

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	94584	83903	97422	127347	54718	23190	16841	Continuing	Continuing
090 MLRS HIMARS	28776	20621	10526	0	0	0	0	0	159928
093 MLRS JOINT TECH ARCHITECTURE	6423	8364	5011	2261	594	5820	4412	Continuing	Continuing
784 GUIDED MLRS	59385	54918	81885	125086	54124	10716	971	0	449474
787 HIMARS P3I	0	0	0	0	0	6654	7503	0	0
789 GUIDED MLRS (GMLRS) ROCKET P3I	0	0	0	0	0	0	3955	0	0

A. Mission Description and Budget Item Justification: The High Mobility Artillery Rocket System (HIMARS), M270A1, Guided MLRS (GMLRS) and GMLRS Unitary are Current to Future Force systems that provide precision strike capability. The GMLRS P3I and HIMARS P3I will support the Army Future Force.

The High Mobility Artillery Rocket System (HIMARS), is a C-130 Transportable launcher mounted on a Family of Medium Tactical Vehicles (FMTV) chassis. HIMARS is capable of firing either 6 MFOM rockets or 2 AFOM missiles, including precision munitions, to a range of 300KM.

Compliance with the Joint Technical Architecture (JTA) supports HIMARS and M270A1 MLRS Launcher programs, and is required by both Department of the Army and Office of the Secretary of Defense. The M270A1 upgraded Multiple Launch Rocket System (MLRS) launcher is mounted on a Bradley Fighting Vehicle chassis, and is capable of firing the MLRS Family of Munitions (MFOM) and the Army Tactical Missile System (ATACMS) Family of Munitions (AFOM), including precision munitions, to a range of 300KM. The M270A1 is capable of firing either 12 MFOM rockets of 2 AFOM missiles from a single launcher.

Guided MLRS (GMLRS) is a precision munition that provides increased range to 70KM, and Global Positioning System (GPS) accuracy. Fired from M270A1 and HIMARS launchers, GMLRS comes in two variants: (DPICM) contains 414 submunitions, for attacking area targets with improved accuracy and significantly reduced hazardous duds. GMLRS Unitary has a 200lb High Explosive (HE) warhead for attacking point targets with reduced collateral damage.

HIMARS Preplanned Product Improvement (P3I) adds future force technologies to the base HIMARS launcher.

GMLRS P3I adds future force technologies to improve the accuracy and lethality.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

<u>B. Program Change Summary</u>	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2004)	94623	84839	110537
Current Budget (FY 2005 PB)	94584	83903	97422
Total Adjustments	-39	-936	-13115
Congressional program reductions		-798	
Congressional rescissions			
Congressional increases			
Reprogrammings	-39	-138	
SBIR/STTR Transfer			
Adjustments to Budget Years			-13115

FY05 funds were realigned to support a higher priority requirement.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY 7 - Operational system development	PE NUMBER AND TITLE 0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM						PROJECT 090		
COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
090 MLRS HIMARS	28776	20621	10526	0	0	0	0	0	159928

A. Mission Description and Budget Item Justification: The High Mobility Artillery Rocket System (HIMARS) fully supports the Army Transformation to a more deployable, affordable, and lethal expeditionary force. It provides MLRS capability to Joint, Current and Future Forces through a lighter weight, more deployable system in both early and forced entry scenarios. Mounted on a medium tactical wheeled vehicle, HIMARS is transportable on a C-130 aircraft, is self-locating and self-loading. It provides full MLRS and Army TACMS (ATACMS) Family of Munitions capability yet requires significantly reduced airlift resources to transport a battery as opposed to a MLRS tracked battery. HIMARS as part of the Unit of Employment will provide fires that shape, shield and isolate the battle space.

HIMARS meets Army's modernization goals for the 21st century, is designated the Army's Current to Future Force Rocket/Missile delivery system, and was selected by Army strategic planners as one of the Army's core systems of Unit of Employment.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
Continue system design, conduct Functional Configuration Audit (FCA), and develop Integrated Logistics Products (ILP); integrate and test Horizontal Technology Insertion (HTI) upgrades including Guided MLRS capability.	16856	10540	3706
Completed Extended System Integration Test (ESIT), flight test series 1 & 2 and automotive ground test, resupply vehicle and resupply trailer integration test (3 test articles); performed technical assessments.	2099	0	0
Conduct cold region testing, nuclear testing, Production Qualification Test (PQT) 2 testing, ESIT II and ballistic survivability analysis, Command, Control, Communications, Computers and Intelligence (C4I) and Analysis of Alternatives (AOA) , perform technical assessments and prepare milestone documentation; integrate Advanced Field Artillery Tactical Data System (AFATDS); conduct ground and flight tests.	9821	9504	6820
Small Business Innovative Research/Small Business Technology Transfer Programs	0	577	0
Totals	28776	20621	10526

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
090

B. Other Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
HIMARS Launcher (C03000)	133621	123269	169249	190611	229564	231799	242711	2836730	4157554
HIMARS Modifications (C67501)	0	464	474	8001	11744	16108	8331	321880	367002
HIMARS Modifications: Initial Spares (CA0289)	0	69	71	688	1266	1210	1018	131200	135522
Initial Spares, HIMARS (CA0288)	0	7454	4032	8452	7633	13070	10521	128068	179230

C. Acquisition Strategy: The HIMARS program completed System Development and Demonstration (SDD) in FY03. The Path through Operational Test (OT) contract was awarded 3QFY03 to complete DT/OT requirements to enter full rate production testing as an OT risk mitigator. HIMARS had a successful Milestone C decision in 2QFY03 with a Low Rate Initial Production (LRIP) contract awarded in Mar 03 for 28 Army Launchers. The HIMARS LRIP II contract was awarded Dec 03.

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
090

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Risk Reduction/ Maturation Contract	SS/CPIF & CPAF	LMMFC, TX	101472	11252	1-3Q	0		0		0	112724	0
b . Path through Operational Test	SS/CPFF	LMMFC, TX	0	8813	3Q	10794	1Q	2413	1Q	0	22020	0
c . Work Directives	N/A	TACOM (S&S)	4531	21	1-4Q	149	1-4Q	101	1-2Q	0	4802	0
d . GFE, Comm,Trks & Trls	N/A	TACOM & CECOM	4040	0		0		0		0	4040	0
e . Government Support	N/A	AMCOM/ GSA, RSA,TSM & PM	12882	2219	1-4Q	1534	1-4Q	885	1-4Q	0	17520	0
Subtotal:			122925	22305		12477		3399		0	161106	0

Remarks: TACOM - Tank Automotive & Armaments Command
 AMCOM - Aviation & Missile Command
 RSA - Redstone Arsenal, AL
 S&S - Stewart & Stevenson
 GSA - General Services Administration
 LMMFC - Lockheed Martin Missile and Fire Control
 TSM - TRADOC System Manager
 CECOM - US Army Communication - Electronics Command
 GFE - Government Furnished Equipment
 SS - Sole Source
 CPIF - Cost Plus Incentive Fee
 CPAF - Cost Plus Award Fee
 CPFF - Cost Plus Fixed Fee

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
090

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Support Contract	C /CPFF	Camber Research/S3, AL	988	250	2Q	299	1Q	301	1Q	0	1838	0
Subtotal:			988	250		299		301		0	1838	0

Remarks: S3 - Systems Studies Simulation, Inc.
 C - Competitive

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Test Support	N/A	APG MD, WSMR NM & RTTC RSA	13488	5995	1-4Q	7043	1-4Q	6423	1Q	0	32949	0
Subtotal:			13488	5995		7043		6423		0	32949	0

Remarks: APG MD - Aberdeen Proving Ground, Maryland
 WSMR NM - White Sands Missile Range, New Mexico
 RTTC RSA - Redstone Technical Test Center, Redstone Arsenal, AL

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
090

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . In-House Support	N/A	PFRMS Project Office, Redstone Arsenal, AL	5667	226	1-4Q	802	1-4Q	403	1-4Q	0	7098	0
Subtotal:			5667	226		802		403		0	7098	0

Remarks: PFRMS - Precision Fires Rocket and Missile Systems

Project Total Cost:			143068	28776		20621		10526		0	202991	0
---------------------	--	--	--------	-------	--	-------	--	-------	--	---	--------	---

Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
090

Event Name	FY 02				FY 03				FY 04				FY 05				FY 06				FY 07				FY 08				FY 09			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Production Qualification Test (PQT)	PQT																															
(1) Long Lead Item CA					▲ 1 LLI CA																											
(2) MS C					▲ 2 MS C																											
(3) LRIP 1 CA					▲ 3 LRIP 1 CA																											
(4) Path thru Operational Testing CA					▲ 4 Path thru OT CA																											
PQT II Flight/Ground Testing									PQT II																							
(5) LRIP 2 CA									▲ 5 LRIP 2 CA																							
IOT Ground Test													■ IOT Grnd																			
IOT Flight Test													■ IOT Flts Test																			
(6) LRIP 3 CA													▲ 6 LRIP 3 CA																			
(7) FUE													▲ 7 FUE																			
(8) FRP Decision																	▲ 8 FRP IPR															
(9) FRP Contract Award																					▲ 9 FRP CA											

Schedule Detail (R4a Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
090

<u>Schedule Detail</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Functional Configuration Audit (FCA)	2Q	4Q					
Launchers 2-6 upgraded	3-4Q	1Q					
LLI IPR, Milestone C	1-2Q						
Conduct PQT II	4Q	1-3Q					
IOT Ground Test		4Q					
IOT Flight Test		4Q	1Q				
First Unit Equipped (FUE)			2Q				
FRP I				1Q			

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY 7 - Operational system development	PE NUMBER AND TITLE 0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM	PROJECT 093							
COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
093 MLRS JOINT TECH ARCHITECTURE	6423	8364	5011	2261	594	5820	4412	Continuing	Continuing

A. Mission Description and Budget Item Justification: Compliance with the Joint Technical Architecture (JTA) supports the HIMARS and M270A1 MLRS launcher programs, and is required by both the Department of the Army and Office of the Secretary of Defense. As required by JTA, Digital Communications (DCOMMS), which incorporates Joint Variable Message Format (JVMF), has been implemented into both the HIMARS and M270A1 launchers. Additionally, JTA provides for the development and integration of Selective Availability/Anti-Spoofing Module (SAASM) for both the HIMARS and M270A1 launchers. Other JTA activities planned include the development of an Integrated Core Processor (ICP) as part of the OSD approved Reduction in Total Ownership Cost (RTOC) effort from FY03 to FY06. This effort reduces the total number of Executive Processor Circuit Card Assemblies used in the launcher which increases reliability, decreases unit cost, and mitigates future obsolescence issues. Additionally, ICP supports/meets current JTA requirements.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
Develop platform infrastructure requirements to support situational awareness.	0	2421	0
Develop, integrate, and test SAASM and Joint Variable Message Format (DCOMMS).	1350	567	284
Perform developmental testing (software blocking).	326	203	0
Reduction in Total Ownership Cost (ICP/Card Consolidation Development).	3895	4168	4148
Develop anti-jamming hardware (analysis).	396	423	456
Perform technical assessments, concept studies, and risk reduction.	456	348	123
Small Business Innovative Research/Small Business Technology Transfer Programs.	0	234	0
Totals	6423	8364	5011

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
093

B. Other Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
MLRS Launcher (C65900)	134742	39857	41200	21237	0	0	0	0	3044048
MLRS Mods(C67500)	22181	19770	18970	14579	6643	5349	1804	27000	382820
MLRS Initial Spares (CA0257)	6613	6473	6375	0	0	0	0	0	202288
MLRS Mod Initial Spares (CA0265)	5546	1260	5055	5229	500	1001	1003	9000	44868
HIMARS Launcher (C03000)	133621	123269	169249	190611	229564	231799	242711	2836730	4157554

C. Acquisition Strategy: The Joint Technical Architecture-Army (JTA-A) standards will be implemented for the M270A1 and HIMARS launchers which support the Current to Future Force transition path of the Transformation Campaign Plan (TCP). The Joint Variable Message Format is currently being developed in the Software Engineering Directorate and will be integrated into the launchers using a sole source contracting strategy with Lockheed Martin Missile and Fire Control-Dallas (LMMFC-D). This contracting strategy will also be used for the ICP and SAASM efforts.

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
093

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Contract (ICP Development and SAASM)	CPFF	LMMFC-D, Dallas, TX	3538	3895	3Q	6832	3Q	4148	2Q	4510	22923	0
b . Government Support	N/A	AMCOM/GSA, RSA	2767	1676	1-3Q	761	1-3Q	284	1-3Q	4538	10026	0
Subtotal:			6305	5571		7593		4432		9048	32949	0

Remarks: ICP-Integrated Core Processor SAASM - Selective Availability/Anti-Spoofing Module
 CPFF - Cost Plus Fixed Fee LMMFC-D - Lockheed Martin Missile and Fire Control-Dallas
 AMCOM - Aviation and Missile Command GSA - General Services Administration
 RSA - Redstone Arsenal, AL

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
093

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Test Support	N/A	CTSF, Ft. Hood, TX	492	0		0		0		111	603	0
b . Test Support		AMCOM, RSA	0	0		0		0		1789	1789	0
c . Test Support		WSMR, NM	0	159	1-2Q	143	1-3Q	143	1-3Q	951	1396	0
Subtotal:			492	159		143		143		2851	3788	0

Remarks: CTSF - Central Test Support Facility AMCOM, RSA - Aviation and Missile Command, Redstone Arsenal, Alabama
 WSMR, NM - White Sands Missile Range, New Mexico

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . In-House Support	N/A	PFRMS Proj Ofc, RSA	1058	693	1-4Q	628	1-4Q	436	1-4Q	1188	4003	0
Subtotal:			1058	693		628		436		1188	4003	0

Remarks: PFRMS - Precision Fires Rocket and Missile Systems

Project Total Cost:			7855	6423		8364		5011		13087	40740	0
---------------------	--	--	------	------	--	------	--	------	--	-------	-------	---

Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
093

Event Name	FY 02				FY 03				FY 04				FY 05				FY 06				FY 07				FY 08				FY 09							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
DCOMMS Integration																																				
Integrated Core Processor (ICP) Development																																				
SAASM																																				
Anti-jamming Hardware																																				

Schedule Detail (R4a Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
093

<u>Schedule Detail</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Develop, integrate and test DCOMMS.	2-4Q	1-4Q					
ICP development	3-4Q	1-4Q	1-4Q	1-3Q			
Develop, integrate and test SAASM black key capability.		2-4Q	1-4Q	1-4Q	1-3Q		
Develop anti-jamming hardware.	3-4Q	1-4Q	1-3Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY 7 - Operational system development	PE NUMBER AND TITLE 0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM						PROJECT 784		
COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
784 GUIDED MLRS	59385	54918	81885	125086	54124	10716	971	0	449474

A. Mission Description and Budget Item Justification: The Guided Multiple Launch Rocket System (GMLRS) is a precision strike, artillery rocket system. Coupled with the High Mobility Artillery Rocket System (HIMARS) launcher platform, the GMLRS provides the joint warfighter with unprecedented expeditionary capability as a highly mobile, rapidly deployable, precision guided munition with a reduced logistics burden effective against counterfire, air defense, light materiel, and personnel targets. The GMLRS is a major upgrade to the M26 series rocket and replaces the aging M26 inventory. GMLRS integrates a guidance and control package and a new rocket motor to achieve greater range and precision accuracy requiring fewer rockets to defeat targets than current artillery rockets, thereby reducing the logistics burden. In addition to HIMARS, the GMLRS will also be the primary munition for artillery units fielded with the M270A1 launcher. The GMLRS Dual Purpose Improved Conventional Munition (DPICM) System Development and Demonstration (SDD) was a five nation cooperative program among France, Germany, Italy, United Kingdom and the United States. FY03 initiated efforts to develop a new high explosive warhead and fuzing system for GMLRS known as GMLRS Unitary. The GMLRS Unitary is an all weather, low collateral damage, precision rocket which addresses an expanded MLRS target set to include point targets within urban and complex environments. It is a modification to the existing M26 through increments (GMLRS DPICM and Unitary) with spiral technology insertion that will integrate a multi-mode fuze and high explosive insensitive munition into a warhead of the same GMLRS DPICM dimensions. GMLRS Unitary development efforts will also provide an insensitive munition (IM) rocket motor that will be cut into all GMLRS production once it is qualified. GMLRS Unitary satisfies a validated user requirement and will be fielded to support early entry forces, Stryker brigades and the Unit of Action in the Future Force. Future technologies will be assessed for spiral development and potential insertion into GMLRS to provide operational flexibility and capability against an expanded target set including moving targets. The GMLRS supports the Current to Future Force transition path of the Transformation Campaign Plan (TCP).

<u>Accomplishments/Planned Program</u>	FY 2003	FY 2004	FY 2005
Conduct Development Engineering, Functional Configuration Audit, Final Product Definition Data Package (PDDP), and System Integration Test	9799	101	0
Perform Integration and Test of Alternative Self Destruct Fuze and Improved Mechanical Fuze	2498	3421	0
Develop Advanced Field Artillery Tactical Data System (AFATDS) Interface	502	201	204
Procure assets for System Integration, Cold Region Test, Pre OT Live Fire and SDF Qual Tests	4219	0	0
Conduct system test and evaluation activities to include Initial Operational Test (IOT), Ground and Flight Test.	2277	1489	3813
Procure rockets for Operational Test (30 test articles)	3203	0	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
784

Accomplishments/Planned Program (continued)

	FY 2003	FY 2004	FY 2005
Perform technical assessments, concept studies, prepare milestone documentation and risk reduction	1402	103	105
Conduct HIMARS/GMLRS DT Flight Test, Cold Region Test	2698	0	0
Conduct Development and Engineering for Insensitive Munitions (IM) Program	0	96	2326
Conduct Development Engineering, Design and Develop Warheads and Multi Mode Fuzes for Unitary	23974	18491	26608
Initiate Initial Common Hardware Buy for Test Activities for Unitary	5789	0	0
Perform Anti-Jamming Analysis and System Engineering/Integration for DPICM and Unitary	2001	4013	3002
Conduct EDT Flight Test, Production Qualification Testing (PQT) Ground and Flight Tests, Test Analysis for Unitary	1023	14507	33595
Conduct Functional Configuration Audit, Final Product Definition Data Package (PDDP), and System Integration Test for Unitary	0	6046	8125
Perform Integration and Test of Alternative Multi-Mode Fuze for Risk Reduction for Unitary	0	3002	0
Conduct system test and evaluation activities for Unitary	0	1952	4107
Small Business Innovative Research/Small Business Technology Transfer Programs	0	1496	0
Totals	59385	54918	81885

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
784

B. Other Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
Missile Procurement Army - GMLRS (C64400)	130450	106959	112302	129445	249573	488207	572832	9951566	11741334

C. Acquisition Strategy: The GMLRS DPICM is currently in Low Rate Production (LRIP). After a successful operational test, the program will move into full rate production in FY06. The primary objective of the GMLRS DPICM System Development Demonstration (SDD) was to develop a rocket with greater range and significantly enhanced accuracy with minimum impact on existing MLRS companion hardware and software. Other GMLRS development efforts include an improved mechanical fuze, a self-destruct fuze, and desired new rocket motor capabilities related to insensitive munition compliance and increased range.

GMLRS Unitary Acquisition Strategy is a streamlined product improvement program employing a spiral development approach. Initial configuration will maximize commonality with GMLRS DPICM with a new warhead and multi-mode fuze (point detonation, airburst and delay). The European Cooperative Development Partners for GMLRS have expressed a desire to join the GMLRS Unitary development program during the Follow-On configuration effort that will include an insensitive munition rocket motor, GPS Anti-Jam capability and other technology opportunities (e.g., payloads, trajectory shaping, guidance, CAIV initiatives).

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
784

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . SDD Contract	SS/CPAF	LMMFCS Dallas, TX	84058	16250	1Q	601	1Q	336	1-2Q	0	101245	0
b . SDD Unitary Contract	SS/CPAF	LMMFCS Dallas, TX	0	25537	1Q	33094	1Q	53501	1Q	89155	201287	0
c . Government Support	N/A	AMCOM/GSA,RSA	18536	6228	1-4Q	83	1-4Q	0		0	24847	0
d . Government Support for Unitary	N/A	AMCOM/GSA,RSA	0	2414	1-4Q	3353	1-4Q	5160	1-4Q	18007	28934	0
Subtotal:			102594	50429		37131		58997		107162	356313	0

Remarks: SS/CPAF - Sole Source/Cost Plus Award Fee
 LMMFCS - Lockheed Martin Missile and Fire Control System; TX - Texas
 GSA-General Services Admin;AMCOM-Aviation & Missile Command;RSA-Redstone Arsenal, Alabama

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Support Contract	C /CPFF	Camber Research, AL	3052	258	1-3Q	120	1-3Q	104		0	3534	0
b . Support Contract for Unitary	C /CPFF	Camber Research, AL	0	1506	1-3Q	1094	1-3Q	2224	1-3Q	9876	14700	0
c . Concept Studies	N/A	Various	0	0		2003	1-3Q	1960	1-3Q	18556	22519	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
784

II. Support Cost (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			3052	1764		3217		4288		28432	40753	0

Remarks: C/CPFF - Competitive/Cost Plus Fixed Fee
 TBD - To Be Determined; AL - Alabama

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Test Support	N/A	WSMR, NM & Meppen,GE	7746	2563	1-4Q	3451	1Q	2716		0	16476	0
b . Test Support for Unitary	N/A	WSMR, NM	0	1611	1Q	5005	1-4Q	8929	1-4Q	37207	52752	0
Subtotal:			7746	4174		8456		11645		37207	69228	0

Remarks: WSMR, NM - White Sands Missile Range, New Mexico
 GE - Germany

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
784

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . In-House Support	N/A	PFRMS Proj Ofc, RSA	7136	1299	1-4Q	1060	1-4Q	966	1-4Q	0	10461	0
b . In-House Support for Unitary	N/A	PFRMS Proj Ofc, RSA	0	1719	1-4Q	5054	1-4Q	5989	1-4Q	18096	30858	0
Subtotal:			7136	3018		6114		6955		18096	41319	0

Remarks: PFRMS - Precision Fires Rocket and Missile Systems
 RSA - Redstone Arsenal, Alabama

Project Total Cost:			120528	59385		54918		81885		190897	507613	0
---------------------	--	--	--------	-------	--	-------	--	-------	--	--------	--------	---

Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM

PROJECT
784

Event Name	FY 02				FY 03				FY 04				FY 05				FY 06				FY 07				FY 08				FY 09			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) DPICM MS C					▲ 1																											
DPICM LRIP I													LRIP I																			
DPICM PQT													PQT																			
DPICM LRIP II													LRIP II																			
(2) DPICM OT																	▲ 2 OT															
(3) DPICM IOT Flts																	▲ 3 IOT Flts															
DPICM LRIP III																	LRIP III															
(4) DPICM FRP																					▲ 4 FRP											
(5) DPICM IOC																					▲ 5 IOC											
(6) UNITARY MS B					▲ 6 MS B																											
(7) UNITARY MS C																	▲ 7 MS C															
UNITARY LRIP I																					LRIP I											
(8) UNITARY OT																					▲ 8 OT											
(9) UNITARY FRP																									▲ 9 FRP							

Schedule Detail (R4a Exhibit)

February 2004

BUDGET ACTIVITY 7 - Operational system development	PE NUMBER AND TITLE 0603778A - MLRS PRODUCT IMPROVEMENT PROGRAM	PROJECT 784
---	--	------------------------------

<u>Schedule Detail</u>	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
DPICM PQT Ground and Flight Test	1-4Q	1-2Q					
DPICM Functional Configuration Audit (FCA)	1Q						
DPICM Facilitization IPR, Final PDDP, MS C	1-3Q						
DPICM LRIP Contract Award	3Q						
HIMARS/DPICM GMLRS DT Flgt Test, Cold Reg Test		2-3Q					
DPICM Initial Operational Test (IOT), Ground and Flight Test		4Q	1Q				
DPICM Full Rate Production Decision, FRP Contract, Initial Operational Capability (IOC)				2Q			
Unitary MS B	2Q						
Unitary SDD Contract Award	4Q						
Unitary Configuration EDT, PQT Grnd and Flight Tests		3-4Q	1-4Q				
Unitary MS C				4Q			
Unitary LRIP I Contract Award					1Q		
Unitary Operational Test (OT)					4Q		
Unitary Full Rate Production Decision						4Q	