San Antonio, TX	-	-		0.060	Jan 2012	-		0.060	0.000	0.060	
Family of Field Medical	WR	NHRC:San Diego, CA	-	-		0.053	Dec 2011	-		0.053	0.000	0.053	
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	-	-		0.137	Dec 2011	-		0.137	0.000	0.137	
Subtotal			11.885	2.750		0.752		-		0.752			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2513: <i>Body Armor</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2513: <i>Body Armor</i>	-	-	5.332	-	5.332	5.436	5.576	5.752	5.852	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

This project was previously in Project C2503 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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: New Accomplishment/Planned Program Entry	-	-	5.332	-	5.332
Articles:			0		0
FY 2012 Base 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. Modeling and simulation initiatives will baseline current equipment and enable configuration/compatibility management of new equipment.					
Accomplishments/Planned Programs Subtotals	-	-	5.332	-	5.332

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

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	2513: <i>Body Armor</i>

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

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	1.923	1.542	1.946	-	1.946	2.372	2.420	2.472	2.516	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 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. 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.

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

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: *HIMARS Systems Engineering	1.373	1.184	1.393	-	1.393
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 communications. This element provides engineering support for integration of the changes into the U.S.M.C. inventory.					
FY 2010 Accomplishments: Primary and ancillary hardware development and systems engineering support, includes Navy, Marine Corps, Army and contractor R&D efforts. The U.S. Army Program Office continues to provide system updates to accommodate emerging requirements such as armor upgrades, and enhanced communications. This element provides engineering support for integration of the changes into the U.S.M.C. inventory.					
FY 2011 Plans: Develop improved Guided Multiple Launch Rocket System (GMLRS) Ignition safety devices and conduct development on improved fire control systems.					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Conduct development on improved fire control systems.					
<p>Title: *HIMARS Testing</p> <p align="right">Articles:</p> <p>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 U.S.M.C. requirements.</p> <p>FY 2010 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 U.S.M.C. requirements.</p> <p>FY 2011 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 U.S.M.C. requirements.</p> <p>FY 2012 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 U.S.M.C. requirements.</p>	0.397 0	0.205 0	0.400 0	-	0.400 0
<p>Title: *HIMARS Program Support</p> <p align="right">Articles:</p> <p>Description: Program Management at Quantico, USMC 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. U.S.M.C. provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning.</p> <p>FY 2010 Accomplishments:</p>	0.153 0	0.153 0	0.153 0	-	0.153 0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Program Management at Quantico, USMC 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. U.S.M.C. provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning.</p> <p>FY 2011 Plans: Program Management at Quantico, USMC 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. U.S.M.C. provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning.</p> <p>FY 2012 Base Plans: Program Management at Quantico, USMC 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. U.S.M.C. provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning.</p>					
Accomplishments/Planned Programs Subtotals	1.923	1.542	1.946	-	1.946

C. Other Program Funding Summary (\$ in Millions)										
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete Total Cost</u>
• PMC/BLI 221200: <i>HIMARS SYSTEMS AN ROCKETS</i>	66.984	167.763	14.695	10.488	25.183	6.740	6.857	6.978	7.096	0.000 824.893

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 while providing associated evaluation and oversight. 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 Evolutionary Acquisition and capability upgrades to both the systems and rocket munitions. These improvements parallel the US Army's acquisition strategy.

E. Performance Metrics
Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Dev	C/FP	Lockheed Martin:Dallas, TX	15.227	0.646	Nov 2010	0.858	Nov 2011	-		0.858	0.000	16.731	
Ancillary Hardware Dev	C/FP	RTTC:Redstone, AL	1.753	0.262	Dec 2010	0.235	Dec 2011	-		0.235	0.000	2.250	
Systems Engineering	WR	NSWC:Dahlgren, VA	3.741	0.276	Dec 2010	0.300	Dec 2011	-		0.300	0.000	4.317	
Subtotal			20.721	1.184		1.393		-		1.393	0.000	23.298	

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval	WR	NSWC:Dahlgren, VA	2.860	0.073	Nov 2010	0.400	Nov 2011	-		0.400	0.000	3.333	
Dev Test & Eval	WR	Redstone Test Ctr:Redstone, AL	1.790	0.132	Dec 2010	-		-		-	0.000	1.922	
Subtotal			4.650	0.205		0.400		-		0.400	0.000	5.255	

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mngmnt	WR	MCSC:Quantico, VA	2.176	0.030	Oct 2010	0.030	Oct 2011	-		0.030	0.000	2.236	
Program Mngmnt	C/FFP	CEOSS:Quantico, VA	5.277	0.123	Oct 2010	0.123	Oct 2011	-		0.123	0.000	5.523	
Subtotal			7.453	0.153		0.153		-		0.153	0.000	7.759	

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			32.824	1.542		1.946		-		1.946	0.000	36.312	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Proj 2928																												
Full Operational Capability				■																								
GMLRS Alternative Warhead Milestone B					■																							
GMLRS Alternative Warhead Milestone C															■													
GMLRS Alternative Warhead Operational Test																											■	
GMLRS Alternative Warhead Full Rate Production																											■	

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2928				
Full Operational Capability	4	2010	4	2010
GMLRS Alternative Warhead Milestone B	1	2011	1	2011
GMLRS Alternative Warhead Milestone C	1	2014	1	2014
GMLRS Alternative Warhead Operational Test	2	2015	2	2015
GMLRS Alternative Warhead Full Rate Production	3	2015	3	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
3098: <i>Fire Support System</i>	19.255	20.559	27.219	-	27.219	20.008	18.072	7.563	7.451	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 and fire support equipment. These initiatives include but are not limited to the Expeditionary Fire Support System (EFSS) munitions testing as well as testing and development of the Family of Artillery Munitions (FAM). Two new initiatives have begun in FY10, Common Laser Range Finder (CLRF) Refresh and Modeled Meteorological Information Manager (MIMM). The CLRF Refresh Research and Development effort is intended to develop an improved, lighter, CLRF that incorporates the latest True North Module (TNM). MIMM development sustains the capability of Marine artillerymen to obtain accurate, near real time, meteorological data through the use of models, and eliminates the need to track balloons either visually or electronically. The FS Mod Line associated with this PE provides resources for four fielded systems; Ground Counter Fire Sensor (GCFS), Improved Position Azimuth Determining System (IPADS), Marine Artillery Survey Set (MASS), and the Meteorological Station Group (MSG).

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

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: *Common Laser Range Finder (CLRF)</p> <p align="right">Articles:</p> <p>FY 2011 Plans: The Common Laser Range Finder (CLRF) provides the ability to perform target detection, recognition, identification, and location determination. For FY11 CLRF Refresh will begin. The CLRF Refresh effort will develop a lighter weight more capable CLRF with a non magnetic True North Module determination capability.</p> <p>FY 2012 Base Plans: The Common Laser Range Finder (CLRF) provides the ability to perform target detection, recognition, identification, and location determination. For FY11 CLRF Refresh will begin. The CLRF Refresh effort will develop a lighter weight more capable CLRF with a non magnetic True North Module determination capability.</p>	-	5.871 0	11.610 0	-	11.610 0
<p>Title: *Modeled Meteorological Information Manager (MMIM)</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: (Begin replacing the MMS in FY11) The RDT&E dollars is utilized to complete a software application required to create, receive and transmit modeled meteorological information from the Air Force Weather Agency databases and integrate the computer and communications hardware.</p> <p>FY 2011 Plans:</p>	1.363 0	0.980 0	0.486 0	-	0.486 0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy				DATE: February 2011						
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 3098: <i>Fire Support System</i>						
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										
<p>The RDT&E dollars will be used to develop interfaces with the Marine Air Wing METMFR NEXGEN, Air Force regional and deployed weather squadrons and the Navy Fleet Numerical Meteorology and Oceanography Center. This will provide deployed artillery and target acquisition systems access to accurate meteorological information required to ensure safe and effective employment of weapon systems. This effort requires the development and testing of interfaces between the MMIM software and external weather agency databases. Currently the MMIM can access only one database. It is critical that the system have access to multiple sources of meteorological information to ensure the safe computation of artillery firing data.</p> <p>FY 2012 Base Plans: The RDT&E dollars will be used to develop interfaces with the Marine Air Wing METMFR NEXGEN, Air Force regional and deployed weather squadrons and the Navy Fleet Numerical Meteorology and Oceanography Center. This will provide deployed artillery and target acquisition systems access to accurate meteorological information required to ensure safe and effective employment of weapon systems. This effort requires the development and testing of interfaces between the MMIM software and external weather agency databases. Currently the MMIM can access only one database. It is critical that the system have access to multiple sources of meteorological information to ensure the safe computation of artillery firing data.</p>						FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: *Expeditionary Fire Support Systems (EFSS)</p> <p align="right">Articles:</p> <p>Description: Follow On Test and Evaluation (FOT&E) was completed in March 2008. Full Rate Production (FRP) decision made in May 2008. EFSS supports irregular warfare and distributed operations.</p> <p>FY 2010 Accomplishments: R&D dollars in the budget required for the following: EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Precision Extended Range Munition testing and development to provide the EFSS system an accurate extended range capability. 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. In addition, system weight reduction and armoring development are outyear candidates. EFSS supports irregular warfare and distributed operations.</p> <p>FY 2011 Plans: R&D dollars in the budget required for the following: EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Extended range guided</p>						15.851 0	10.382 0	12.181 0	-	12.181 0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 3098: <i>Fire Support System</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
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. In addition, system weight reduction and armoring development are outyear candidates. EFSS supports irregular warfare and distributed operations.					
FY 2012 Base Plans: R&D dollars in the budget required for the following: 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. In addition, system weight reduction and armoring development are outyear candidates. EFSS supports irregular warfare and distributed operations.					
Title: *Fire Support Mods (FSM)					
Articles:					
	0.782	1.844	1.518	-	1.518
	0	0	0		0
FY 2010 Accomplishments: The Fire Support Mods line provides technical refresh, maintenance support and operations support for fielded artillery, survey, and meteorological systems, and target acquisition systems to include the Ground Counter Fire Sensor (GCFS), Improved Position Azimuth Determining System (IPADS), Marine Artillery Survey Set (MASS), Meteorological Station Group (MSG), and True North Module for CLRF. RDT&E funding is used to develop new end items, components and SL-3 items; execution of product improvements/modifications; and upgrades to systems software. For FY10 GPS was integrated into the IPADS, data collection for Event Classification of GCFS acoustic events was completed, and TNM development began.					
FY 2011 Plans: Development of a mobile battery charging capability for GCFS, integration of GCFS Met sensor data with MMIM and completion of the TNM development for CLRF.					
FY 2012 Base Plans: Development of a mobile battery charging capability for GCFS, integration of GCFS Met sensor data with MMIM and completion of the TNM development for CLRF.					
Title: *Family of Artillery Munitions (FAM)					
	0.203	0.312	0.316	-	0.316
	0	0	0		0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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FY 2010 Accomplishments:
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 U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts.

FY 2011 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 U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts.

FY 2012 Base 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 U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts.

<i>Title:</i> *Insensitive Munitions	1.056	1.170	1.108	-	1.108
<i>Articles:</i>	0	0	0		0

FY 2010 Accomplishments:
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 2011 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 2012 Base Plans:

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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.					
Accomplishments/Planned Programs Subtotals	19.255	20.559	27.219	-	27.219

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PMC/BLI 473300: <i>Fire Support Mod</i>	1.886	7.158	2.549	0.000	2.549	1.649	1.299	2.419	1.504	0.000	56.215
• PMC/206400: <i>Expeditionary Fire Support Systems</i>	19.531	9.723	11.961	0.000	11.961	9.975	9.976	0.000	0.000	0.000	109.310
• PMC/BLI 4733001: <i>Common Laser Range Finder (CLRF)</i>	0.000	0.000	4.358	0.035	4.393	3.816	10.085	13.320	13.546	0.000	45.160
• PMC/BLI 4733002: <i>Modeled Meterological Information Manager (MMIM)</i>	0.686	1.458	1.921	0.000	1.921	1.432	0.454	0.443	0.453	Continuing	Continuing

D. Acquisition Strategy

These programs range from off-the-shelf modifications to developmental items. Development will typically be conducted through a government lab for example Naval Surface Warfare Center (NSWC) Dahlgren or CraneFire power enhancement used selected upgrades from Army developmental programs to create a system that more readily meets Marine Corps requirements. CLRF Refresh will be a developmental program utilizing a rolling down select, MMIM will consist almost entirely of component integration and testing followed by a Limited User Evaluation and fielding, and the GCFS effort will consist of development and testing all to take place at a government facility.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EFSS	Various	GDOTS:St. Petersburg, FL	19.339	3.851	May 2011	9.931	May 2012	-		9.931	0.000	33.121	
EFSS	Various	VARIOUS:Not Specified	2.880	0.631	Apr 2011	-		-		-	0.000	3.511	
Fire Support Mods	Various	VARIOUS:Not Specified	6.219	1.844	Jun 2011	1.518	Jun 2012	-		1.518	0.000	9.581	
CLRF	Various	NSWCDD:Dahlgren, VA	-	3.183	Jun 2011	11.610	Feb 2012	-		11.610	0.000	14.793	
MMIM	Various	SCC-LANT:Charleston, SC	1.387	0.300	Jun 2011	0.486	Feb 2012	-		0.486	0.000	2.173	
MMS	Various	NAVMAR:San Diego, CA	2.168	-		-		-		-	0.000	2.168	
Insensitive Munitions1	Various	GDOTS:Not Specified	0.650	1.170	Jun 2011	1.108	Jun 2012	-		1.108	0.000	2.928	
Insensitive Munitions2	Various	GDOTS:Not Specified	0.406	-		-		-		-	0.000	0.406	
Subtotal			33.049	10.979		24.653		-		24.653	0.000	68.681	

Remarks

FY10 \$2.7M Congressional (SAC-D) mark against BTID was incorrectly taken from the wrong PE (it was taken from PE 0206623M, Project Code C3098/EFSS vice PE 0206313M, Project Code C2273. The funds will be restored to the correct PE/Project Code but not until after submission of PB-11.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EFSS	Various	CTQ:Quantico, VA	3.563	-		-		-		-	0.000	3.563	
EFSS	WR	NSWCDD:Dahlgren, VA	2.964	0.600	Dec 2010	-		-		-	0.000	3.564	
Fam Artillery Munitions	WR	BAEST:Stafford, VA	1.387	0.312	Jun 2011	0.316	Jun 2012	-		0.316	0.000	2.015	
Fire Support Mods	Various	VARIOUS:Not Specified	4.910	-		-		-		-	0.000	4.910	
CLRF	Various	VARIOUS:Not Specified	-	0.588	Jun 2011	-		-		-	0.000	0.588	
Subtotal			12.824	1.500		0.316		-		0.316	0.000	14.640	

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy			DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>			PROJECT 3098: <i>Fire Support System</i>		

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Proj 3098																												
EFSS Full Operation Capability																												
MMIM MS B																												
MMIM System Integration & Test																												
MMIM LUE																												
MMIM MS C																												
MMIM IOC																												
MMIM MSG Phase Out																												
MMIM FOC (FY12)																												
CLRF MDD																												
CLRF MS A																												
CLRF PDR																												
CLRF MS B																												
CLRF System Intregration																												
CLRF System Demo																												
CLRF MS C																												
CLRF LRIP																												
CLRF IOT&E																												
CLRF FRPD																												
CLRF IOC																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3098				
EFSS Full Operation Capability	4	2012	4	2012
MMIM MS B	3	2010	3	2010
MMIM System Integration & Test	3	2010	3	2011
MMIM LUE	4	2011	4	2011
MMIM MS C	4	2011	4	2011
MMIM IOC	1	2012	1	2012
MMIM MSG Phase Out	1	2012	4	2012
MMIM FOC (FY12)	4	2012	4	2012
CLRF MDD	1	2011	1	2011
CLRF MS A	1	2011	1	2011
CLRF PDR	1	2012	1	2012
CLRF MS B	2	2012	2	2012
CLRF System Intregation	2	2012	4	2012
CLRF System Demo	4	2012	2	2013
CLRF MS C	2	2013	2	2013
CLRF LRIP	2	2013	4	2013
CLRF IOT&E	4	2013	4	2013
CLRF FRPD	4	2013	4	2016
CLRF IOC	2	2014	2	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 4002: <i>Family of Raid Reconnaissance</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
4002: <i>Family of Raid Reconnaissance</i>	3.562	3.391	0.801	-	0.801	0.421	0.430	0.439	0.448	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 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: Family of Raid/Reconnaissance Equipment (FRRE)</p> <p align="right">Articles:</p>	0.940	1.135	0.412	-	0.412
<p>FY 2010 Accomplishments: Upgraded high pressure Parachutist's High Altitude Oxygen System (PHAOS) and development of 3000 psi bottle and improvements to Parachutist's Individual Equipment Kit (PIEK).</p> <p>FY 2011 Plans: Integrate new materials into Multi-Mission Parachute System family of canopies for improved performance; evaluate next generation Automatic Activation Device (AAD) for parachuting safety; develop new Tandem Offset Resupply Delivery System (TORDS) canopy; integrate canopy safety release system; integrate signature reduction technologies to Full Spectrum Battle Equipment; update High Altitude High Opening Parachute Navigation System to provide position data on other parachutists; and evaluate life cycle replacement for the Military Tandem Tethered Bundle (MTTB) System.</p> <p>FY 2012 Base Plans: Planned technology upgrades and evaluation of reliability challenges presented by fielded systems.</p>	0	0	0		0
<p>Title: Underwater Reconnaissance Capability (URC)</p> <p align="right">Articles:</p>	2.622	2.256	0.389	-	0.389
<p>FY 2010 Accomplishments: Procurement of prototypes for the Tactical Hydrographic Survey Equipment and support.</p> <p>FY 2011 Plans:</p>	0	0	0		0

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 4002: <i>Family of Raid Reconnaissance</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Observe mission profiles for the Tactical Hydrographic Survey Equipment; evaluate product improvements and reliability challenges presented by fielded systems, to include the Diver's Propulsion Device and Underwater Breathing Apparatus. FY 2012 Base Plans: Planned technology upgrades and evaluation of reliability challenges presented by fielded systems.					
Accomplishments/Planned Programs Subtotals	3.562	3.391	0.801	-	0.801

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PMC/0206211M: <i>6518 AMPHIB SPT EQUIP</i>	23.750	11.718	5.533	0.000	5.533	10.895	7.327	7.231	5.324	0.000	71.778
• PMC/70000: <i>7000 URC</i>	0.254	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.254

D. Acquisition Strategy

(U) Family of Raid and Reconnaissance Equipment(FRRE) Acquisition strategy for Joint Precision Airdrop System (JPADS) Ultra Light Weight (ULW) includes market research survey to reveal commercially available systems with potential to meet requirements, followed by evaluation to further refine concept of operations and tailor performance specification requirements and avoid non-essential attributes. Full and open competition for production systems is planned. Base production contract with First Article Test will integrate Selective Availability Anti-Spoofing Module (SAASM) Global Positioning System (GPS) into the vendor's system, as well as optimize system for use with Marine Corps canopies. Options on contract will provide for procurement of production systems and supporting logistics elements upon successful completion of integration efforts. A planned Firm Fixed-Price Independent-Deliverables Independent-Quantities (IDIQ) contract will allow other DoD elements to procure systems using the Marine Corps contract vehicle if desired. In FY11/FY 12, the acquisition strategy is to fund engineering changes and product upgrade testing and development for Parachutist's High Altitude Oxygen System (PHAOS), Automatic Activation Device (AAD), High Altitude High Opening Parachute Navigation System (HAHOPNS), and Tandem Offset Resupply Delivery System (TORDS)/Military Tandem Tethered Bundle (MTTB) system.

(U) Underwater Reconnaissance Capability (URC): The acquisition strategy consists of market surveys to identify off-the-shelf/non-developmental item baseline competitions followed by release of desired capabilities/specifications and establishment of the trade space parameters. Project dependent, expect to down-select to best value. Follow-on testing/evaluations as required to be conducted. For technology upgrades to existing projects during FY11/12, engineering changes and product upgrade development and testing is planned.

E. Performance Metrics
N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	4.461	-	-	-	-	-	-	-	-	0.000	4.461
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Marine Corps Cultural and Language Training Platform: This project prototypes a cultural and language training platform using broadband internet connectivity with collaborative applications and conducts a pilot study for its capability to meet MARFORRES language and culture training requirements. This effort will benefit Marines deploying out of CONUS. This platform may provide Marine Reservists required training while at home, reducing PERSTEMPO and associated TDY costs to attend an equivalent school at a remote location. The prototype language and cultural training capability will be based on the proven Special Operations Forces Teletraining System (SOFTS) platform. It will directly support our warfighters whose missions depend on the successful use of operational language and culture whenever deployed to a non-English speaking culture.

Expandable Rigid Wall Composite Shelter: The Marine Corps now uses 1970s technology rigid wall shelters. Funding is required to develop a new composite electromagnetic interference (EMI) capable expendable rigid wall shelter prototype that will provide a technologically superior structure. This superior structure provides energy efficiencies through a higher degree of insulation; increased roof and floor loads; and, enhanced blast, ballistic, and environmental protection. Additionally, composite shelters provide significant corrosion protection, and can be stacked six-high on ocean-going container ships. This highly mobile expendable EMI hardened shelter will provide the USMC with a lightweight, rugged, energy efficient, environmental sound and safer working environment for electronic maintenance and repair of critical communication, command and control, intelligence, and computer equipment in support of deployed operations and key mission requirements.

Remote Aiming and Sighting Optical Retrofit: Modifying a currently fielded PVS-14 optical sight to output a digital image which can be fused with the digital weapon sight image and display the resultant fused video. Reducing the power constraints on the system and minimize the battery pack to the size conducive to a helmet worn application. Developing high bandwidth wireless transfer of imagery via a personal area network. Developing a remote control which allows the operator to utilize the full functionality of the system without removing his hands from their natural shooting position. Advancing Image Intensified Tubes to a high resolution 2 micron pixel size (improvement over the current 6 micron pixel size). Modifying weapon mounted components to integrate with a powered rifle rail system.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2010	FY 2011
Congressional Add: Marine Corps Cultural and Language Training Platform	0.637	-
FY 2010 Accomplishments: Prototype a cultural and language training platform using broadband internet connectivity with collaborative applications and conduct a pilot study for its capability to meet MARFORRES language and culture training requirements.		
Congressional Add: Expandable Rigid Wall Composite Shelter	0.797	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9999: <i>Congressional Adds</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011
FY 2010 Accomplishments: Develop a new carbon fiber hybrid composite expendable shelter prototype that will provide technologically superior structure.		
Congressional Add: Remote Aiming and Sighting Optical Retrofit	3.027	-
FY 2010 Accomplishments: Modified a currently fielded PVS -14 to output a digital image which can be fused with the digital weapon sight image and display the resultant fused video. Reduced the power constraints on the system and minimize the battery pack to the size conducive to helmet worn application. Developed a high bandwidth wireless transfer of imagery via a personal area network. Developed a remote control which allows the operator to utilize the full functionality of the system without removing his hands from their natural shooting position. Advancing Image Intensified Tubes to a high resolution 2 micron pixel size (improvement over the current 6 micron pixel size). Modifying weapon mounted components to integrate with a powered rifle rail system.		
Congressional Adds Subtotals	4.461	-

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• 462000: <i>Expandable Rigid Wall Shelter</i>	3.653	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
9C85: <i>Marine Personnel Carrier (MPC)</i>	3.087	26.811	34.910	-	34.910	66.953	127.028	115.253	130.030	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 New Amphibious 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 & control variant and a recovery & maintenance variant.

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

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Marine Personnel Carrier (MPC)	3.087	26.811	34.910	-	34.910
Articles:	0	0	0		0
FY 2010 Accomplishments: MPC - Completed fabrication and began testing of the Marine Personnel Carrier Technology Demonstration vehicle.					
FY 2011 Plans: MPC - Complete testing of the Marine Personnel Carrier Technology Demonstration vehicle. Successfully pass Materiel Development Decision (MDD). Stand up System Integration Lab. Modeling and Simulation of ballistics and mobility. Initiate development of milestone documentation.					
FY 2012 Base Plans: MPC - Continue System Integration Lab. Complete development of milestone documentation. Prepare request for proposal. SSEB planning and initiation.					
Accomplishments/Planned Programs Subtotals	3.087	26.811	34.910	-	34.910

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

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDTEN/C10C191: <i>Marine Personnel Carrier (Cong Add)</i>	2.390	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.390

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE/C1555G: <i>Marine Personnel Carrier (MPC)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.265
• PMC/203700: <i>Marine Personnel Carrier (MPC)</i>	0.000	0.000	0.000	0.000	0.000	0.000	20.000	143.284	145.720	Continuing	Continuing

D. Acquisition Strategy

The Marine Personnel Carrier (MPC) program will utilize Full and Open competition. 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 eight prototype personnel carrier vehicles that will be subjected to Government evaluation. The results of this evaluation will be used to 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. The selected production source will also be tasked to perform EMD on the command and control and maintenance and recovery vehicles.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Development	C/CPFF	TBD:TBD	0.373	5.404	Dec 2010	7.392	Nov 2011	-		7.392	Continuing	Continuing	Continuing
Subtotal			0.373	5.404		7.392		-		7.392			

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

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	MIPR	TACOM:Warren, MI	1.377	7.019	Oct 2010	12.813	Oct 2011	-		12.813	Continuing	Continuing	Continuing
Subtotal			1.377	7.019		12.813		-		12.813			

Remarks
PM costs to support Acquisition and Milestone Decisions, release of Requests for Proposals, plan and conduct source selection.

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Devlp/Oper. T&E	Various	TBD:TBD	-	2.802	Mar 2011	2.706	Jun 2012	-		2.706	Continuing	Continuing	Continuing
Subtotal			-	2.802		2.706		-		2.706			

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

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Eng. Services	Various	TBD:TBD	1.337	11.586	Dec 2010	11.999	Dec 2011	-		11.999	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			1.337	11.586		11.999		-		11.999			

Remarks
A Systems Integration Lab will be stood up in FY11 and continue in FY12. Competitive Awards and other Government Agencies not yet determined.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3.087	26.811		34.910		-		34.910			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Marine Personnel Carrier (MPC)</i>				
MS-B	1	2013	1	2013
Development Tests	2	2014	1	2015
Operational Test	3	2015	3	2015
MS-C	4	2015	4	2015
Production Contract Award	4	2015	4	2015
Live Fire Test	2	2014	2	2015