

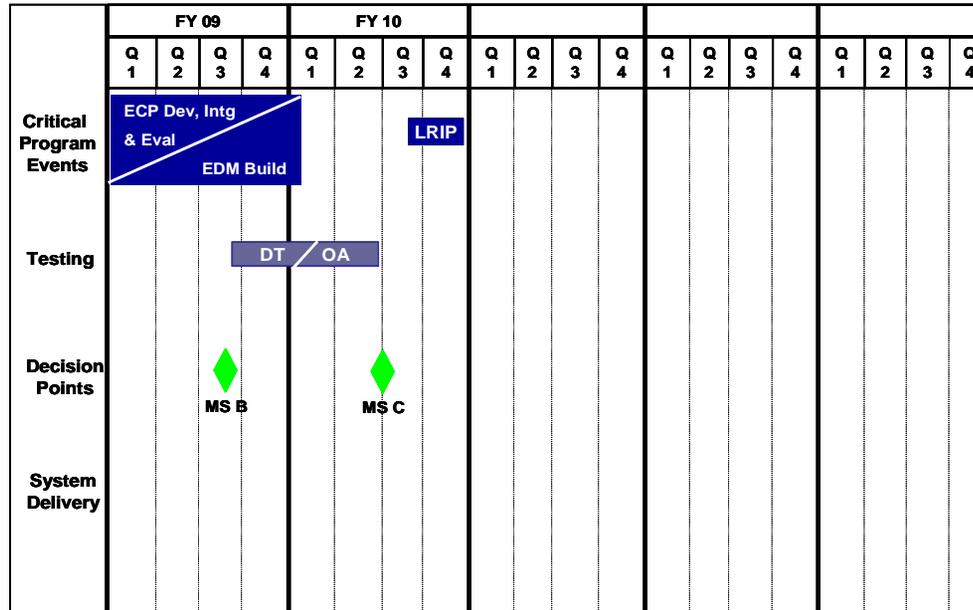
EXHIBIT R-2, RDT&E Budget Item Justification				DATE: May 2009																																																			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT (PE) NAME AND NO.																																																					
RDT&E, N /BA-7 Operational System Development		0206623M Marine Corps Ground Combat/Supporting Arms Systems																																																					
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO	FY10 Total																																																	
Total PE Cost		80.487	119.007	120.379	0.000	120.379																																																	
C0021 Assault Amphibious Vehicle 7A1 (AAV7A1)		5.257	43.054	45.004	0.000	45.004																																																	
C1555 Light Armored Vehicle (LAV) PIP		23.772	11.388	18.836	0.000	18.836																																																	
C1901 Marine Corps Ground Weaponry PIP		5.830	7.720	9.850	0.000	9.850																																																	
C2086 Marine Enhanced Program (MEP)		3.453	4.167	3.380	0.000	3.380																																																	
C2112 Lightweight 155MM Howitzer		0.000	0.000	1.400	0.000	1.400																																																	
C2237 Amphibious Vehicle Test Branch (AVTB)		0.872	0.920	0.906	0.000	0.906																																																	
C2315 Training Devices/Simulators		14.282	20.699	13.280	0.000	13.280																																																	
C2503 Family of Combat Equip Support & Services		10.051	14.817	9.864	0.000	9.864																																																	
C2928 EIFGSWS (HIMARS)		1.160	2.436	1.951	0.000	1.951																																																	
C3098 Fire Support Systems		5.923	8.856	8.730	0.000	8.730																																																	
C4002 Family of Raid Reconnaissance		2.945	0.961	4.044	0.000	4.044																																																	
C9C85 Marine Personnel Carrier (MPC)		0.000	0.000	3.134	0.000	3.134																																																	
C9999 Congressional Adds		6.942	3.989	0.000	0.000	0.000																																																	
Quantity of RDT&E Articles																																																							
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>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 in the ADMS, 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.</p>																																																							
<p>B. PROGRAM CHANGE SUMMARY</p> <table border="0"> <thead> <tr> <th></th> <th>FY2008</th> <th>FY2009</th> <th>FY2010</th> </tr> </thead> <tbody> <tr> <td>Funding:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 2009 President's Budget:</td> <td>63.277</td> <td>136.080</td> <td>177.850</td> </tr> <tr> <td>FY 2010 President's Budget:</td> <td><u>80.487</u></td> <td><u>119.007</u></td> <td><u>120.379</u></td> </tr> <tr> <td>Total Adjustments:</td> <td>17.210</td> <td>-17.073</td> <td>-57.471</td> </tr> <tr> <td>Summary of Adjustments:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>a. Congressional Adjustments:</td> <td></td> <td>-0.323</td> <td></td> </tr> <tr> <td> - FY08 GWOT:</td> <td>9.768</td> <td></td> <td></td> </tr> <tr> <td>b. SBIR/STTR Transfer:</td> <td>-0.873</td> <td></td> <td></td> </tr> <tr> <td>c. Program Adjustments:</td> <td>8.315</td> <td>-16.750</td> <td>-55.742</td> </tr> <tr> <td>d. Rate/Misc Adjustments:</td> <td></td> <td></td> <td><u>-1.729</u></td> </tr> <tr> <td>Subtotal</td> <td>17.210</td> <td>-17.073</td> <td>-57.471</td> </tr> </tbody> </table>									FY2008	FY2009	FY2010	Funding:				FY 2009 President's Budget:	63.277	136.080	177.850	FY 2010 President's Budget:	<u>80.487</u>	<u>119.007</u>	<u>120.379</u>	Total Adjustments:	17.210	-17.073	-57.471	Summary of Adjustments:				a. Congressional Adjustments:		-0.323		- FY08 GWOT:	9.768			b. SBIR/STTR Transfer:	-0.873			c. Program Adjustments:	8.315	-16.750	-55.742	d. Rate/Misc Adjustments:			<u>-1.729</u>	Subtotal	17.210	-17.073	-57.471
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<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: (U) PM AAV lifecycle support and Primary Item Control Agent (PICA) functions. Funding to integrate Survivability, C4I & Environment/Habitability upgrades to the AAV.</p> <p>(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:</p> <table border="1"> <thead> <tr> <th>COST (\$ in Millions)</th> <th>FY 2008</th> <th>FY 2009</th> <th>FY 2010</th> <th>FY 2010 OCO</th> </tr> </thead> <tbody> <tr> <td>Accomplishment/Effort Subtotal Cost</td> <td>0.000</td> <td>42.189</td> <td>43.300</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Qty</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) AAV (FOV) Survivability, C4I, Environment/Habitability (SCE) upgrade program: Capabilities based upgrade program centered on material upgrades in survivability C4I and Environment/Habitability.</p> <table border="1"> <thead> <tr> <th>COST (\$ in Millions)</th> <th>FY 2008</th> <th>FY 2009</th> <th>FY 2010</th> <th>FY 2010 OCO</th> </tr> </thead> <tbody> <tr> <td>Accomplishment/Effort Subtotal Cost</td> <td>5.257</td> <td>0.865</td> <td>1.704</td> <td>0.000</td> </tr> <tr> <td>RDT&E Articles Qty</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) PM AAV Operations Support: Evaluation and testing of safety improvements and fact of life changes to maintain the AAV Family of Vehicles (FOV).</p> <table border="1"> <thead> <tr> <th>(U) Total \$</th> <th>5.257</th> <th>43.054</th> <th>45.004</th> <th>0.000</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <table border="1"> <thead> <tr> <th><u>Line Item No. & Name</u></th> <th><u>FY2008</u></th> <th><u>FY2009</u></th> <th><u>FY2010</u></th> <th><u>FY2010 OCO</u></th> </tr> </thead> <tbody> <tr> <td>PMC BLI# 202100 (AAV7A1)</td> <td>28.556</td> <td>5.408</td> <td>6.092</td> <td>0.000</td> </tr> <tr> <td>PMC BLI# 202100 (AAV7A1)</td> <td>0.000</td> <td>0.054</td> <td>0.062</td> <td>0.000</td> </tr> <tr> <td>PMC BLI# 202100 (AAV SCE)</td> <td>0.000</td> <td>0.000</td> <td>2.973</td> <td>0.000</td> </tr> </tbody> </table> <p>(U) Related RDT&E: None</p> <p>(U) D. ACQUISITION STRATEGY: TBD</p> <p>(U) E. MAJOR PERFORMERS: TBD</p>										COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	Accomplishment/Effort Subtotal Cost	0.000	42.189	43.300	0.000	RDT&E Articles Qty					COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	Accomplishment/Effort Subtotal Cost	5.257	0.865	1.704	0.000	RDT&E Articles Qty					(U) Total \$	5.257	43.054	45.004	0.000						<u>Line Item No. & Name</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>FY2010 OCO</u>	PMC BLI# 202100 (AAV7A1)	28.556	5.408	6.092	0.000	PMC BLI# 202100 (AAV7A1)	0.000	0.054	0.062	0.000	PMC BLI# 202100 (AAV SCE)	0.000	0.000	2.973	0.000
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Exhibit R-3 Cost Analysis						DATE: May 2009							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N/BA-7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems				C0021 Amphibious Assault Vehicle 7A1 (AAV7A1)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
PRODUCT DEVELOPMENT													
Comp I.D. and Demo/Tests	Gov	SPAWAR											
Safety Analysis	Gov	HERF/HERP/HERO Anal Dahlgren, VA	0.000	0.000		0.175	02/09						
RAM/Safety	Gov	Shock & Vibe Components SPAWAR SC	0.000	0.000	08/08	0.000							
	Gov	Fire suppression KIDDIE SPAWAR SC	0.000	0.000		0.035	TBD						
SCE Dev/Eval	TBD	TBD	0.000	0.000		0.000		42.686	TBD				
Comp I.D. and Demo/Tests	Gov	SPAWAR/NSWC Dahlgren & Crane	0.000			8.500	01/09						
Comp I.D. and Demo/Tests	TBD	BAE Systems, Triangle VA	0.000	1.705	01/08	19.251	02/09						
Integration (APU)	CPFF	BAE Systems, Triangle VA	0.000	0.659	01/08								
Safety Analysis	TBD	BAE Systems, Triangle VA	0.000			1.500	02/09						
RAM/Safety	TBD	BAE Systems, Triangle VA	0.000			1.500	02/09						
Subtotal Product Dev			0.000	2.444		30.961		42.686					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
PROGRAM SUPPORT													
Technical & Engineering Spt	Gov	SPAWAR SC	0.000	0.000		0.063	TBD						
Technical & Engineering Spt	Gov	SPAWAR/NSWC Dahlgren & Crane	0.000	0.000		3.824	01/09						
Technical & Engineering Spt	CPFF	BAE Systems, Triangle VA	0.000	2.785	01/08	0.444	02/09	0.560	TBD				
Documentation	TBD	BAE Systems, Triangle VA	0.000			1.132	02/09	0.227	TBD				
Support	TBD	BAE Systems, Triangle VA	0.000			2.691	02/09	0.531	TBD				
Subtotal Support			0.000	2.785		8.154		1.318					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
T&E													
	Gov	Component TEMPEST	0.00	0.000		0.200	01/09						
	Gov	EMI Evaluation SPAWAR SC	0.00	0.000		0.165	01/09						
	Gov	DT 29 Palms CA	0.00	0.000		0.035	01/09						
	Gov	DT Camp LeJeune NC	0.00	0.000		0.030	01/09						
Test and Eval	Gov	MCOTEA Quantico VA	0.00	0.028	10/07	0.107	10/08						
Subtotal T&E			0.000	0.028		0.537		0.000					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
MANAGEMENT													
Management	TBD	BAE Systems, Triangle VA	0.000	0.000		3.402	02/09	1.00	TBD				
Subtotal Management			0.000	0.000		3.402		1.000					
Remarks:													
Total Cost			0.000	5.257		43.054		45.004					

Exhibit R-4/4a Schedule Profile/Detail		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C0021 Amphibious Assault Vehicle 7A1 (AAV7A1)

Amphibious Assault Vehicle 7A1 (AAV7A1)



Program Funding Summary
(APPN, BLI #, NOMEN)

	FY 2008	FY 2009	FY 2010
(U) RDT&E,N (C0021) AAV7A1	5.257	43.054	45.004
PMC BLI# 202100 (AAV7A1)	28.556	5.462	9.127

AAV7A1 SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010					
Test, Eval, Demo		1Q						
Final Systems Config			2Q					
Mileston C/LRIP			3Q-----					
Developmental Test		3Q						
Operational Evaluation								
Fielding								
IOC								

EXHIBIT R-2a, RDT&E Project Justification						DATE:							
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7 Operational Sys Dev						PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supporting Arms Systems							
						PROJECT NUMBER AND NAME C1555 Light Armored Vehicle (LAV) PIP							
COST (\$ in Millions)						FY 2008	FY 2009	FY2010	FY2010 OCO	FY2010 Total			
Project Cost						23.772	11.388	18.836	0.000	18.836			
RDT&E Articles Qty													
(U) 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-Command & Communication (LAV-C2) Upgrade Program, the LAV Modification Program, LAV Anti-Tank System 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. 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 MAGTF to conduct ground based maneuver tasks. The MPC, as the medium capability category platform, provides a bridge in capability between the EFV and JLTV and a balance between the performance, protection and payload attributes. The MPC family of vehicles includes the baseline armored per													
two supporting mission role variants: a command & control variant and a recovery & maintenance variant. The MPC program moves to a separate line (C9C85) in FY10.													
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:													
COST (\$ in Millions)						FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost						9.741	5.769	0.000	0.000				
RDT&E Articles Qty													
MARINE PERSONNEL CARRIER - MPC: Develop Marine-PC fording capabilities with Appliqué Armor, fabricate prototypes, PMO & matrix support, PMO travel, and conduct DT/OT of Marine-PC prototypes.													
COST (\$ in Millions)						FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost						1.368	5.619	0.531	0.000				
RDT&E Articles Qty													
LAV-MODIFICATION: Research and development of numerous LAV Modification projects to address minor modification, safety, and obsolescence issues.													
COST (\$ in Millions)						FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost						6.489	0.000	0.000	0.000				
RDT&E Articles Qty													
LAV-C2 UPGRADE: LAV-C2 Upgrade prototype fabrication, conduct DT/OT, PMO & matrix support, PMO travel, CAAS in support of LAV-C2.													
COST (\$ in Millions)						FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost						0.000	0.000	6.144	0.000				
RDT&E Articles Qty													
LAV-ANTI-TANK SYSTEM: LAV-AT System prototype fabrication, conduct DT/OT, PMO & matrix support, PMO travel, CAAS in support of LAV-AT System.													
COST (\$ in Millions)						FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost						0.000	0.000	12.161	0.000				
RDT&E Articles Qty													
LAV-INDIRECT FIRE MODERNIZATION: LAV-Indirect Fire Modern. prototype fabrication, conduct DT/OT, PMO & matrix support, PMO travel, CAAS in support of LAV-Indirect Fire.													
COST (\$ in Millions)						FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost						6.174	0.000	0.000	0.000				
RDT&E Articles Qty													
LAV-RAM FULL: LAV-RAM - analysis of alternatives for Survivability upgrades (fuel tank, ballistic seats, floor protection) and LAV-R Upgrades (crane and winch), integration and testing of final solutions. PMO support.													
(U) Total \$						23.772	11.388	18.836	0.000				

EXHIBIT R-2a, RDT&E Project Justification		DATE:		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		May 2009		
PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supporting Arms Systems		PROJECT NUMBER AND NAME C1555 Light Armored Vehicle (LAV) PIP		
(U) C. OTHER PROGRAM FUNDING SUMMARY:				
<u>Line Item No. & Name</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2010 OCO</u>
(U) PMC, 203800, LAV PIP	119.699	231.988	34.969	58.229
(U) PMC, 700000, SPARES	0.000	1.145	0.000	0.000
(U) Related RDT&E:				
PE 020623M C9C73A Ultrasonic Consol. Emb Sensors	1.157	0.000	0.000	0.000
PE 020623M C9E22A Marine Corps Common Hardware	0.000	0.997	0.000	0.000
(U) D. ACQUISITION STRATEGY: The LAV-C2 Upgrade will be utilizing commercial off-the-shelf, government off-the-shelf, and non-developmental item hardware and software to provide an integrated suite capable of enhanced voice and data transmissions. The majority of the effort will be the integration of existing hardware and software for this upgrade. To the maximum extent possible, components from both the Marine Corps and Army Common Hardware Suites will be utilized to reduce acquisition and support costs. The system architecture has been determined through a Tailored Executive Analysis. One contractor has been selected to fabricate a prototype which will be subjected to DT/OT.				
(U) 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 Sustainment Readiness 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.				
(U) 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. After Milestone A, a source selection will be held to select up to three contractors. Each of these contractors will provide a prototype personnel carrier vehicle that will be subjected to Government evaluation. The results of this evaluation will be used to support both a Milestone B decision as well as another source selection to choose the two best competitors that will be carried through the EMD phase (on the personnel carrier only). The results of the two competitors EMD efforts will be used to support a Milestone C decision as well as another source selection to choose the ultimate personnel carrier source for Low Rate Initial Production. The selected source will also be tasked to perform EMD on the command and control and maintenance and recovery vehicles. (Program moves to new project C9C85 in FY10).				
(U) D. 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 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 will move forward analyzing a current system that was identified in a market survey conducted back in 2003. A trade study approved by the AoA IPT was completed in 2Q04 and resulted in combat modeling and life cycle cost estimations of each candidate system. The result of the trade study was used to determine the candidate system. That analysis leveraged off the results of the Anti-Armor Weapon System-Heavy (AAWS-H) AoA. Finalized Acquisition strategy, Acquisition Program Baselines and Test & Evaluation Master Plans will be prepared and presented during MS B.				
(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.				
(U) D. ACQUISITION STRATEGY: The LAV RAM Supplemental funds two projects - the LAV Survivability II project and the LAV-Recovery upgrade project. Survivability II will add additional troop protection by incorporating ballistic seats, floor spall liner and fuel tank protection. LAV-R upgrade will replace the crane and winch on the Recovery vehicle due to obsolescence issues and operational requirements. Both projects will use full and open competition to select the best solution.				

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY RDTE, N/BA-7 Operational Sys Dev	PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supporting Arms Systems	May 2009 PROJECT NUMBER AND NAME C1555 Light Armored Vehicle (LAV) PIP
(U) E. MAJOR PERFORMERS:		
LAV Modification		
FY08	BMI Defense Systems Inc., College Station, TX , Gunner Platform Rails. Apr 08	
FY09-FY10	Various	
LAV C2 Upgrade		
FY08	Lockheed-Martin Systems Integration, Owego, NY. Prototype Fabrication. Apr/May 08	
Marine-PC		
FY08	Georgia Tech Research Institute (GTRI), Atlanta, GA. Modeling and Simulation. Apr 08	
	Nevada Automotive Test Center (NATC), Carson City, NV. Mobility Testing. Dec 07	
FY09	Nevada Automotive Test Center (NATC), Carson City, NV. Mobility Testing. Dec 08	
	Space & Naval Warfare Systems (SPAWAR), N. Charleston, SC. Jan 09	
	BADENOCH, Troy, MI. Feb 09	
	Waterways Experiment Station, Vicksburg, MS. Mar 09	
LAV RAM Supplemental		
FY08	Nevada Automotive Test Center (NATC), Carson City, NV. Sep 08	
	Nevada Automotive Test Center (NATC), Carson City, NV. Jan 09	
	TACOM R&D Center, Warren, MI Mar 09	
LAV Anti-Tank System		
FY10	TBD	
LAV Indirect Fire Modernization		
FY10	TBD	

Exhibit R-3 Cost Analysis										DATE: May 2009					
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT						PROJECT NUMBER AND NAME					
RDT&E, N/BA-7 Operational Sys Dev				0206623M Marine Corps Ground Combat/Supporting Arms Systems						C1555 Light Armored Vehicle (LAV) PIP					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date						
Product Development (MOD)	Various	Various	3.386	0.697	Various	4.539	Various	0.342	Various						
Product Development (C2)	Various	Lockheed-Martin, Owego, NY	14.484	4.657	3Q08										
System Development (MPC)	Various	GTRI - Atlanta, GA		4.494	3Q08	3.234	2Q09								
System Development (RAM)	Various	NATC, Carson City, NV		4.226	4Q08										
System Development (RAM)	Various	TARDEC, Warren, MI		1.734	2Q09										
System Development (Anti-Tank)	Various	TBD						4.008	1Q10						
System Development (Indirect Fire)	Various	TBD						5.214	1Q/2Q10						
Subtotal Product Dev			17.870	15.808		7.773		9.564							
Remarks:															
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date						
Technical Eng Services (C2)	Various	TACOM, Warren, MI/SPAWAR	0.380	0.606	2Q08										
Technical Eng Services (MOD)	Various	SURVICE, Bellcamp, MD	0.838	0.060	2Q08	0.063	2Q09	0.066	2Q10						
Technical Eng Services (MPC)	Various	SURVICE, Bellcamp, MD		0.337	2Q08	1.263	2Q09								
Technical Eng Services (MOD)	Various	SURVICE, Bellcamp, MD		0.214	2Q09										
Technical Eng Services (Anti-Tank)	Various	TBD						0.136	2Q10						
Technical Eng Services (Indirect Fire)	Various	TBD						0.190	2Q10						
Subtotal Support			1.218	1.217		1.326		0.392							
Remarks:															
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date						
Devl/Oper Test & Eval (MOD)	Various	Various	2.731	0.333	Various	0.567	Various	0.075	Various						
Devl/Oper Test & Eval (C2)	Various	Various	1.400	0.150	3Q09										
Devl/Oper Test & Eval (Anti-Tank)	Various	Various													
Devl/Oper Test & Eval (Indirect Fire)	Various	Various						3.916	2Q10						
Devl/Oper Test & Eval (MPC)	Various	Various		2.854	Various	0.102	Various								
Subtotal T&E			4.131	3.337		0.669		3.991							
Remarks:															
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date						
Program Management (MOD)	Various	TACOM, Warren, MI	5.008	0.278	Various	0.450	Various	0.048	Various						
Program Management (C2)	Various	TACOM, Warren, MI	1.278	1.076	Various										
Program Management (MPC)	Various	Various		2.056	Various	1.170	Various								
Program Management (Anti-Tank)	Various	TACOM, Warren, MI						2.000	1Q10						
Program Management (Indirect Fire)	Various	TACOM, Warren, MI						2.841	1Q10						
Subtotal Management			6.286	3.410		1.620		4.889							
Remarks:															
Total Cost			29.505	23.772		11.388		18.836							

Exhibit R-4-4a Project Schedule/Detail

DATE: **May 2009**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1555 Light Armored Vehicle (LAV) PIP

(U) D. SCHEDULE PROFILE:

LAV C2

Milestone A:	2nd Qtr, FY2000	Contract Award:	4th Qtr, FY 2009
Milestone B:	2nd Qtr, FY2005	IOC:	4th Qtr, FY 2010
DT / OT:	4th Qtr, FY 2006	FOC:	
Milestone C:	4th Qtr, FY 2009		

MARINE PC

Milestone A:	2nd Qtr, FY 2010	Milestone C:	
Milestone B:		Contract Award:	
DT		IOC:	
OT		FOC:	

ANTI-TANK SYSTEM

Milestone A:	4th Qtr, FY 2003	Milestone C:	
Milestone B:	1st Qtr, FY 2010	Contract Award:	
DT		IOC:	
OT		FOC:	

INDIRECT FIRE MODERNIZATION

Milestone A:	4th Qtr, FY 2003	Milestone C:	
Milestone B:	4th Qtr, FY 2009	Contract Award:	
DT		IOC:	
OT		FOC:	

Program Funding Summary

(APPN, BLI#, NOMEN)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
<u>(U) RDT&E,N C1555, Light Armored Vehicle</u>	23.772	11.388	18.836
<u>(U) RDT&E, N C9C73A Ultrasonic Embedded</u>	1.157	0.000	0.000
<u>(U) RDT&E, N C9E22A Marine Corps</u>	0.000	0.997	0.000
<u>(U) PMC, BLI# 203800 LAV</u>	119.699	231.988	93.198
<u>(U) PMC, BLI# 700000 LAV SPARES</u>	0.000	1.145	0.000

Exhibit R-4-4a Project Schedule/Detail

DATE: **May 2009**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1555 Light Armored Vehicle (LAV) PIP

LAV SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010					
LAV C2								
DT / OT:								
Milestone C:		4Q						
Contract Award:		4Q						
IOC:			4Q					
FOC:								

LAV SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010					
MARINE PC								
Milestone A:			2Q					
Milestone B:								
DT								
OT								
Milestone C:								
Contract Award:								
IOC:								
FOC:								

Exhibit R-4-4a Project Schedule/Detail

DATE:

May 2009

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C1555 Light Armored Vehicle (LAV) PIP

LAV SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010					
ANTI-TANK SYSTEM								
Milestone A:								
Milestone B:			1Q					
DT								
OT								
Milestone C:								
Contract Award:								
IOC:								
FOC:								

LAV SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010					
INDIRECT FIRE MODERNIZATION								
Milestone A:								
Milestone B:		4Q						
DT								
OT								
Milestone C:								
Contract Award:								
IOC:								
FOC:								

EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Systems Development	0206623M Marine Corps Ground Combat/Support Arms Systems				C1901 Marine Corps Ground Weaponry PIP
	FY 2008	FY 2009	FY2010	FY 2010 OCO	FY 2010 Total
	5.830	7.720	9.850	0.000	9.850
RDT&E Articles Qty					
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:					
(U) This project develops joint and Marine Corps unique improvements to infantry weapons technology, improvements for Night Vision Equipment, Rifle Combat Optics, Family of Individual Optics, and monitors national and international weapons development.					
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:					
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	
Accomplishment/Effort Subtotal Cost	0.977	1.519	0.937	0.000	
RDT&E Articles Qty					
Company and Battalion Mortars: 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.					
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	
Accomplishment/Effort Subtotal Cost	1.746	2.472	1.912	0.000	
RDT&E Articles Qty					
Family of Individual Optics: This funding will be utilized to support improvements on the technology that is currently used. 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 Intensifier (I2) technologies into one system.					
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	
Accomplishment/Effort Subtotal Cost	1.086	1.120	1.129	0.000	
RDT&E Articles Qty					
Infantry Weapons Mods: Joint participation and Marine Corps unique activities for evaluation of safety, lethality, and technology improvements for Marine Corps infantry/reconnaissance individual /crew-served weapons. Prior year efforts improved the safety and performance of M2 Machine Guns and M249 Squad Automatic Weapons and the new M40A3 Sniper Rifle, mortar systems, and the current Marine Expeditionary Unit Special Operations Capability (MEU SOC) .45 caliber pistol. Recurring safety issues require immediate attention to maintain operational readiness. The Marine Corps pursues potential technological advances to enhance the operational utility of individual and crew-served weapon systems.					
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	
Accomplishment/Effort Subtotal Cost	0.000	0.000	3.913	0.000	
RDT&E Articles Qty					
Mission Payload Module (MPM): The MPM program was initiated by the Joint Non-Lethal Weapons (JNLW) Director during FY04. The Concept and Technology Development Phase (FY04-FY08) for MPM was funded solely through the JNLW program per Joint Service Memorandum of Agreement for all NLW programs. The JNLW Program funds the initial year of the System Development & Demonstration (SDD) Phase (FY09). Beginning in FY10, the Marine Corps will share the MPM RDT&E costs with the JNLW program. The JNLW Program funds numerous non-lethal efforts for all Services, and relies on individual Service support for the difference between the required R&D costs and available JNLW funds.					
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	
Accomplishment/Effort Subtotal Cost	2.021	2.308	1.658	0.000	
RDT&E Articles Qty					
Night Vision Mod Line: Joint participation and Marine Corps unique activities for evaluation of safety, lethality, and technology improvements for Marine Corps night vision devices.					
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	
Accomplishment/Effort Subtotal Cost	0.000	0.301	0.301	0.000	
RDT&E Articles Qty					
Sniper System Capability Sets: The Sniper System Capability Set (SSCS) will allow the Marine Sniper Team the capability to detect, recognize, identify, range, observe and engage targets during the day or night or in limited visibility/lighting conditions. This develops fusion technology for scout sniper optics in conjunction with the Family of Individual Optics (FOIO) and provides technology integration and testing.					
(U) Total \$	5.830	7.720	9.850	0.000	

EXHIBIT R-2a, RDT&E Project Justification		DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Systems Development	0206623M Marine Corps Ground Combat/Support Arms Systems	C1901 Marine Corps Ground Weaponry PIP			
(U) C. OTHER PROGRAM FUNDING SUMMARY:					
<u>Line Item No. & Name</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2010 OCO</u>	<u>FY 2010 TOTAL</u>
PMC BLI #220800 Under \$5 Million (OOTW)	33.109	0.780	0.771	0.000	0.771
PMC BLI #222000 Under \$5 Million (Com & Batt Mortars)	5.550	4.929	2.195	0.000	2.195
PMC BLI #222000 Under \$5 Million (IW Mods)	8.256	6.454	5.734	0.000	5.734
PMC BLI #222000 Under \$5 Million (SCS)	0.000	0.000	4.343	0.000	4.343
PMC BLI #233400 Modular Weapon System	31.562	0.153	0.000	0.000	0.000
PMC BLI #493000 Night Vision Equipment (NVM)	2.505	36.333	8.065	12.842	20.907
PMC BLI #493000 Night Vision Equipment (FOIO)	14.545	11.593	2.295	0.000	2.295
PMC BLI #493000 Night Vision Equipment (SSCS)	18.635	24.656	0.000	0.000	0.000
PMC BLI #700000 Spares (SSCS)	0.000	0.000	1.500	0.000	1.500
(U) Related RDT&E:					
(U) Additional funding from Joint Non-Lethal Weapons Directorate covers Joint related efforts within the Mission Payload Module program. 2319 PE 0603851M Mission Payload Module.					
(U) All Ground Weapons and Ground Ammunition Systems: Army, Navy, Air Force, Coast Guard, and Special Operations Command					
(U) D. ACQUISITION STRATEGY:					
(U) These programs range from off-the-shelf modifications to developmental items for safety, reliability, and technology up-grades to meet Marine Corps requirements.					
(U) E. MAJOR PERFORMERS:					
FY10 - MCOTEA, Quantico, VA - Test and Evaluation					

Exhibit R-3 Cost Analysis							DATE: May 2009					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Systems Development			0206623M Marine Corps Ground Combat/Support Arms Systems				C1901 Marine Corps Ground Weaponry PIP					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date			
Company/Battalion Mortar	VAR	NSWC, Crane, IN	0.030	0.977	01/08	1.519	07/09	0.937	10/09			
Family of Individual Optics	VAR	Night Vision Lab, Ft Belvoir, VA	0.600	1.374	VAR	1.378	01/09	0.300	10/09			
Family of Individual Optics	RCP	VAR	0.000	0.267	04/08	0.674	VAR	1.129	2Q10			
Inf Wpns Mods	VAR	MC CDC, Quantico, VA	1.712			0.500	VAR	0.498	VAR			
Inf Wpns Mods	MIPR	USARL, Adelphi, MD	0.000	0.300	07/08							
Mission Payload Module	VAR	AFRL, San Antonio, TX	0.000					0.683	VAR			
Night Vision Mod	RCP	VAR	0.395	0.453	VAR	1.253	VAR	0.981	10/09			
Night Vision Mod	VAR	Night Vision Lab, Ft Belvoir, VA	0.912	1.415	VAR	0.591	VAR	0.250	10/09			
Sniper System Cap Sets	VAR	VAR				0.251	VAR	0.251	01/10			
Subtotal Product Dev			3.649	4.786		6.166		5.029				
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date			
Family of Individual Optics	VAR	MCSC, Quantico, VA	0.822	0.105	VAR	0.420	VAR	0.408	VAR			
Inf Wpns Mods	RCP	MCSC, Quantico, VA	1.598	0.468	VAR	0.330	VAR	0.301	VAR			
Mission Payload Module	VAR	MCSC, Quantico, VA	0.000					1.275	VAR			
Night Vision Mod	VAR	CEOSS, Quantico, VA	1.163	0.083	VAR	0.335	VAR	0.407	VAR			
Subtotal Support			3.583	0.656		1.085		2.391				
Remarks:												
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date			
Family of Individual Optics	VAR	MCOTE A, Quantico, VA	0.010	0.000		0.000		0.075	10/09			
Inf Wpns Mods	VAR	MCOTE A, Quantico, VA	0.874			0.290	VAR	0.330	VAR			
Inf Wpns Mods	RCP	MCSC, Quantico, VA		0.233	07/08							
Inf Wpns Mods	RCP	NSWC, Crane, IN		0.085	10/07							
Mission Payload Module	VAR	MCOTE A, Quantico, VA	0.000				VAR	1.955	VAR			
Night Vision Mod	VAR	NSWC, Dahlgren, VA	0.670	0.070	VAR	0.129	VAR	0.020	10/09			
Sniper System Cap Sets	VAR	MCOTE A, Quantico, VA				0.050	VAR	0.050	01/10			
Subtotal T&E			1.554	0.388		0.469		2.430				
Remarks:												
Total Cost			8.786	5.830		7.720		9.850				

Exhibit R-4-4a Project Schedule/Detail		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7 Operational Systems	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Support Arms Systems	PROJECT NUMBER AND NAME C1901 Marine Corps Ground Weaponry PIP

MORTARS

Fiscal Year	FY08	FY09	FY10					
Cannons								
60mm and 81mm Development	■							
Contract Award		■						
WSESRB		■						
60mm and 81mm Production		■	■					
60mm and 81mm Fielding			■	■				
IOC				■				
Mortar Sight								
Market Research	■							
RFP		■						
Source Selection			■					
Contract Award			■					
Production			■	■				
Fielding					■			
Mortar Fire Control System								
Baseline Development		■	■					

Program Funding Summary	FY 2008	FY 2009	FY 2010
(APPN, BLI #, NOMEN)			
(U) RDT&E,N, C1901, Company and Battalion Mortars	0.977	1.519	0.937
(U) PMC, BLI 222000, Company and Battalion Mortars	5.550	4.929	2.195

MORTARS

Fiscal Year	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Cannons								
60mm and 81mm Development	1Q							
Contract Award	2Q							
WSESRB	4Q							
60mm and 81mm Production	4Q							
60mm and 81mm Fielding			1Q					
IOC			4Q					
Mortar Sight								
Market Research	1Q							
RFP		2Q						
Source Selection		2Q						
Contract Award		2Q						
Production		3Q						
Fielding			4Q					
Mortar Fire Control System								
Baseline Development	3Q		4Q					

EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat Supporting Arms Systems				C2086 Soldier/Marine Enhancement			
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO	FY 2010 Total			
Project Cost		3.453	4.167	3.380	0.000	3.380			
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>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 officer in the development of their unique item that contributed 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 warfighting functions of the Marine rifle squad towards the strategic Marine Corps warfighting vision in the future.</p> <p>Marine Enhancement Program (MEP) - Funds low visibility, low cost items. 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.</p>									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		2.498	2.746	2.004	0.000				
RDT&E Articles Qty									
<p>MEP - Explore NDI (non-developmental item) clothing and individual equipment, ground weapons, communications and command and control equipment that would improve the combat effectiveness and enhance safety and survivability of the Individual Marine.</p>									
COST (\$ in Millions)		FY08	FY09	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		0.955	1.421	1.376	0.000				
RDT&E Articles Qty									
<p>MERS - Conduct analysis of Soldier and Marine Infantry Systems and highlight integration issues; plan for modernization of future systems; develop processes and procedures for configuration management of the Infantry Squad.</p>									
(U) Total \$		3.453	4.167	3.380	0.000				
(U) Technical: Not Applicable.									
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>		<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2010 OCO</u>	<u>FY 2010 Total</u>				
(U) PMC BLI 220800 Weapons		4.107	3.21	0.000	3.210				
(U) Related RDT&E: N/A									
(U) D. ACQUISITION STRATEGY: NDI/COTS									
(U) E. MAJOR PERFORMERS:									
Major Performers:									
FY08 RDECOM, Natick MA Product Development; DT&E									
FY09 RDECOM, Natick MA Product Development; DT&E									

Exhibit R-3 Cost Analysis										DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT							PROJECT NUMBER AND NAME				
RDT&E, N /BA 7 Operational Sys Dev			0206623M Marine Corps Ground Combat Supporting Arms Systems							C2086 Soldier/Marine Enhancement				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date					
MERS Product Development	VAR	VAR	0.000	0.280	VAR	0.536	VAR	0.505	VAR					
MEP Product Development	VAR	VAR	0.000	0.821	VAR	0.850	VAR	0.761	VAR					
Subtotal Product Dev			0.000	1.101		1.386		1.266						
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date					
MEP Operational Test & Eval	WR	VAR	0.000	0.523	VAR	0.722	VAR	0.304	VAR					
Subtotal Support			0.000	0.523		0.722		0.304						
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date					
MERS Developmental Test & Eval	VAR	VAR	0.000	0.145	VAR	0.600	VAR	0.671	VAR					
MEP Developmental Test & Eval	VAR	VAR	0.000	0.674	VAR	0.484	VAR	0.386	VAR					
Subtotal T&E			0.000	0.819		1.084		1.057						
Remarks:														
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date					
MERS Program Mgmt/Tech Spt	VAR	VAR	0.000	0.530	VAR	0.285	VAR	0.200	VAR					
MEP Program Mgmt/Tech Spt	VAR	VAR	0.000	0.480	VAR	0.690	VAR	0.553	VAR					
Subtotal Management			0.000	1.010		0.975		0.753						
Remarks:														
Total Cost														
				3.453		4.167		3.380						

EXHIBIT R-2a, RDT&E Project Justification						DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Development		0206623M Marine Corps Ground Combat/Supporting Arms Systems				C2112 155MM LIGHTWEIGHT TOWED HOWITZER (LW-155)			
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO	FY 2010 Total			
		0.000	0.000	1.400	0.000	1.400			
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>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 and OIF with both Services.</p>									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		0.000			1.400	0.000			
RDT&E Articles Qty									
System Test and Evaluation									
(U) Total \$		0.000			1.400	0.000			
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2010 OCO</u>	<u>FY 2010 Total</u>				
PMC BLI#218500, 155MM Lightweight Towed Howitzer	237.7	71.5	7.4	54	61.4				
(U) Related RDT&E: Not Applicable.									
(U) D. ACQUISITION STRATEGY:									
<p>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.</p>									
(U) E. MAJOR PERFORMERS:									
<p>Armaments Research and Development Center, Picatinny Arsenal, NJ LW155 Program Office, Picatinny Arsenal, NJ</p>									

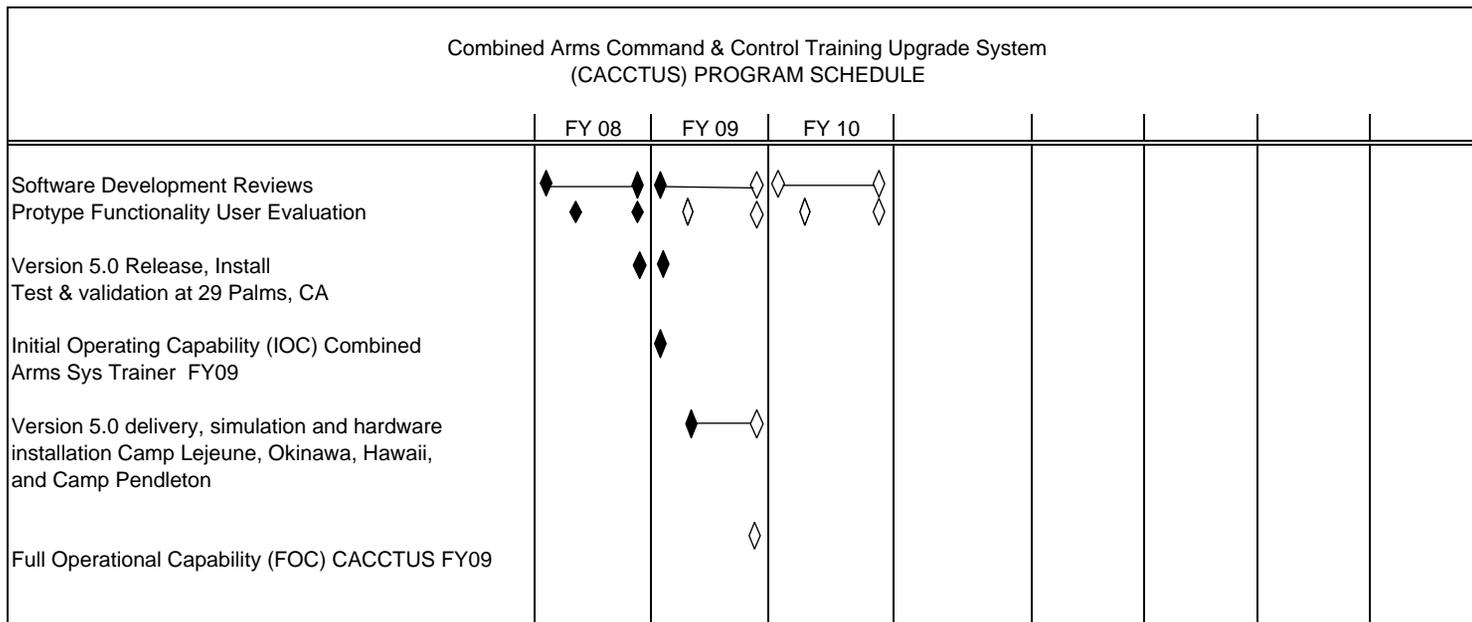
EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Development		0206623M Marine Corps Ground Combat/Supporting Arms Systems				C2315 Training Devices/Simulators			
COST (\$ in Millions)		FY 2008	FY 2009	FY2010	FY2010 OCO	FY2010 Total			
		14.282	20.699	13.280	0.000	13.280			
RDT&E Articles Qty - Not Applicable									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
(U) Training simulators 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 and, Range Modernization/Transformation (RM/T). 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, 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.									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		5.775	6.173	4.652	0.000				
RDT&E Articles Qty - Not Applicable									
Combined Arms Command And Control Trainer Upgrade System (CACCTUS) Full prototype Initial Operating Capability (IOC) systems have been installed at 29 Palms, CA and Camp Lejeune, NC for operational testing followed by installation to remaining three sites: Camp Pendleton, Camp Hansen Okinawa, and Kaneohe Bay Hawaii. Continue incremental development of training and simulation capabilities, graphical interfaces, visualization tools, and 3D terrain databases and integrate latest versions of operational Command, Control, Communications, Computers and Intelligence (C4I) systems. Ultimately develop and integrate system interfaces with live and virtual training systems.									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		0.000	6.475	5.319	0.000				
RDT&E Articles Qty - Not Applicable									
Deployable Virtual Training Environment (DVTE) Funds will be used to develop improved system network infrastructure, graphical User Interfaces, leveraging of Graphical User Interfaces and Command, Control, Communications, Computers and Intelligence (C4I) interfaces from other Services to enable Marines to train using actual operational equipment in the execution of training scenarios. Funding will also be used to enhance semi-autonomous simulation models and the ability to modify existing or emerging real world terrain databases as well as develop and/or leverage system interfaces to enable integration of DVTE with other Constructive and Live training systems.									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		0.727	0.405	0.099	0.000				
RDT&E Articles Qty - Not Applicable									
Multiple Integrated Laser Engagement System (MILES) 2000 is the base technology for Range Instrumentation development that is used in Force-on-Force, Free Play, and Force-On-Targets exercises. MILES 2000 is an integral component of Position Location Instrumentation (PLI) providing individual Marine feedback and engagement adjudication. Funds support the Joint Development Integration Facility (JDIF) integration laboratory, MILES/Deployable Instrumented Training System (DITS) Integration Testing, MILES Surrogate Unmanned Aerial Vehicle (SUAV) development, MILES Enhanced Data Collection System (EDCS) integration, MILES Vehicle Hardware development (incorporating LAV-25A2), MILES Mine Resistant Ambush Protected (MRAP) vehicle kit development, and continuous technology insertion.									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		3.728	2.599	2.188	0.000				
RDT&E Articles Qty - Not Applicable									
MAGTF (Marine Air/Ground Task Force) Tactical Warfare Simulation (MTWS) Enhancements MTWS is an advanced tactical combat simulation designed as a decision support system that interacts with the Live and Constructive training environment. It 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. MTWS has been the combat simulation system used to support I MEF and II MEF Mission Rehearsal Exercises (MRX) prior to Operation Iraqi Freedom deployment. The first release (version 4.0) occurred in FY 08 and yearly upgrade releases are scheduled. For FY 09, enhancements are being made to include Command, Control, Communications, Computers and Intelligence (C4I) capabilities along with federation into the Joint Live Virtual Constructive tool kit.									

EXHIBIT R-2a, RDT&E Project Justification			DATE:		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME		PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Sys Development		0206623M Marine Corps Ground Combat/Supporting Arms Systems		C2315 Training Devices/Simulators	
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO
Accomplishment/Effort Subtotal Cost		4.052	5.047	1.022	0.000
RDT&E Articles Qty - Not Applicable					
<p>Range Modernization/Transformation (RM/T): RDT&E funds provide for development efforts associated with modernizing live training ranges at major USMC bases and stations. This development enhances after action review with ground truth feedback, realistic representation of opposing forces (OPFOR) and enhanced range and exercise control capabilities. Also, RM/T integrates live, simulated (virtual), and constructive training technologies, thereby enhancing fielded live-fire, force-on-target, and force-on-force training capabilities.</p> <p>Major system components of RM/T include Military Operations in Urban Terrain (MOUT) facilities, inter-active targetry, battlefield effects simulators, individual and vehicle tracking systems, aviation tracking systems, MILES/Tactical Engagement Simulation System (TESS), simulated munitions, integrated simulation, and range control and exercise control information processing and situational awareness displays. Specific development efforts include: 1) Tactical Audio Capture Systems (TACS) development. 2) RM/T Automated Performance Evaluation and Lessons Learned (APELL) effort will fill a capability gap of the USMC Live Training Range Instrumentation Systems (RIS) by extending the ability of the Tactical Video Capture System (TVCS) and the Marine Corps Instrumented Training System (MC-ITS). This development effort will perform scenario generation, automated collection and evaluation of training performance metrics, logging of training performance metrics, and increase training scenario complexity based on measured performance of prior events. 3) Integrate presently disparate ground Position Location Information (PLI) tracking devices (Deployable Instrumented Training System (DITS)/Integrated Global Positioning System Radio System (IGRS)) used in training which feed data to the MC-ITS. 4) Perform software integration efforts of the existing RM/T TVCS and the RM/T TACS with the MC-ITS. This will allow RM/T systems to interoperate with each other, while supporting real-time situation awareness and data collection and analysis in support of performance measurements and evaluation. 5) Performing interoperability experiments between Live Systems (MC-ITS), Constructive (CACCTUS), and Virtual (DVTE). 6) Air Ground Interoperability Experimentation integrating the USMC Aviation Federation developed Tactical Environment Network (TEN) simulation with the MC-ITS.</p>					
(U) Total \$		14.282	20.699	13.280	0
(U) C. OTHER PROGRAM FUNDING SUMMARY:					
<u>Line Item No. & Name</u>		<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010 Y</u>	<u>2010 OCO</u>
PMC BLI #653200 Training Devices, CACCTUS		5.168	4.801	4.147	0.000
PMC BLI #653200 Training Devices, DVTE		6.818	0.000	0.000	0.000
PMC BLI #653200 Training Devices, MILES		9.505	0.682	0.012	0.000
PMC BLI #653200 Training Devices, RM/T		28.447	55.245	8.863	109.795
(U) Related RDT&E: Not Applicable.					
(U) D. ACQUISITION STRATEGY:					
(U) CACCTUS - Competitive Cost plus Fixed Fee contract (CPFF)					
(U) DVTE - Competitively award development contract.					
(U) MILES - Competitively awarded Broad Agency Announcement (BAA) Experimentation/Development contracts.					
(U) MTWS Enhancements - Competitively award Cost Plus Incentive Fee (CPIF) development contract.					
(U) RM/T - Competitively awarded Broad Agency Announcement (BAA) Experimentation/Development contracts.					
(U) Training Support - Competitive Cost plus Fixed Fee contract (CPFF)					
(U) E. MAJOR PERFORMERS:					
Not Applicable for any programs with Training Devices/Simulators, C2315.					

Exhibit R-3 Cost Analysis							DATE: May 2009						
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N /BA 7 Operational Sys Development				0206623M Marine Corps Ground Combat/Supporting Arms Systems				C2315 Training Devices/Simulators					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Product Dev - MILES	Various	Various	0.257	0.727	Various	0.405	Various	0.099	Various				
Product Dev - RM/T TAC Dev	WR	NSWC Corona, San Diego, CA		0.100	03/08	2.602	06/09						
Product Dev - RM/T OV-1 Dev	T&M	MITRE Corp, Orlando, FL		0.073	06/08								
Product Dev - RM/T APELL	CPFF	SARNOFF Corp, Princeton, NJ		2.041	03/09	2.085	03/09						
Product Dev - RM/T Range Safety T	MIPR	US Army APG		0.274	09/08								
Product Dev - RM/T DITS Dev	FP	SAAB USA, Orlando, FL		1.045	02/09								
Product Dev - RM/T PLI Integ	BAA FP	Competitive BAA		0.519	11/08	0.360	07/09	1.022	02/10				
Product Dev - Training Support	CPFF	Competitive Acquisition											
Subtotal Product Dev			0.257	4.779		5.452		1.121					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
SW Dev - CACCTUS	CPFF	CESI, Orlando, FL	2.575	4.180	01/08	4.689	11/08	4.324	10/09				
SW Dev - CACCTUS	C/IDIQ	NAWC, Orlando, FL		1.221	02/08	0.270	11/08	0.328	10/09				
SW Dev - CACCTUS	Various	Various		0.374		1.214	06/09						
SW Dev - DVTE	C/IDIQ	Competitive				2.394	07/09						
SW Dev - DVTE	FFP	Bohemia Interactivew				1.430	03/09	5.319	06/10				
SW Dev - DVTE	Various	Various				2.651	07/09						
SW Dev - MTWS	SS/T&M	San Diego, CA	2.093	3.426	03/08	2.599	10/08	2.169	03/10				
SW Dev - MTWS	CPIF	DOE, Livermore, CA		0.302	02/08			0.019	03/10				
Subtotal SW Dev			4.668	9.503		15.247		12.159					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Subtotal T&E			0.000	0.000		0.000		0.000					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Subtotal Management			0.000	0.000		0.000		0.000					
Remarks:													
Total Cost			4.925	14.282		20.699		13.280					

Exhibit R-4-4a Project Schedule/Detail	DATE: May 2009
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms Systems	PROJECT NUMBER AND NAME C2315 Training Devices/Simulators
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Program Funding Summary (APPN, BLI #, NOMEN)	FY 2008	FY 2009	FY 2010		
(U) RDT&E,N (CACCTUS) PE 206623M C2315	5.775	6.173	4.652	0	
(U) PMC BLI 653200 Training Dev/Sim (CACCTUS)	5.168	4.801	4.147	0	

CACCTUS SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010				
Software Development Reviews	1-4Q	1-4Q	1-4Q				
Prototype Functionality User Evaluation	2Q/4Q	2Q/4Q	2Q/4Q				
Version 5.0 29 Palms	4Q	1Q					
CACCTUS IOC		1Q					
Version 5.0 Camp Lejeune		2Q					
Version 5.0 Camp Pendleton		3Q					
Version 5.0 Camp Hansen Okinawa		4Q					
Version 5.0 MCAS Kaneohe Bay Hawaii		4Q					
CACCTUS FOC		4Q					

Exhibit R-4-4a Project Schedule/Detail							DATE: May 2009	
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME			
RDT&E, N /BA 7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supporting Arms Systems			C2315 Training Devices/Simulators			
Deployable Virtual Training Environment (DVTE) PROGRAM SCHEDULE								
		FY 08	FY 09	FY 10				
CAN V3.0 (2 YR)			◇					
VBS2 (2 YR)			◇	◇				
Program Funding Summary		FY 2008	FY 2009	FY 2010				
(APPN, BLI #, NOMEN)								
(U) RDT&E,N (DVTE) PE 206623M C2315			6.475	5.319	0.000			
(U) PMC BLI 653200 Training Dev/Sim (DVTE)		6.818						
DVTE SCHEDULE DETAIL		FY 2008	FY 2009	FY 2010				
CAN V3.0 (2 YR) Contract			4Q					
VBS2 (2 YR) Contract			3Q	3Q				

Exhibit R-4-4a Project Schedule/Detail	DATE: May 2009
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms Systems	PROJECT NUMBER AND NAME C2315 Training Devices/Simulators
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Multiple Integrated Laser Engagement System (MILES) PROGRAM SCHEDULE							
	FY 08	FY 09	FY 10				
MILES JDIF Lab Spt	◆						
MILES/DITS Testing	◆						
MILES SUAV Development	◆						
MILES EDCS Integration		◆					
MILES Vehicle Upgrades (LAV-25A2)		◇					
MILES MRAP System Dev			◇				
MILES Tech Insertion							
Test and Evaluation		◇	◇				

Program Funding Summary	FY 2008	FY 2009	FY 2010
(APPN, BLI #, NOMEN)			
(U) RDT&E,N (MILES) PE 206623M C2315	0.727	0.405	0.099
(U) PMC BLI 653200 Training Dev/Sim (MILES)	9.505	0.682	0.012

MILES SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010				
MILES JDIF Lab Spt	2Q						
MILES/DITS Testing	3Q						
MILES SUAV Development	3Q						
MILES EDCS Integration		1Q					
MILES Vehicle Upgrades (LAV/M1A2)		3Q					
MILES MRAP System Dev			2Q				
MILES Tech Insertion							
Test and Evaluation		4Q	2Q				

Exhibit R-4-4a Project Schedule/Detail		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms Systems	PROJECT NUMBER AND NAME C2315 Training Devices/Simulators

Marine Air-Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) PROGRAM SCHEDULE							
	FY 08	FY 09	FY 10				
Contract Awards	◆	◆	◇				
MTWS IPT/CCB	◆	◆	◇◇				
Version 4.0 Operational Testing	◆						
Version 4.0 SW Release		◆					
Version 4.1 Operational Testing			◇◇				
Version 4.1 SW Release							
Version 4.2 Operational Testing			◇				
Version 4.2 SW Release				◇			
Program Support	████████████████████						
Hardware Refresh	◆	◇					

Program Funding Summary	FY 2008	FY 2009	FY 2010
(APPN, BLI #, NOMEN)			
(U) RDT&E,N (MTWS) PE 206623M C2315	3.728	2.599	2.188

MTWS SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010				
Contract Award	2Q	2Q	2Q				
MTWS IPT/CCB	1Q & 4Q	1Q & 4Q	1Q & 4Q				
Version 4.0 Operational Testing	2Q						
Version 4.0 SW Release	4Q						
Version 4.1 Operational Testing		4Q					
Version 4.1 SW Release		4Q					
Version 4.2 Operational Testing			2Q				
Version 4.2 SW Release			4Q				
Program Support	1-4Q	1-4Q	1-4Q				
Hardware Refresh	4Q	4Q					

Exhibit R-4-4a Project Schedule/Detail	DATE: May 2009
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms Systems	PROJECT NUMBER AND NAME C2315 Training Devices/Simulators
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Range Modernization/Transformation (RM/T) PROGRAM SCHEDULE							
	FY 08	FY 09	FY 10				
RM/T TACS Development	◆	◆ ◇					
RM/T OV-1 Development	◆						
RM/T APELL Effort		◇					
RM/T PLI Integration		◆					
RM/T Range Safety Development Test		◆					
RM/T DITS Development Suite		◆					
RM/T DITS IA Engineering		◆					
RM/T PGS Vehicle Upgrades (LAV-25A2)			◇				
RM/T MC-ITS Development				◇			

Program Funding Summary	FY 2008	FY 2009	FY 2010
(APPN, BLI #, NOMEN)			
(U) RDT&E,N (RM/T) PE 206623M C2315	4.052	5.047	1.022
(U) PMC BLI 653200 Training Dev/Sim (RM/T)	28.447	55.245	118.658

RM/T SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010				
RM/T TACS Development	2Q	2Q/3Q					
RM/T OV-1 Development	3Q						
RM/T APELL Effort		2Q					
RM/T PLI Integration		1Q					
RM/T Range Safety Development Test	4Q						
RM/T DITS Development Suite		2Q					
RM/T DITS IA Engineering		2Q					
RM/T PGS Vehicle Upgrades (LAV-25A2)		3Q					
RM/T MC-ITS Development			2Q				

EXHIBIT R-2a, RDT&E Project Justification						DATE: May 2009		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N/BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems			C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES				
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	FY 2010 Total			
Project Cost	10.051	14.817	9.864	0.000	9.864			
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
<p>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 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 benefit will be reduced logistics, less weight, improved combat effectiveness, better echelon I and II care for Marines, improved individual and unit protection, tactical mobility, etc. The employment of state-of-the art equipment will ensure Marines are equipped with the best items that technology can offer.</p>								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO				
Accomplishment/Effort Subtotal Cost	5.830	7.000	4.279	0.000				
RDT&E Articles Qty								
<p>Family of Ballistic Protection Systems: Exploration of new commercial technologies that can be inserted into current 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 baseline current equipment and enable configuration/compatibility management of new equipment.</p>								
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO				
Accomplishment/Effort Subtotal Cost	0.626	0.600	0.463	0.000				
RDT&E Articles Qty								
<p>Clothing and Flame Resistant Organizational Gear: Pursue designs, prototyping, user surveys, textile and physical properties testing and the full range of clothing design in response to new uniform initiatives.</p>								
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO				
Accomplishment/Effort Subtotal Cost	1.326	2.570	0.923	0.000				
RDT&E Articles Qty								
<p>Family of Mountain Cold Weather Clothing & Equipment (FMCWCE): 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.</p>								
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO				
Accomplishment/Effort Subtotal Cost	0.436	0.505	0.342	0.000				
RDT&E Articles Qty								
<p>Family of Improved Load Bearing Equipment: This program supports 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.</p>								

EXHIBIT R-2a, RDT&E Project Justification				DATE: May 2009	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N/BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES			
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO	
Accomplishment/Effort Subtotal Cost	0.104	0.117	0.093	0.000	
RDT&E Articles Qty					
Family of Combat Support Equipment: The purpose of the Family of Combat Support Equipment is 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.					
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO	
Accomplishment/Effort Subtotal Cost	0.236	0.339	0.482	0.000	
RDT&E Articles Qty					
Family of Combat Field Feeding Systems: Improvements on current technology for heating individual rations is being 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).					
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO	
Accomplishment/Effort Subtotal Cost	1.348	3.538	3.150	0.000	
RDT&E Articles Qty					
Family of Field Medical Equipment: Development of the 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. Planned completion of testing and initiation of technology insertion.					
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO	
Accomplishment/Effort Subtotal Cost	0.145	0.148	0.132	0.000	
RDT&E Articles Qty					
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.					
(U) Total \$	10.051	14.817	9.864	0.000	

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C2503 FAMILY OF COMBAT EQUIPMENT SUPPORT AND SERVICES
(U) C. OTHER PROGRAM FUNDING SUMMARY:		
Line Item No. & Name	FY 2008	FY 2009 FY 2010
(U) PMC Line (BLI#652200) Field Med Equip &	26.602	25.794 3.394
(U) PMC Line (BLI#661300) Combat Field Feeding System	18.929	4.185 2.159
(U) Related RDT&E: Not Applicable.		
(U) D. ACQUISITION STRATEGY:		
<p>Family of Ballistic Protection Systems, Family of Mountain Cold Weather Clothing and Equipment, Family of Improved Load Bearing Equipment, Family of Combat Support Equipment, Clothing & 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 Research, Development & 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.</p> <p>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)/NDI Marine Corps Specific items.</p> <p>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.</p>		
(U) E. MAJOR PERFORMERS:		
<p>Family of Ballistic Protection Systems, Family of Mountain Cold Weather Clothing and Equipment, Family of Improved Load Bearing Equipment, Clothing & Flame Resistant Organizational Gear, and Family of Combat Support Equipment: U.S. Army Natick Research, Development and Engineering Center, Natick, Mass., and the Naval Research Laboratory, Washington DC.</p> <p>Shelters: TBD based on current technologies.</p> <p>Family of Field Medical Equipment: TBD based on current technologies.</p>		
(U) SCHEDULE PROFILE: Not Applicable.		

Exhibit R-3 Cost Analysis											DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /BA 7 Operational Sys Development				0206623M Marine Corps Ground Combat/				C2503 Initial Issue - Family of Combat Equip Support & Services						
Cost Categories (Tailor to WBS, or Sys/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 10 OCO				
Family of Ballistic Protection Systems	MIPR	USASSCOM Natick, MA	1.718	0.588	12/07	1.105	12/08	0.830	03/10					
Family of Ballistic Protection Systems	MIPR	USASSCOM Natick, MA				2.907	06/09							
Family of Ballistic Protection Systems	WR	NRL, Washington DC	6.559	3.028	03/08	1.792	06/09	1.918	03/10					
Family of Ballistic Protection Systems	WR	ONR, Arlington VA	0.156					0.090	03/10					
Family of Ballistic Protection Systems	MIPR	AFIP, Washington DC		0.135	09/08									
Family of Ballistic Protection Systems	MIPR	USA, Picatinny, NJ		0.501	09/08									
Family of Ballistic Protection Systems	MIPR	USA, Fort Detrick, MD		0.524	09/08									
Family of Ballistic Protection Systems	MIPR	USA, Fort Rucker, AL		0.126	09/08									
Clothing & FR Organizational Gear	MIPR	USASSCOM Natick, MA	0.937	0.542	06/08	0.487	12/08	0.412	03/10					
Mountain Cold Weather Equipment	MIPR	USASSCOM Natick, MA	1.718	0.419	03/08	1.693	03/09	0.286	12/09					
Improved Load Bearing Equipment	MIPR	USASSCOM Natick, MA	0.935	0.436	06/08	0.505	07/09	0.342	03/10					
Combat Support Equipment	MIPR	USASSCOM Natick, MA				0.090	03/09	0.070	03/10					
Combat Field Feeding Systems	MIPR	USASSCOM Natick, MA	0.469	0.236	12/07	0.339	03/09	0.294	03/10					
Family of Field Medical	MIPR	USAMRMC, FT DETRICK,MD				0.104	12/08	0.106	12/09					
Family of Field Medical	MIPR	USAMRAA, FT DETRICK,MD				0.141	12/08	0.159	12/09					
Family of Field Medical	WR	NMRC, MD				0.470	12/08	0.530	12/09					
Family of Field Medical	MIPR	AFMESA, FT DETRICK,MD				1.636	03/09	1.373	03/10					
Family of Field Medical	FFP	Various (Test Articles)	3.123	1.226	03/08									
Subtotal Product Dev			15.615	7.761		11.269		6.410		0.000				
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 10 OCO				
Family of Field Medical	WR	NHRC, SAN DIEGO, CA	0.664	0.099	12/07	0.352	12/08	0.360	12/09					
Subtotal Support			0.664	0.099		0.352		0.360		0.000				
Remarks:														
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 10 OCO				
Family of Ballistic Protection Systems	MIPR	USASSCOM Natick, MA	2.795	0.637	03/08	1.021	03/09	0.931	03/10					
Family of Ballistic Protection Systems	RCP	MCSC, Quantico VA	1.500	0.291	03/08	0.175	12/08	0.510	03/10					
Mountain Cold Weather Equipment	MIPR	USASSCOM Natick, MA	1.364	0.365	03/08	0.500	03/09	0.587	03/10					
Mountain Cold Weather Equipment	PR	MCSC, Quantico VA	0.341	0.202	12/07			0.050	03/10					
Combat Support Equipment	MIPR	USASSCOM Natick, MA	0.273	0.004	06/08	0.010	12/08							
Combat Support Equipment	MILSTRIP	DLA/DSCP China Lake CA	0.068	0.012	12/07									
Family of Shelters & Shelter Equipment	WR	USA NSRDEC, NATICK, MA	0.477	0.145	03/08	0.148	03/09	0.132	03/10					
Family of Field Medical	MIPR	USAMRMC, FT DETRICK,MD				0.081	06/09	0.060	06/10					
Family of Field Medical	MIPR	USAMRAA, FT DETRICK,MD				0.724	06/09	0.532	06/10					
Subtotal T&E			6.818	1.656		2.659		2.802		0.000				
Remarks:														

Exhibit R-3 Cost Analysis						DATE: May 2009								
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME								
RDT&E, N /BA 7 Operational Sys Development			0206623M Marine Corps Ground Combat/			C2503 Initial Issue - Family of Combat Equip Support & Services								
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date	FY 10 OCO				
Clothing & FR Organizational Gear	MIPR	USASSCOM Natick, MA	0.631	0.084	06/08	0.113	06/09	0.051	03/10					
Mountain Cold Weather Equipment	RCP	MCSC, Quantico VA	0.633	0.340	12/07	0.377	06/09							
Combat Support Equipment	RCP	MCSC, Quantico VA	0.113	0.088	09/08	0.017	03/09	0.023	03/10					
Combat Field Feeding Systems	RCP	MCSC, Quantico VA	0.097					0.188	03/10					
Family of Field Medical Travel	RCP	MCSC, Quantico VA	0.146	0.023	VAR	0.030	VAR	0.030	VAR					
Subtotal Management			1.620	0.535		0.537		0.292		0.000				
Remarks:														
Total Cost			24.717	10.051		14.817		9.864		0.000				

EXHIBIT R-2a, RDT&E Project Justification				DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Development	0206623M Marine Corps Ground Combat Support Arms Systems			C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)			
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	FY 2010 TOTAL		
Project Cost	1.160	2.436	1.951	0.000	1.951		
RDT&E Articles Qty							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
<p>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.</p>							
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:							
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO			
Accomplishment/Effort Subtotal Cost	0.594	1.980	1.401	0.000			
RDT&E Articles Qty							
Primary and Ancillary Hardware Development and Systems Engineering Support, includes Navy, Marine Corps, Army and contractor R&D efforts.							
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO			
Accomplishment/Effort Subtotal Cost	0.413	0.303	0.397	0.000			
RDT&E Articles Qty							
Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items.							
COST (\$ in Millions)	FY08	FY09	FY10	FY10 OCO			
Accomplishment/Effort Subtotal Cost	0.153	0.153	0.153	0.000			
RDT&E Articles Qty							
Program Management at Quantico, USMC Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support.							
(U) Total \$	1.160	2.436	1.951	0.000			
(U) C. OTHER PROGRAM FUNDING SUMMARY:							
<u>Line Item No. & Name</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY10 OCO</u>			
(U) PMC (BLI 221200) HIMARS SYSTEMS AND ROCKETS	30.164	143.967	71.476	0.000			
(U) Related RDT&E: Not Applicable.							
(U) D. ACQUISITION STRATEGY:							
<p>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 so that it 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.</p>							
(U) E. MAJOR PERFORMERS:							
FY-09 Lockheed Martin Missile, Dallas, TX. Modifications to Launcher, GMLRS Development							
FY-09 Lockheed Martin Missile, Dallas, TX Systems Engineering Support for Development and testing							

Exhibit R-3 Cost Analysis						DATE: May 2009							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Sys Development			0206623M Marine Corps Ground Combat Support Arms Systems			C2928 HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Primary Hardware Dev	SS/CPAF	Lockheed Martin, Dallas	12.820	0.059	12/07	1.661	12/08	1.207	11/09				
Ancillary Hardware Dev	MIPR	RTTC, Redstone, AL	1.064	0.225	12/07	0.120	12/08	0.120	12/09				
Systems Engineering	WR	NSWC-Dahlgren, VA	3.061	0.195	10/07	0.199	10/08	0.074	12/09				
Systems Engineering	WR	NSWC-Earle, NJ	0.896										
Systems Engineering	CPAF	Lockheed Martin, Dallas	0.605	0.115	12/07								
Subtotal Product Dev			18.446	0.594		1.980		1.401					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Integ Logistics Support	WR	NSWCIH, Earle NJ	0.140										
Subtotal Support			0.140	0.000		0.000		0.000					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Dev Test & Eval	WR	NSWC-Dahlgren, VA	2.344	0.213	10/07	0.180	10/08	0.274	11/09				
Dev Test & Eval	WR	Redstone Test Ctr, Huntsville, AL	1.193	0.200	12/07	0.123	12/08	0.123	12/09				
Dev Test & Eval	WR	NSWC-Carderock, MD	0.094										
Dev Test & Eval	MIPR	DAC, McAlester, OK	0.145										
Operational Test & Eval	WR	MCOTEA, Quantico, VA	1.074										
Subtotal T&E			4.850	0.413		0.303		0.397					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Program Mngmnt	WR	MCSC, Quantico, VA	1.996	0.075	10/07	0.075	10/08	0.075	10/09				
Program Mngmnt	FFP	CEOSS, Quantico VA	4.923	0.078	10/07	0.078	10/08	0.078	10/09				
Subtotal Management			6.919	0.153		0.153		0.153					
Remarks:													
Total Cost			30.355	1.160		2.436		1.951					

EXHIBIT R-2a, RDT&E Project Justification						DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supt Arms				C3098 Fire Support Systems			
COST (\$ in Millions)		FY 2008	FY 2009	FY2010	FY2010 OCO	FY2010 Total			
Project Cost		5.923	8.856	8.730	0.000	8.730			
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
This project develops joint and Marine Corps unique improvements to artillery technology, USMC unique Amphibious Armor Systems (AAS), and international weapons development. Two new initiatives have been approved, Common Laser Range Finder (CLRF) and MAGTF Meteorological Information Manager (MIMM). The CLRF Pre-Planned Product Improvement (P3I) is a Research and Development initiative to develop a lightweight, man-portable, True North Azimuth Determination System (TNADS). MIMM sustains the capability of Marine artillerymen to obtain accurate meteorological (Met) information through the development of 30 MMIM systems.									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM: The research and development efforts for the two new initiatives, CLRF and MIMM, along with the continuing efforts for EFSS are detailed in the R4/R-4a.									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		2.662	5.388	5.031	0.000				
RDT&E Articles Qty		Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Expeditionary Fire Support System (EFSS): Program entered Milestone B in November 2004 and the award of a contract with cost plus award fee and firm fixed price line items. EFSS entered the System Development and Demonstration (SD&D) with a single vendor - General Dynamics Ordnance and Tactical Systems. Milestone C decision made in June 2005. Functional Configuration Audit began May 2006. LRIP decision made June 2006. Operation Testing (OT) completed on July 2007. Limited Full Rate Production Decision made in September 2007. 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.									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		0.181	0.299	1.364	0.000				
RDT&E Articles Qty		Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Family of Artillery Munitions (FAM): Support R&D of Advanced Cannon Artillery (ACAAP) and Excalibur to include approved Insensitive Munitions (IM) and 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 off of and influence army developmental efforts. Beginning in FY10 funding for C2906 - Insensitive Munitions, will be incorporated into the FAM line. Two programs are included in the IM funding line, Insensitive Munitions and Marine Ammunition Knowledge Enterprise (MAKE). IM R&D initiative will focus on the development of 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 R&D initiative of MAKE is the 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.									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		2.749	2.159	0.858	0.000				
RDT&E Articles Qty		Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Fire Support Mods (FSM): (Formerly known as Sustainment / Readiness) Joint participation in artillery and fire support improvement projects for replacement capabilities. Projects include the Digital Aiming Circle, the M198 Howitzer, LW 155mm Howitzer and more accurate gun laying technology .									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		0.331	1.010	0.000	0.000				
RDT&E Articles Qty		Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Meteorological Measuring Sets (MMS): The RDT&E dollars listed above will be utilized to adapt the Air Force Weather Agency Predictive Weather Model as required input to howitzer fire control. It will also be used to develop meteorological sensors conducive to battlefield operations.									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		0.000	0.000	1.477	0.000				
RDT&E Articles Qty		Not Applicable	Not Applicable	Not Applicable	Not Applicable				
Modeled Meteorological Information Manager (MMIM): (Replacing MMS in FY10) The RDT&E dollars listed above will be utilized to adapt the Air Force Weather Agency Predictive Weather Model as required input to howitzer fire control. It will also be used to develop meteorological sensors conducive to battlefield operations.									
(U) Total \$		5.923	8.856	8.730	0.000				

EXHIBIT R-2a, RDT&E Project Justification			DATE: May 2009		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms	C3098 Fire Support Systems			
(U) C. OTHER PROGRAM FUNDING SUMMARY:					
<u>Line Item No. & Name</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2010 OCO</u>	<u>FY 2010 Total</u>
PMC BLI# 473300 Fire Supp Mod (Sustainment)	13.498	2.646	1.894	0.000	1.894
PMC BLI# 473300 MMIM	0.000	0.000	0.686	0.000	0.686
PMC BLI# 206400 Expeditionary Fire Support Sys	3.869	22.037	19.591	0.000	19.591
PMC BLI# 700000 Prime Vendor Spares - (EFSS)	0.664	0.000	0.000	0.000	0.000
(U) Related RDT&E:					
(U) D. ACQUISITION STRATEGY: These programs range from off-the-shelf modifications to developmental items. Fire power enhancement used selected upgrades from Army developmental programs to create a system that more readily meets Marine Corps requirements. EFSS has used an evolutionary acquisition approach fielding a near term capability in FY07 while leveraging emerging technologies to mature the technology by FY09 and beyond.					
(U) E. MAJOR PERFORMERS:					

Exhibit R-3 Cost Analysis						DATE: May 2009							
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME							
RDT&E, N /BA-7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems			C3098 Fire Support Systems							
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 010 Cost	FY 010 Award Date				
PRODUCT DEVELOPMENT			SEE BELOW										
EFSS	RCP	GDOTS, St. Petersburg, F	16.489	1.160	1Q08	2.502	1Q09	2.512	1Q10				
EFSS	VAR	VARIOUS	1.630	0.378	2Q08	0.703	2Q09	0.169	2Q10				
Fire Support Mods	VAR	VARIOUS	2.925	1.500	TBD	1.279	TBD	0.524	TBD				
MMS	WR	NAVMAR, San Deigo, CA	1.000	0.331	1Q08	0.900	TBD						
CLRF	VAR	VARIOUS											
MMIM	VAR	VARIOUS						1.387	1Q10				
Subtotal Product Dev			22.044	3.369		5.384		4.592					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 010 Cost	FY 010 Award Date				
PROGRAM SUPPORT			SEE BELOW										
EFSS	RCP	CTQ, Quantico, Va	3.258	0.305	1Q08	0.500	1Q09	0.500	1Q10				
EFSS	WR	NSWCDD, Dahlgren, VA	2.164	0.100	1Q08	0.300	1Q09	0.400	1Q10				
Fam Artillery Munitions	WR/RCP	BAEST, Stafford, VA	0.618	0.181	1Q08	0.299	TBD	1.364	TBD				
Fire Support Mods	VAR	VARIOUS	2.084	1.249	TBD	0.880	TBD	0.334	TBD				
Subtotal Support			8.124	1.835		1.979		2.598					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 010 Cost	FY 010 Award Date				
T&E			SEE BELOW										
EFSS	WR	NSWCDD, Dahlgren, VA	1.930	0.119	2Q08	0.313	2Q09	0.400	2Q10				
EFSS	WR	MCPD, Fallbrook, CA	1.913	0.200	2Q08	0.500	2Q09	0.450	2Q10				
MMS	WR	MCOTEA, MCTSSA				0.110	TBD						
MMIM	WR	MCOTEA, MCTSSA						0.090	3Q10				
Subtotal T&E			3.843	0.319		0.923		0.940					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 010 Cost	FY 010 Award Date				
MANAGEMENT			SEE BELOW										
EFSS	RCP	GDOTS, St. Petersburg, F	4.423	0.400	1Q08	0.570	1Q09	0.600	1Q10				
CLRF	VAR	VARIOUS											
Subtotal Management			4.423	0.400		0.570		0.600					
Remarks:													
Total Cost			38.434	5.923		8.856		8.730					

Exhibit R-4/4a Schedule Profile/Detail		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C3098 Fire Support Systems

Expeditionary Fire Support System (EFSS)

<u>MILESTONES AND PHASES</u>	FY 08	FY09	FY10
EFSS	IOC		
CONTRACT AWARDS	FRP		
TEST DEVELOPMENT OPERATIONAL	FOT		
PRODUCTION	FULL RATE		

Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2008	FY 2009	FY 2010
(U) RDT&E,N (C3098) EFSS	2.662	5.388	5.031
PMC BLI# 206400 Expeditionary Fire Support Sys	3.869	22.037	19.591
PMC BLI# 700000 Prime Vendor Spares (EFSS)	0.664	0.000	0.000

EFSS SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010
Initial Operational Capability	3Q		
Full Rate Production	3Q		

Exhibit R-4/4a Schedule Profile/Detail		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms Systems	PROJECT NUMBER AND NAME C3098 Fire Support Systems

Modeled Meterological Information Manager (MMIM)

	FY08	FY09	FY10
USER EVALUATIONS		↔	
MMIM AAP DECISION		◆	
SYSTEM INTEGRATION			↔
SYSTEM DEMO			↔
LRIP			◆

Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N (C3098) MMIM

	FY 2008	FY 2009	FY 2010
PMC BLI# 473300 Modeled Meterological Info. Manager	0.000	0.000	1.477
	0.000	0.000	0.686

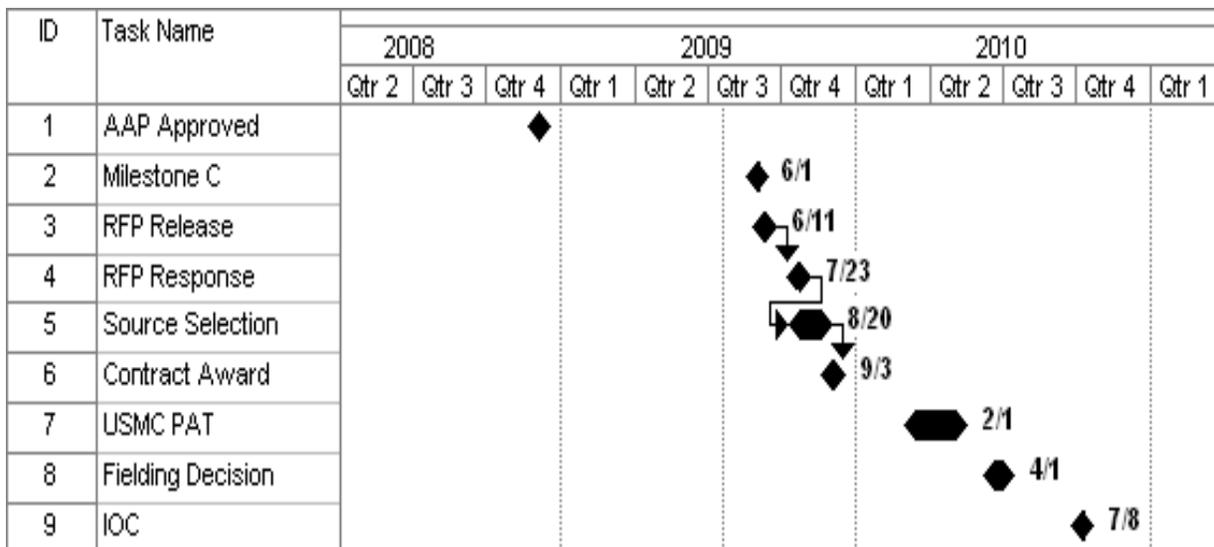
MMIM SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010
User Evaluations		3Q	
AAP Decision		4Q	
System Integration			1Q -- 2Q
System Demo			2Q -- 3Q
LRIP			3Q --

EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N /BA-7 Operational Systems Development	0206623M Marine Corps Ground Combat Supporting Arms Systems				C4002 Family of Raid/Reconnaissance Equipment			
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	FY 2010 TOTAL			
Project Cost	2.945	0.961	4.044	0.000	4.044			
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
(U) Family of Raid/Reconnaissance Equipment (FRRE) - 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.								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost	2.423	0.961	1.078	0.000				
RDT&E Articles Qty	20	10	VAR					
Family of Raid/Reconnaissance Equipment (FRRE): FY08 includes OCO received for Joint Precision Airdrop System (JPADS) for development of evaluation/test plans and performance testing of Ultra Light Weight Airdrop System (ULW PADS) prototypes; an increment of JPADS family of steerable, extended glide aerial delivery systems to deliver critical supplies/equipment when precision and standoff required for ground threat, terrain, winds. FY10 efforts include integrating new materials into Multi-Mission Parachute System family of canopies for improved performance; development of 3000psi bottle for Parachutist's High Altitude Oxygen System (PHAOS); evaluation of next generation Automatic Activation Device (AAD) for parachuting safety, improvements to Parachutist's Individual Equipment Kit (PIEK), incorporate fire resistance into clothing; develop new Tandem Offset Resupply Delivery System (TORDS) main canopy; integrate new signature reduction technologies to Full Spectrum Battle Equipment; and update High Altitude High Opening Parachute Navigation System (HAHOPNS) software to provide position data on other parachutists.								
	FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost	0.027	0.000	0.000	0.000				
RDT&E Articles Qty								
Family of Small Craft: Procurement of ruggedized laptops for use as diagnostic tools for test and evaluation of the Non-Gasoline Burning Outboard Engine.								
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost	0.495	0.000	2.966	0.000				
RDT&E Articles Qty			15					
Underwater Reconnaissance Capability (URC): FY10 efforts include procurement of prototypes for the pre-planned product improvement of the heads up display for the Combatant Diver Full Face Mask (CDFFM). Other efforts include external diver warming systems, analysis of facility requirements for nitrogen-oxygen system in preparation for procurements of the upgraded underwater breathing apparatus, evaluation of reliability challenges presented by fielded systems, hardening of the PVS-14 for underwater use.								
(U) Total \$	2.945	0.961	4.044	0.000				

EXHIBIT R-2a, RDT&E Project Justification		DATE:	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N /BA-7 Operational Systems Development	0206623M Marine Corps Ground Combat Supporting Arms Systems	C4002 Family of Raid/Reconnaissance Equipment	
(U) C. OTHER PROGRAM FUNDING SUMMARY:			
<u>Line Item No. & Name</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
PMC BLI 651800 Amphibious Support Equipment	17.255	13.745	39.876
PMC BLI 700000 Jt Air Drop Sys	0.800	0.000	0.000
PMC BLI 700000 URC	1.007	0.000	0.254
(U) Related RDT&E: Not Applicable.			
(U) D. ACQUISITION STRATEGY:			
(U) FRRE: Acquisition strategy for JPADS 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 SAASM 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. Planned Firm Fixed Price IDIQ contract will allow other DoD elements to procure systems using our contract vehicle if desired. In FY10, acquisition strategy is to fund engineering changes and product upgrade testing and development for PHAOS, AAD, HAHOPNS, and TORDS.			
(U) 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 the CDFFM, the "head's up display" will be a development effort. A Request For Information will be issued to identify companies with a demonstrated ability to develop the display. Responding companies will be visited to evaluate capabilities, followed by issuance of Request For Proposal and evaluation of best value and demonstrated performance. For technology upgrades to existing projects during FY10, engineering changes and product upgrade development and testing is planned.			
(U) E. MAJOR PERFORMERS:			
FY08: MARCORSYSCOM, Quantico VA	Hardware development; systems engineering		
FY08: NSWC, Panama City FL	Developmental support; operational Test and evaluation		
FY09: MARCORSYSCOM, Quantico VA	Hardware development		
FY10: MARCORSYSCOM, Quantico VA	Hardware development; systems engineering; program management support		

Exhibit R-4-4a Project Schedule/Detail		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Development	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat Supporting Arms Systems	PROJECT NUMBER AND NAME C4002 Family of Raid and Reconnaissance Equipment

FAMILY OF RAID RECON EQUIP - Joint Precision Air Drop System Ultra Light Weight (JPADS-ULW)



Program Funding Summary

(APPN, BLI #, NOMEN)

	FY 2008	FY 2009	FY 2010
(U) RDT&E,N, 4002, FRRE	1.962	0.588	0.000
(U) PMC, BLI 651800 AMPHIB SPT EQUIP	6.594	0.815	5.583
(U) PMC, BLI 700000 JT AIR DROP SYS	0.800	0.000	0.000

	FY 2008	FY 2009	FY2010
Family of Raid Recon Equip - JPADS ULW			
AAP Decision	4Q		
Milestone C (FRP Decision)		3Q	
Full Rate Production (Contract Award)		4Q	
IOC			4Q

Exhibit R-4-4a Project Schedule/Detail			DATE: May 2009																																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Systems Development	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat Supporting Arms Systems	PROJECT NUMBER AND NAME C4002 Family of Raid and Reconnaissance Equipment																																										
UNDERWATER RECONNAISSANCE CAPABILITY - Tactical Hydrographic Survey Equipment (THSE)																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">ID</th> <th style="width: 45%;">TASK NAME</th> <th style="width: 15%;"></th> <th style="width: 15%;">2008</th> <th style="width: 20%;">2009</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td></td> <td></td> <td style="text-align: center;">██████████</td> <td></td> </tr> <tr> <td>1</td> <td>DARPA DESIGN AND TESTING</td> <td style="text-align: right;">9/29/08</td> <td style="text-align: center;">■</td> <td></td> </tr> <tr> <td>2</td> <td>PROOF OF CONCEPT TESTING</td> <td style="text-align: right;">10/30/08</td> <td style="text-align: center;">██████████</td> <td></td> </tr> <tr> <td>3</td> <td>DARPA PHASE II DESIGN/TESTING</td> <td style="text-align: right;">9/15/09</td> <td></td> <td style="text-align: center;">■</td> </tr> <tr> <td>4</td> <td>MILESTONE C/FRP</td> <td style="text-align: right;">11/23/09</td> <td></td> <td style="text-align: center;">■</td> </tr> <tr> <td>5</td> <td>FRP CONTRACT AWARD</td> <td style="text-align: right;">3/31/10</td> <td></td> <td style="text-align: center;">■</td> </tr> <tr> <td>6</td> <td>IOC</td> <td style="text-align: right;">9/30/10</td> <td></td> <td></td> </tr> </tbody> </table>					ID	TASK NAME		2008	2009	2010			██████████		1	DARPA DESIGN AND TESTING	9/29/08	■		2	PROOF OF CONCEPT TESTING	10/30/08	██████████		3	DARPA PHASE II DESIGN/TESTING	9/15/09		■	4	MILESTONE C/FRP	11/23/09		■	5	FRP CONTRACT AWARD	3/31/10		■	6	IOC	9/30/10		
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Program Funding Summary																																												
	FY 2008	FY 2009	FY 2010																																									
(APPN, BLI #, NOMEN)																																												
(U) RDT&E,N, 4002, URC	0.495	0.000	2.966																																									
(U) PMC, BLI 651800 AMPHIBIOUS SPT EQUIP	2.793	4.524	8.468																																									
(U) PMC, BLI 700000 SPARES/REPAIR PARTS	1.007	0.000	0.254																																									
Underwater Reconnaissance Capability - THSE																																												
	FY 2008	FY 2009	FY2010																																									
Milestone C (FRP Decision)			1Q																																									
Full Rate Production (Contract Award)			2Q																																									
IOC			4Q																																									

EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supporting Arms Systems			PROJECT NUMBER AND NAME C9C85 Marine Personnel Carrier (MPC)			
COST (\$ in Millions)		FY 2008	FY 2009	FY2010	FY2010 OCO	FY2010 Total		
Project Cost		0.000	0.000	3.134	0.000	3.134		
RDT&E Articles Qty								
(U) 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 MAGTF to conduct ground based maneuver tasks. The MPC, as the medium capability category platform, provides a bridge in capability between the EFV and JLTV 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. (MPC was previously funded under project C1555).								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO			
Accomplishment/Effort Subtotal Cost		0.000	0.000	3.134	0.000			
RDT&E Articles Qty								
MARINE PERSONNEL CARRIER - MPC: Develop Marine-PC fording capabilities with Appliqué Armor, fabricate prototypes, PMO & matrix support, PMO travel, and conduct DT/OT of Marine-PC prototypes.								
(U) Total \$		0.000	0.000	3.134	0.000			

EXHIBIT R-2a, RDT&E Project Justification		DATE:
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-7 Operational Sys Dev		May 2009
PROGRAM ELEMENT NUMBER AND NAME 0206623M Marine Corps Ground Combat/Supporting Arms Systems		PROJECT NUMBER AND NAME C9C85 Marine Personnel Carrier (MPC)
(U) C. OTHER PROGRAM FUNDING SUMMARY:		
<u>Line Item No. & Name</u>	<u>FY 2008</u>	<u>FY 2009</u>
	<u>FY 2010</u>	<u>FY2010 OCO</u>
(U) RDTE,N, C1555, LAV MPC	9.741	5.769
		0.000
		0.000
(U) Related RDT&E: N/A		
(U) 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. After Milestone A, a source selection will be held to select up to three contractors. Each of these contractors will provide a prototype personnel carrier vehicle that will be subjected to Government evaluation. The results of this evaluation will be used to support both a Milestone B decision as well as another source selection to choose the two best competitors that will be carried through the Engineering & Manufacturing Development (EMD) phase (on the personnel carrier only). The results of the two competitors EMD efforts will be used to support a Milestone C decision as well as another source selection to choose the ultimate personnel carrier source for Low Rate Initial Production. The selected source will also be tasked to perform EMD on the command and control and maintenance and recovery vehicles.		
(U) E. MAJOR PERFORMERS:		
Marine-PC		
FY08	Currently under Project C1555 Georgia Tech Research Institute (GTRI), Atlanta, GA. Modeling and Simulation. Apr 08 Nevada Automotive Test Center (NATC), Carson City, NV. Mobility Testing. Dec 07	
FY09	Currently under Project C1555 Nevada Automotive Test Center (NATC), Carson City, NV. Mobility Testing. Dec 08 Space & Naval Warfare Systems (SPAWARS), North Charleston, SC C4I Engineering & Program Management Support. Jan 09. BADENOCH, Troy, MI Digital Architectural Requirements. Feb 09 Waterways Experiment Station (WES), Vicksburg, MS. Swim Modeling. Mar 09	
FY10	TBD	

Exhibit R-3 Cost Analysis								DATE: May 2009					
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT					PROJECT NUMBER AND NAME					
RDT&E, N /BA-7 Operational Sys Dev			0206623M Marine Corps Ground Combat/Supporting Arms Systems					C9C85 Marine Personnel Carrier (MPC)					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
System Development (MPC)	Various	TBD											
Subtotal Product Dev			0.000	0.000		0.000		0.000					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Technical Eng. Services (MPC)	Various	TBD						1.093	2Q10				
Subtotal Support			0.000	0.000		0.000		1.093					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Develop/OperatTest & Eval (MPC)	Various	TBD						0.367	1Q10				
Subtotal T&E			0.000	0.000		0.000		0.367					
Remarks:													
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 08 Cost	FY 08 Award Date	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date				
Program Management (MPC)	Various	Various						1.674	1Q10				
Subtotal Management			0.000	0.000		0.000		1.674					
Remarks:													
Total Cost			0.000	0.000		0.000		3.134					

Exhibit R-4-4a Project Schedule/Detail		DATE: May 2009
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NUMBER AND NAME
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supporting Arms Systems	C9C85 Marine Personnel Carrier (MPC)

(U) D. SCHEDULE PROFILE:

MARINE PC

Milestone A:	2nd Qtr, FY 2010	Milestone C:	
Milestone B:		Contract Award:	
DT		IOC:	
OT		FOC:	

Program Funding Summary

(APPN, BLI #, NOMEN)

(U) RDT&E,N C1555, LAV PIP

(U) RDT&E,N C9C85, MPC

<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
9.741	5.769	0.000
0.000	0.000	3.134

LAV SCHEDULE DETAIL	FY 2008	FY 2009	FY 2010						
MARINE PC									
Milestone A:			2Q						
Milestone B:									
DT									
OT									
Milestone C:									
Contract Award:									
IOC:									
FOC:									

Operational Test to be conducted with LRIP vehicles.

EXHIBIT R-2a, RDT&E Project Justification					DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms			C9C71 PERM EFSS USMC				
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO	FY2010 TOTAL			
Project Cost	4.242	0.000	0.000	0.000	0.000			
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
(U) EFSS includes a suite of ammunition that can be safely transported and stored and that has an objective range capability of 17 kilometers. Precision Extended Range Munition (PERM) will enable the EFSS to achieve the required extended range and will provide a precision capability. Insensitive Munitions (IM) components being developed are required for all EFSS ammunition including PERM to allow for safe transport and storage.								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010					
Accomplishment/Effort Subtotal Cost	4.242	0.000	0.000					
RDT&E Articles Qty								
<p>Precision Extended Range Munition (PERM): to continue uninterrupted development and qualification of ammunition components that support PERM. This development was recently certified as Insensitive Munition (IM) and went through Follow On Test and Evaluation (FOT&E) which completed in March 2008. Previous add commenced PERM effort with the development of Insensitive Munition (IM) compliant ammunition for EFSS. This funding will continue to support the precision guidance capability for the EFSS ammunition.</p>								
(U) Total \$	4.242	0.000	0.000	0.000	0.000			0.000
(U) C. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>					
PMC BLI# 206400 Expeditionary Fire Support Sys	3.869	22.037	19.591					
(U) Related RDT&E:								
(U) D. ACQUISITION STRATEGY: EFSS will use an evolutionary acquisition approach fielding a near term capability in FY08 while leveraging emerging technologies to mature the technology by FY09 and beyond.								
(U) E. MAJOR PERFORMERS: General Dynamics Tactical and Ordnance Systems (GDOTS)								

EXHIBIT R-2a, RDT&E Project Justification				DATE: May 2009				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N/BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supt Arms			C9999 Congressional Adds			
COST (\$ in Millions)		FY 2008	FY 2009	FY2010	FY 2010 OCO	FY 2010 Total		
Project Cost		6.942	0.000	0.000	0.000	0.000		
RDT&E Articles Qty								
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
(U) EFSS includes a suite of ammunition that can be safely transported and stored and that has an objective range capability of 17 kilometers. Precision Extended Range Munition (PERM) will enable the EFSS to achieve the required extended range and will provide a precision capability. Insensitive Munitions (IM) components being developed are required for all EFSS ammunition including PERM to allow for safe transport and storage.								
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:								
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO			
Accomplishment/Effort Subtotal Cost		4.242	0.000	0.000	0.000			
RDT&E Articles Qty								
Precision Extended Range Munition (PERM) C9C71: This Congressional Add funds continued uninterrupted development and qualification of ammunition components that support PERM. This development must stay on-track so that the Insensitive Munition (IM) ammunition components are certified and ready to be included in the Operational Test of the EFSS system scheduled to commence in April 07 and to support initial fielding of the basic system during FY07. Previous add commenced PERM effort with the development of compliant ammunition for EFSS. This funding will complete the IM ammunition testing and certification and commence the precision guidance capability for the EFSS ammunition.								
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO			
Accomplishment/Effort Subtotal Cost		1.543	0.000	0.000	0.000			
RDT&E Articles Qty								
Tractable Durable Net Complex Shaped Body & Extremity Armor C9C72: Develop low cost, highly effective ceramic armor for extended body coverage that can defend against lethal threats such as tungsten carbide core Armor-Piercing (AP) and AP-M2 rounds.								
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO			
Accomplishment/Effort Subtotal Cost		1.157	0.000	0.000	0.000			
RDT&E Articles Qty								
Ultrasonic Consolidation of Embedded Sensors C9C73: Design, development, test and fielding of consolidated/advanced embedded key sensors and tracking devices to unobtrusively monitor critical condition information to the logistics and tactical front as well as tracking the location and status of critical parts and field resources.								
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO			
Accomplishment/Effort Subtotal Cost		0.000	1.000	0.000	0.000			
RDT&E Articles Qty								
MARCORP Computer Research C9E22A: Design, development of a joint ruggedized modular processing computer portable maintenance (PMA) for use as a hand-held device to enable enhanced access to total life cycle management tools and data.								
(U) Total \$		6.942	1.000	0.000	0.000			
(U) C. OTHER PROGRAM FUNDING SUMMARY:								
<u>Line Item No. & Name</u>		<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2010 OCO</u>			
(U) Related RDT&E:								
(U) D. ACQUISITION STRATEGY:								
(U) E. MAJOR PERFORMERS:								

UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification						DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME			
RDT&E, N/BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat/Supt Arms				C9C71 PERM EFSS USMC			
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO	FY2010 TOTAL			
Project Cost		4.242	0.000	0.000	0.000	0.000			
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
(U) EFSS includes a suite of ammunition that can be safely transported and stored and that has an objective range capability of 17 kilometers. Precision Extended Range Munition (PERM) will enable the EFSS to achieve the required extended range and will provide a precision capability. Insensitive Munitions (IM) components being developed are required for all EFSS ammunition including PERM to allow for safe transport and storage.									
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010					
Accomplishment/Effort Subtotal Cost		4.242	0.000	0.000					
RDT&E Articles Qty									
Precision Extended Range Munition (PERM): to continue uninterrupted development and qualification of ammunition components that support PERM. This development was recently certified as Insensitive Munition (IM) and went through Follow On Test and Evaluation (FOT&E) which completed in March 2008. Previous add commenced PERM effort with the development of Insensitive Munition (IM) compliant ammunition for EFSS. This funding will continue to support the precision guidance capability for the EFSS ammunition.									
(U) Total \$		4.242	0.000	0.000	0.000	0.000			
(U) C. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>		<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>					
PMC BLI# 206400 Expeditionary Fire Support Sys		3.869	22.037	19.591					
(U) Related RDT&E:									
(U) D. ACQUISITION STRATEGY: EFSS will use an evolutionary acquisition approach fielding a near term capability in FY08 while leveraging emerging technologies to mature the technology by FY09 and beyond.									
(U) E. MAJOR PERFORMERS: General Dynamics Tactical and Ordnance Systems (GDOTS)									

EXHIBIT R-2a, RDT&E Project Justification				DATE: May 2009			
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME			
RDT&E, N/BA-7 Operational Sys Dev	0206623M Marine Corps Ground Combat/Supt Arms			C9999 Congressional Adds			
COST (\$ in Millions)	FY 2008	FY 2009	FY2010	FY 2010 OCO	FY 2010 Total		
Project Cost	6.942	0.000	0.000	0.000	0.000		
RDT&E Articles Qty							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:							
(U) EFSS includes a suite of ammunition that can be safely transported and stored and that has an objective range capability of 17 kilometers. Precision Extended Range Munition (PERM) will enable the EFSS to achieve the required extended range and will provide a precision capability. Insensitive Munitions (IM) components being developed are required for all EFSS ammunition including PERM to allow for safe transport and storage.							
(U) B. ACCOMPLISHMENTS/PLANNED PROGRAM:							
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO			
Accomplishment/Effort Subtotal Cost	4.242	0.000	0.000	0.000			
RDT&E Articles Qty							
Precision Extended Range Munition (PERM) C9C71: This Congressional Add funds continued uninterrupted development and qualification of ammunition components that support PERM. This development must stay on-track so that the Insensitive Munition (IM) ammunition components are certified and ready to be included in the Operational Test of the EFSS system scheduled to commence in April 07 and to support initial fielding of the basic system during FY07. Previous add commenced PERM effort with the development of compliant ammunition for EFSS. This funding will complete the IM ammunition testing and certification and commence the precision guidance capability for the EFSS ammunition.							
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO			
Accomplishment/Effort Subtotal Cost	1.543	0.000	0.000	0.000			
RDT&E Articles Qty							
Tractable Durable Net Complex Shaped Body & Extremity Armor C9C72: Develop low cost, highly effective ceramic armor for extended body coverage that can defend against lethal threats such as tungsten carbide core Armor-Piercing (AP) and AP-M2 rounds.							
COST (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2010 OCO			
Accomplishment/Effort Subtotal Cost	1.157	0.000	0.000	0.000			
RDT&E Articles Qty							
Ultrasonic Consolidation of Embedded Sensors C9C73: Design, development, test and fielding of consolidated/advanced embedded key sensors and tracking devices to unobtrusively monitor critical condition information to the logistics and tactical front as well as tracking the location and status of critical parts and field resources.							
(U) Total \$	6.942	0.000	0.000	0.000			
(U) C. OTHER PROGRAM FUNDING SUMMARY:							
<u>Line Item No. & Name</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2010 OCO</u>			
(U) Related RDT&E:							
(U) D. ACQUISITION STRATEGY:							
(U) E. MAJOR PERFORMERS:							

EXHIBIT R-2a, RDT&E Project Justification					DATE: MAY 2009				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N /BA-7 Operational Sys Dev		0206623M Marine Corps Ground Combat Spt Arms Systems			C2237 Amphibious Vehicle Test Branch				
		FY 2008	FY 2009	FY 2010	FY 2010 OCO	FY 2010 Total			
Project Cost		0.872	0.920	0.906					
RDT&E Articles Qty									
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:									
<p>(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 the Expeditionary Fighting Vehicle (EFV) Program, the Marine Corps' number one priority ground weapon system acquisition program.</p>									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		0.700	0.711	0.713					
RDT&E Articles Qty									
<p>Provide the necessary support assets required to conduct safe and accurate simultaneous developmental testing on EFV 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 EFV 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.</p>									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
Accomplishment/Effort Subtotal Cost		0.172	0.209	0.193					
RDT&E Articles Qty									
<p>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).</p>									
COST (\$ in Millions)		FY 2008	FY 2009	FY 2010	FY 2010 OCO				
(U) Total \$		0.872	0.920	0.906					
(U) D. ACQUISITION STRATEGY:									
<p>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.</p>									
(U) E. MAJOR PERFORMERS:									
<p>MCTSSA, Camp Pendleton, CA - Maintenance, refurbishment, upgrade, and replacement of test equipment.</p>									
(U) SCHEDULE PROFILE:									
<p>Testing conducted at AVTB includes all aspects of Marine Corps Amphibious Assault Vehicles. During the upcoming year, AVTB will be dedicated to the Developmental Testing of the EFV, which will require intense reliability testing of all EFVs assigned to the Test Branch. In addition, AVTB will support various communications testing and operational testing of the EFV in order to prepare for the future integration of EFVs into the Fleet Marine Force (FMF).</p>									