

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0603778A I MLRS Product Improvement Program							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	93.621	17.103	18.397	-	18.397	49.986	68.969	-	23.713	Continuing	Continuing
093: Multi-Launch Rocket System (MLRS)	-	38.678	14.111	-	-	-	-	-	-	-	Continuing	Continuing
784: Guided MLRS	-	15.200	-	-	-	-	-	-	-	23.713	-	38.913
78G: Gmlrs Alternative Warheads	-	38.528	-	-	-	-	-	-	-	-	-	38.528
DX8: HIMARS Product Improvement Program	-	1.215	2.992	1.355	-	1.355	9.986	1.969	-	-	Continuing	Continuing
DZ8: Long Range Precision Fires	-	-	-	17.042	-	17.042	40.000	67.000	-	-	-	124.042

Note

Adjustments to Budget Years: Funding adjusted to reflect changes to FY2014-2015 activities. Funding adjusted in FY2016 for higher priority weapon system.

A. Mission Description and Budget Item Justification

Projects 090/DX8. The M142 High Mobility Artillery Rocket System (HIMARS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system that fully supports more deployable, affordable and lethal, Brigade Combat Teams (BCT), Fires Brigades, Modular Forces, and Joint Expeditionary Forces. The HIMARS launcher is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM) engaging targets with precision out to ranges of 300 kilometers. HIMARS satisfies the Army's digitization requirements by interfacing with the Advanced Field Artillery Tactical Data System (AFATDS) fire support command and control system. The HIMARS product improvement program provides funding for research, development test, and integration efforts necessary for incorporation of advanced automotive, armor, armament, life cycle enhancements, system hardware and software technologies, including Common Operating Environment (COE) and Network Integrated Evaluation (NIE), obsolescence mitigation, reliability improvements and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The HIMARS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications. HIMARS was deployed to Operation Iraqi Freedom (OIF) and is still supporting Operation Enduring Freedom (OEF) with great success by both US Army and Marine Corps units.

Project 093. MLRS is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, Precision Strike weapon system that is organic/assigned to Fires Brigades supporting BCT. The MLRS launcher provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. The launcher is complimented by the MFOM to include the Guided Multiple Launch Rocket System (GMLRS), engaging targets up to 60 kilometers (km). AFOM munitions are capable of engaging targets up to a range of 300 km. The MLRS product improvement program provides funding for research, development, test and integration efforts necessary for incorporation of advanced automotive, armament and system hardware and software technologies, including COE and NIE,

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army				Date: February 2015		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 7: Operational Systems Development		R-1 Program Element (Number/Name) PE 0603778A I MLRS Product Improvement Program				
obsolesence mitigation, reliability improvements, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The MLRS product improvement program maintains compliance with intra-army interoperability and digital communications via joint variable message format.						
Projects 784/78G. Beginning in FY2015, GMLRS will have its own separate Program Element, 0205778A, to include Projects EG2 (GMLRS Alternative Warhead) and EG3 (Guided MLRS), previously under Program Element 0603778A Project Codes 78G and 784, respectively. GMLRS rockets are surface-to-surface artillery rockets fired from the MLRS and HIMARS launchers. GMLRS rockets provide 24/7, all-weather precision fires to engage both area and point targets at short, medium, and long ranges.						
The GMLRS Program consists of three separate increments: GMLRS Dual Purpose Improved Conventional Munition (DPICM) cluster munition to engage area or imprecisely located targets; GMLRS Unitary utilizes a 200 lb high explosive warhead to engage point targets with limited collateral damage; and GMLRS Alternative Warhead (AW) is being developed as a non-cluster munition to replace GMLRS DPICM. GMLRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy. GMLRS Unitary is currently in full rate production. GMLRS AW is currently in the Engineering and Manufacturing Development (EMD) Phase and scheduled to enter full rate production in FY2015. The GMLRS AW rocket is 90% common with the Unitary variant.						
Project DZ8. The Army G-3/5/7 has directed that GMLRS Increment 4 change its name to Long Range Precision Fires (LRPF) to better reflect the solution as an Army Tactical Missile System (ATACMS) replacement versus a follow-on increment to the GMLRS program. LRPF is being developed as a non-cluster munition to provide Joint Force Command with a 24/7 all weather long-range fires capability without placing aircraft and crews at risk.						
B. Program Change Summary (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget		96.424	17.112	76.172	-	76.172
Current President's Budget		93.621	17.103	18.397	-	18.397
Total Adjustments		-2.803	-0.009	-57.775	-	-57.775
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-3.203	-			
• Adjustments to Budget Years		-	-0.009	-57.775	-	-57.775
• Other Adjustments 1		0.400	-	-	-	-
Congressional Add Details (\$ in Millions, and Includes General Reductions)				FY 2014		FY 2015
Project: 093: Multi-Launch Rocket System (MLRS)						

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army		Date: February 2015	
Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0603778A / <i>MLRS Product Improvement Program</i>	
Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2014	FY 2015
Congressional Add: <i>MLRS Product Improvement Program</i>		38.678	14.111
Congressional Add Subtotals for Project: 093		38.678	14.111
Congressional Add Totals for all Projects		38.678	14.111

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) 093 / Multi-Launch Rocket System (MLRS)			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
093: Multi-Launch Rocket System (MLRS)	-	38.678	14.111	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Multiple Launch Rocket System (MLRS) is a full spectrum, combat proven, all weather, 24/7, tracked weapon system. These precision strike weapon systems are organic/assigned to Field Artillery Brigades (FABs). The MLRS launcher provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. The launcher is complemented by the MLRS Family of Munitions (MFOM) to include the Guided Multiple Launch Rocket System (GMLRS), and the Army Tactical Missile System (ATACMS) Family of Munitions (AFOM), capable of engaging targets up to a range of 300 kilometers. The MLRS product improvement program provides funding for research, development, test, and integration efforts necessary for incorporation of advanced automotive armament, and system hardware and software technologies, including Common Operating Environment (COE) and Network Integrated Evaluation (NIE), obsolescence mitigation, reliability improvements, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The MLRS product improvement program maintains compliance with intra-army interoperability and digital communications via joint variable message format.

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

	FY 2014	FY 2015
Congressional Add: MLRS Product Improvement Program	38.678	14.111
FY 2014 Accomplishments: Execute the Improved Armored Cab (IAC) and Fire Control System Update (FCS-U) programs. The IAC program provides increased crew protection, blast protection and numerous automotive and cab improvements that promote commonality between the M270A1 and HIMARS weapon systems. Conducted Critical Design Review (CDR), built seven prototype cabs, conducted integration and checkout of cab to launcher, and began qualification test activities for the IAC program. The FCS-U program mitigates hardware obsolescence and provides a government designed and built fire control system software that reduces Software Lines of Code and provides commonality between two weapon systems. Completed PDR and are progressing to CDR in 1QFY15 for the FCS-U program. Additional activities include the continuation to maintain C4I and network interoperability certification. Continue to improve system design and development hardware and software integration with upcoming C2 initiatives to include the COE and the NIE. FY 2015 Plans: Complete testing for IAC that includes system level live fire testing, missile firing, user testing with field exercises and automotive/environmental testing. Continue preparation for award of production contract for IAC. Complete CDR for FCS-U and build prototypes to conduct qualification and certification tests. Integrate FCS-U hardware with the Government developed Fire Control System Software that replaces aging contractor		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015	
Appropriation/Budget Activity 2040 / 7				R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) 093 / Multi-Launch Rocket System (MLRS)			
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2014	FY 2015
developed software. Additional activities include FCS-U qualification tests, C4I/interoperability and network interoperability certification and maintenance. Redesign subsystems as required to mitigate obsolescence. Continue to improve system design and development hardware and software integration with upcoming C2 initiatives to include the COE and the NIE. Incorporate new assurance requirements into system software and evaluate IA performance.											
Congressional Adds Subtotals										38.678	14.111
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• C67500000: MLRS Mods (C67500)	11.571	10.494	36.259	-	36.259	37.589	38.117	38.694	58.189	Continuing	Continuing
• CA0265000: MLRS Mod Initial Spares (CA0265)	1.083	1.087	1.067	-	1.067	1.089	1.099	1.115	-	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
The MLRS product improvement program conducts concept studies to support obsolescence mitigation, automotive updates, and hardware/software enhancements. Development efforts underway include Enhanced C2 and efforts supporting interoperability certifications, information assurance compliance, IAC, and mitigating obsolescence of the Fire Control System through the FCS-U effort. The IAC effort enhances the level of crew protection. A contract was awarded following a competitive bid process (full and open competition) to ensure best value for the government. Seven prototype cabs have been delivered with integration of cab to launcher ongoing; testing will be completed in FY15. The FCS-U is driven by the need to mitigate obsolete electronic components that are being sustained through life of type purchases. These purchased components will be exhausted, thus requiring an update to the design. This update to the design will preserve current and future capability of firing the complete set of MLRS family of munitions per the Operational Requirements Document (ORD). The FCS-U development effort began in FY13, utilizing the industrial Engineering Services contract that was previously sole source awarded. Contract efforts include finalizing design, testing, and qualification of the FCS-U with scheduled completion in FY16. Government activities to close out government efforts to continue in FY16. PDR has been conducted and CDR was completed in 1Q FY15 with prototype delivery to begin in 2QFY15.											
E. Performance Metrics											
N/A											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015		
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) 093 / Multi-Launch Rocket System (MLRS)				

Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	PFRMS Proj Ofc, Redstone Arsenal, Alabama : Redstone Arsenal, Alabama	7.049	1.200		0.706	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Subtotal			7.049	1.200		0.706		-		-		-	-	-	-

Remarks
PFRMS - Precision Fires Rocket and Missile Systems

Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies OGA	MIPR	FT SILL OK, CECOM-NJ AMRDEC-RSA AL, : various	16.245	-		-		-		-		-	Continuing	Continuing	Continuing
MLRS IAC	C/CPFF	Lockheed Martin : Grand Praire, TX	22.577	5.761		2.160		-		-		-	Continuing	Continuing	Continuing
MLRS FCS Development	SS/CR	Lockheed Martin : Grand Praire, TX	35.451	24.916		9.833		-		-		-	Continuing	Continuing	Continuing
Subtotal			74.273	30.677		11.993		-		-		-	-	-	-

Remarks
 C CPFF - Competitive Cost-Plus Fixed-Fee
 SS CR - Sole Source Cost
 AMRDEC - United States Army Aviation and Missile Research, Development, and Engineering Center
 RSA AL - Redstone Arsenal, Alabama Ft Sill OK - Oklahoma
 CECOM - United States Army Communication - Electronics Command
 MIPR - Military Interdepartmental Purchase Request
 LM - Lockheed Martin, Grand Praire, Texas

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 7				PE 0603778A / MLRS Product Improvement Program				093 / Multi-Launch Rocket System (MLRS)							
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	Various	Multiple : Multiple	4.010	0.400		0.424	Dec 2015	-		-		-	Continuing	Continuing	Continuing
Subtotal			4.010	0.400		0.424		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support, Joint Interoperability Test Certificate	MIPR	CTSF, Ft. Hood : Texas	3.323	6.401		0.988	Dec 2014	-		-		-	Continuing	Continuing	Continuing
Subtotal			3.323	6.401		0.988		-		-		-	-	-	-
Remarks															
CTSF - Central Technical Support Facility MIPR - Military Interdepartmental Purchase Request															
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			88.655	38.678		14.111		-		-		-	-	-	-
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																	Date: February 2015											
Appropriation/Budget Activity										R-1 Program Element (Number/Name)										Project (Number/Name)								
2040 / 7										PE 0603778A / MLRS Product Improvement Program										093 / Multi-Launch Rocket System (MLRS)								
Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
Comd, Cntrl, Com, Comp, and Intell (C4I)/Interop Cert Tests, Imp Oper T																												
Software Interoperability Testing/Network Interoperability Testing/Certific																												
FCS-U Development																												
Fire Control System Update Production - Award 3Q FY16; 1st Del/Instal																												
Improved Armored Cab Development Award 3Q FY12; Testing Complete																												
Improved Armored Cab Production - 1st Delivery/Install 1Q FY17																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program	Project (Number/Name) 093 / Multi-Launch Rocket System (MLRS)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Comd, Cntrl, Com, Comp, and Intell (C4I)/Interop Cert Tests, Imp Oper Timeline	1	2010	4	2015
Software Interoperability Testing/Network Interoperability Testing/Certification	1	2010	4	2015
FCS-U Development	1	2013	3	2016
Fire Control System Update Production - Award 3Q FY16; 1st Del/Install 3Q/FY17	3	2016	4	2020
Improved Armored Cab Development Award 3Q FY12; Testing Complete 3QFY15	3	2012	3	2015
Improved Armored Cab Production - 1st Delivery/Install 1Q FY17	1	2017	4	2020

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) 784 / Guided MLRS			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
784: Guided MLRS	-	15.200	-	-	-	-	-	-	-	23.713	-	38.913
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note Beginning in FY2015, Guided Multiple Launch Rocket System (GMLRS) will have its own separate Program Element, 0205778A, to include Projects EG2 (GMLRS Alternative Warhead) and EG3 (Guided MLRS), previously under Program Element 0603778A Project Codes 78G and 784, respectively.												
A. Mission Description and Budget Item Justification The United States (U.S.) Army continues to explore ways to enhance Guided Multiple Launch Rocket System (GMLRS) Unitary rockets and common components and to mitigate obsolescence issues under the Guided MLRS project code. The Army is requesting funding for the following GMLRS Research, Development, Test and Evaluation (RDT&E) activities: (1) evaluation of enhanced operational capabilities to provide more flexibility across the target set to include increased range, flight performance, and end game optimization; (2) investigation of potential life cycle cost savings through obsolescence initiatives; (3) development of enhancements to the Multiple Launch Rocket System (MLRS) common test equipment; and (4) evaluation and development of technologies to enhance overall product performance and survivability to include Long-Range Precision Fires (LRPF) capabilities and (5) Insensitive Munitions (IM) compliance.												
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2014	FY 2015	FY 2016
Title: Assess and improve GMLRS rockets. Description: Funding is provided for the following efforts FY 2014 Accomplishments: Continue to seek improvements in rocket reliability, increased range, collateral damage, and effectiveness.										2.128	-	-
Title: Conduct development engineering for IM program. Description: Funding is provided for the following efforts FY 2014 Accomplishments: Continue to procure test articles to qualify improvements to satisfy JCIDS requirements.										8.816	-	-
Title: Investigate obsolescence/cost reduction opportunities/second source suppliers. Description: Funding is provided for the following efforts FY 2014 Accomplishments:										1.064	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army								Date: February 2015			
Appropriation/Budget Activity 2040 / 7				R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) 784 / Guided MLRS			
B. Accomplishments/Planned Programs (\$ in Millions)											
Continue to design and integrate enhanced operational capability and flexibility across the target set, as well as investigate obsolescence issues and cost reduction initiatives.								FY 2014	FY 2015	FY 2016	
Title: Conduct System Test and Evaluation activities.								3.192	-	-	
Description: Funding is provided for the following efforts											
FY 2014 Accomplishments: Conduct IM System testing.											
Accomplishments/Planned Programs Subtotals								15.200	-	-	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• GMLRS (C64400): GMLRS (C64400)	273.025	127.145	251.060	-	251.060	155.428	170.820	205.038	232.632	Continuing	Continuing
• Gmlrs Alternative Warhead (78G & EG: Gmlrs Alternative Warhead (78G & EG2)	38.528	33.880	0.319	-	0.319	-	-	-	-	Continuing	Continuing
Remarks GMLRS Procurement funding includes C65404 and C65406.											
D. Acquisition Strategy Project 784 is intended to support, investigate, and develop alternative material changes to improve the GMLRS family of munitions as they are identified by the material developer or combat developer. This project also supports IM activities to improve the overall posture of the system all the way down to component level. Future initiatives include a missile modernization program to extend the shelf life of the GMLRS rocket. Beginning in FY2015, GMLRS will have its own separate Program Element, 0205778A, to include Projects EG2 (GMLRS Alternative Warhead) and EG3 (Guided MLRS), previously under Program Element 0603778A Project Codes 78G and 784, respectively.											
E. Performance Metrics N/A											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) 784 / Guided MLRS					
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	PFRMS Project Office, : RSA	27.696	0.130	Oct 2013	-		-		-		-	-	27.826	-
Subtotal			27.696	0.130		-		-		-		-	-	27.826	-
Remarks TBD-To Be Determined; Cont.-Continuing; PFRMS - Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama															
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Unitary Contracts/Multiple	SS/CPFF	LMMFCS : Dallas, TX	284.626	14.603	Dec 2013	-		-		-		-	-	299.229	-
Other Government Agencies	TBD	AMCOM/AMRDEC, : RSA	77.986	-		-		-		-		-	-	77.986	-
Subtotal			362.612	14.603		-		-		-		-	-	377.215	-
Remarks SS/CPFF-Sole Source/Cost Plus Fixed Fee; Cont.-Continuing; LMMFCS - Lockheed Martin Missile and Fire Control System; TX - Texas; AMCOM-Aviation and Missile Command; TBD-To Be Determined; AMRDEC - U.S. Army Research, Development and Engineering Command; RSA - Redstone Arsenal, Alabama															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/CPFF	Camber Research/ S3/TMI, : Alabama	20.684	-		-		-		-		-	-	20.684	-
Subtotal			20.684	-		-		-		-		-	-	20.684	-
Remarks C/CPFF-Cost/Cost Plus Fixed Fee; Cont.-Continuing; S3-Systems Studies Simulation, Inc.; TMI-Tec Masters, Inc.															

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program						Project (Number/Name) 784 / Guided MLRS			

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	TBD	WSMR, : NM	109.467	0.467		-		-		-		-	-	109.934	-
Subtotal			109.467	0.467		-		-		-		-	-	109.934	-

Remarks
TBD-To Be Determined; Cont.-Continuing; WSMR, NM - White Sands Missile Range, New Mexico

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	520.459	15.200	-	-	-	-	-	535.659	-

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																Date: February 2015																					
Appropriation/Budget Activity 2040 / 7										R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program								Project (Number/Name) 784 / Guided MLRS																			
Event Name										FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
										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
Technical Assessment/ Concept, Survivability																																					
Obsolescence/ Cost Reduction Opportunities and Second Source Supp																																					
IM/ Enhanced Technology Improvements																																					
ISD Safety Analysis and Qualification Plan																																					
ISD Developmental Test																																					
ISD Qualification Testing																																					

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program	Project (Number/Name) 784 / Guided MLRS	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Technical Assessment/ Concept, Survivability	1	2011	4	2014
Obsolescence/ Cost Reduction Opportunities and Second Source Suppliers	1	2011	4	2014
IM/ Enhanced Technology Improvements	4	2010	4	2014
ISD Safety Analysis and Qualification Plan	3	2013	1	2014
ISD Developmental Test	4	2013	1	2014
ISD Qualification Testing	2	2014	4	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) 78G / Gmlrs Alternative Warheads			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
78G: Gmlrs Alternative Warheads	-	38.528	-	-	-	-	-	-	-	-	-	38.528
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note Beginning in FY2015, Guided Multiple Launch Rocket System (GMLRS) will have its own separate Program Element, 0205778A, to include Projects EG2 (GMLRS Alternative Warhead) and EG3 (Guided MLRS), previously under Program Element 0603778A Project Codes 78G and 784, respectively.												
A. Mission Description and Budget Item Justification The United States (U.S.) Army is funding the development of the Guided Multiple Launch Rocket System (GMLRS) Alternative Warhead (AW) increment under the 78G-GMLRS AW project code. GMLRS AW is being developed as a non-cluster munition to replace GMLRS Dual Purpose Improved Conventional Munitions (DPICM) and service the same area and imprecisely-located targets. GMLRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy. The GMLRS AW increment completed Milestone B (MS B) on February 19, 2012 and is currently in the Engineering and Manufacturing Development (EMD) Phase. The three-year EMD contract was awarded on March 30, 2012. Funding was requested in FY2013 for the second year of the EMD contract and for other government and contracted EMD activities to include engineering developmental testing and the Critical Design Review (CDR). GMLRS AW is scheduled for a combined Milestone C (MS C) and Full Rate Production (FRP) Decision in FY2015 and Initial Operational Capability (IOC) in FY2016.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2014	FY 2015	FY 2016	
Title: Conduct Development Engineering, Design Component Testing, and Performance Analysis.									17.761	-	-	
Description: Funding is provided for the following efforts FY 2014 Accomplishments: Perform design optimization trade studies, qualification of manufacturing procedures, conduct Development Test/Operational testing.												
Title: Perform technical assessments and concept studies.									9.748	-	-	
Description: Funding is provided for the following efforts FY 2014 Accomplishments: Perform system integration trade studies, assessment of Manufacturing Readiness Levels (MRL).												
Title: Prepare Milestone Documentation, Risk Reduction, and Program Reviews.									1.657	-	-	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army								Date: February 2015			
Appropriation/Budget Activity 2040 / 7				R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) 78G / Gmlrs Alternative Warheads			
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2014	FY 2015	FY 2016	
Description: Funding is provided for the following efforts											
FY 2014 Accomplishments: Assess EMD testing; begin milestone support documentation development.											
Title: Conduct System Test and Evaluation Activities.								9.362	-	-	
Description: Funding is provided for the following efforts											
FY 2014 Accomplishments: Engineering Production Qualification Testing (PQT) , Development Test/Operational Test (DT/OT), ground testing, and system Insensitive Munitions (IM) testing.											
Accomplishments/Planned Programs Subtotals								38.528	-	-	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• GMLRS (C64400): GMLRS (C64400)	273.025	127.145	251.060	-	251.060	155.428	170.820	205.038	232.632	Continuing	Continuing
• Guided MLRS (784 & EG3): Guided MLRS (784 & EG3)	15.200	11.473	17.208	-	17.208	27.829	29.669	29.406	24.036	Continuing	Continuing
Remarks GMLRS Procurement funding includes C65404 and C65406.											
D. Acquisition Strategy The GMLRS AW rocket is a product improved version of the current GMLRS rocket. During EMD, GMLRS AW will undergo further development, integration, and testing under a Firm Fixed Price (FFP) contract. Beginning in FY2015, GMLRS will have its own separate Program Element, 0205778A, to include Projects EG2 (GMLRS Alternative Warhead) and EG3 (Guided MLRS), previously under Program Element 0603778A Project Codes 78G and 784, respectively.											
E. Performance Metrics N/A											

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) 78G / Gmlrs Alternative Warheads					
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	PFRMS Project Office, : RSA	9.816	4.046	Oct 2013	-		-		-		-	-	13.862	-
Subtotal			9.816	4.046		-		-		-		-	-	13.862	-
Remarks TBD-To Be Determined; Cont.-Continuing; PFRMS-Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama															
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AWP Contracts (Multiple)	Various	ATK (Plymouth, MN) : LMMFCS (Dallas, TX), Systems Integrator	65.489	21.922	Dec 2013	-		-		-		-	-	87.411	-
Other Government Agencies	TBD	AMCOM/AMRDEC, : RSA	19.745	2.658	Dec 2013	-		-		-		-	-	22.403	-
Subtotal			85.234	24.580		-		-		-		-	-	109.814	-
Remarks AWP-Alternative Warhead Program; Various-Competitive/Firm Fixed Price/Sole Source/Cost Plus Fixed Fee; TBD-To Be Determined; Cont.-Continuing; AMCOM-Army Materiel Command; AMRDEC-U.S. Army Research, Development and Engineering Command; RSA-Redstone Arsenal, Alabama; ATK-Alliant Techsystems, Inc.; MN-Minnesota; LMMFCS-Lockheed Martin Missile and Fire Control System; TX-Texas															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/CPFF	Camber Research/ S3/TMI, : Alabama	0.759	0.193	Dec 2013	-		-		-		-	-	0.952	-
Subtotal			0.759	0.193		-		-		-		-	-	0.952	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army													Date: February 2015		
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program					Project (Number/Name) 78G / Gmlrs Alternative Warheads				

Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks C/CPFF-Competitive/Cost Plus Fixed Fee; Cont.-Continuing; S3-Systems Studies Simulation, Inc.; TMI-Tec Master, Inc.															

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	TBD	WSMR, : NM	22.570	9.709	Dec 2013	-		-		-		-	-	32.279	-
Subtotal			22.570	9.709		-		-		-		-	-	32.279	-
Remarks TBD-To Be Determined; Cont.-Continuing; WSMR,NM-White Sands Missile Range, New Mexico															

			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			118.379	38.528		-		-		-		-	-	156.907	-
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army

Date: February 2015

Appropriation/Budget Activity

2040 / 7

R-1 Program Element (Number/Name)

PE 0603778A / MLRS Product Improvement Program

Project (Number/Name)

78G / Gmlrs Alternative Warheads

[illegible]

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program	Project (Number/Name) 78G / Gmlrs Alternative Warheads	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Production Qualification Testing (PQT)	4	2013	3	2014
Development Test/Operational Test (DT/OT)	3	2014	3	2014
Insensitive Munitions (IM) Testing	1	2014	3	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) DX8 / HIMARS Product Improvement Program			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
DX8: HIMARS Product Improvement Program	-	1.215	2.992	1.355	-	1.355	9.986	1.969	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project DX8 HIMARS Product Improvement Program previously funded on Project 090 MLRS HIMARS.

A. Mission Description and Budget Item Justification

The M142 High Mobility Artillery Rocket System (HIMARS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system that fully supports more deployable, affordable and lethal, Brigade Combat Teams, Fires Brigades, Modular Forces, and Joint Expeditionary Forces. The HIMARS launcher is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM) engaging targets with precision out to ranges of 300 kilometers. HIMARS satisfies the Army's digitization requirements by interfacing with the Advanced Field Artillery Tactical Data System (AFATDS) fire support command and control system. The HIMARS product improvement program provides funding for research, development, test and integration efforts necessary for incorporation of advanced automotive, armor, armament, life cycle enhancements, system hardware and software technologies, including Common Operating Environment (COE) and Network Integrated Evaluation (NIE), obsolescence mitigation, reliability improvements, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The HIMARS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications. HIMARS was deployed to Operation Iraqi Freedom (OIF) and is still supporting Operation Enduring Freedom (OEF) with great success by both U.S. Army and Marine Corps units.

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

	FY 2014	FY 2015	FY 2016
Title: MLRS Production Improvement Program (PIP)-HIMARS PIP	1.215	2.992	1.355
Description: Improve system design and develop hardware and software integration with upcoming command and control initiatives to include the COE and the NIE. Perform technical assessments, concept studies, cost reduction, risk reduction, field issue resolution and required documentation concerning upgrades to enhanced command and control (C2), improved initialization, hardware and software obsolescence mitigation, tactical fire control, embedded training, launcher loader module electric drive, diagnostics/prognostics, alternate coupling, situational awareness, long range communication, automotive chassis life cycle enhancements and future munitions integration.			
FY 2014 Accomplishments: Completed Software Modification (SW MOD Version 8.0) development phase to address software obsolescence in the Universal Fire Control System software suite. SW MOD 8.0 was developed by the Software Engineering Directorate, Redstone Arsenal, AL; it will reduce sustainment cost and enhance responsiveness for future upgrades. Maintain C4I/interoperability and network			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army								Date: February 2015			
Appropriation/Budget Activity 2040 / 7				R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) DX8 / HIMARS Product Improvement Program			
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2014	FY 2015	FY 2016	
interoperability certification. Conduct technical assessments and concept studies in the areas of automotive and hardware/software technologies to support evolving mission requirements, planning for technology insertion, and continued obsolescence mitigation. Improve system design and develop hardware and software integration with upcoming C2 initiatives to include the (COE) and the (NIE). FY 2015 Plans: The focus of the FY15 HIMARS Product Improvement Program is to continue SW MOD 8.0 software and hardware integration, conduct software testing and debugging, conduct missile firings and field exercises to validate software and obtain a software material release of the Software Modification Version 8.0 software that mitigates software obsolescence of the Fire Control System. Maintain C4I and network interoperability certification. Conduct technical assessments and concept studies in the areas of automotive and hardware/software technologies to support evolving mission requirements, planning for technology insertion, and continued obsolescence mitigation. Improve system design and develop hardware and software integration with upcoming C2 initiatives to include the (COE) and (NIE), development and implementation of Global Positioning System (GPS). FY 2016 Plans: The focus of the FY16 HIMARS Product Improvement Program is to complete testing and certification of Software Modification Version 8 that will enable fielding to start in FY16. Maintain C4I and network interoperability certification. Conduct technical assessments and concept studies in the areas of automotive and hardware/software technologies to support evolving mission requirements, planning for technology insertion, and continued obsolescence mitigation. Improve system design and develop hardware and software integration with the upcoming C2 initiatives to include the (COE) and (NIE), development and implementation of GPS.											
Accomplishments/Planned Programs Subtotals								1.215	2.992	1.355	
C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u> <u>Base</u>	<u>FY 2016</u> <u>OCO</u>	<u>FY 2016</u> <u>Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• C03000: HIMARS Launcher (C03000)	-	-	-	-	-	-	-	-	-	-	-
• C67501: HIMARS Modifications (C67501)	6.105	6.008	3.148	-	3.148	2.457	12.353	15.290	17.766	Continuing	Continuing
Remarks											

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program	Project (Number/Name) DX8 / HIMARS Product Improvement Program
D. Acquisition Strategy The HIMARS product improvement program conducts concept studies to support obsolescence mitigation, automotive updates, and hardware/software enhancements. Development efforts underway include Enhanced C2 and efforts supporting interoperability certifications, information assurance compliance, and mitigating obsolescence of the fire control system on the M142 HIMARS. HIMARS follow-on technology insertion efforts include automotive chassis life cycle enhancements, fire control system obsolescence mitigation and associated enhancements to training devices as improvements when applicable.		
E. Performance Metrics N/A		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) DX8 / HIMARS Product Improvement Program					
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	PFRMS Project Office, Redstone Arsenal, Alabama : Various	0.000	0.050	Oct 2013	0.137	Oct 2014	0.289	Oct 2015	-		0.289	Continuing	Continuing	-
Subtotal			0.000	0.050		0.137		0.289		-		0.289	-	-	-
Remarks PFRMS - Precision Fires Rocket and Missile System; C - Competitive															
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies (OGA)	C/TBD	AMCOM, GSA, RSA : Various	0.000	0.075	Oct 2013	0.193	Oct 2014	0.059	Oct 2015	-		0.059	Continuing	Continuing	-
Battle Command	SS/CPFF	CECOM, PEO STRI, AMRDEC, CGI, LMMFC : Various	0.000	0.914	Oct 2013	2.210	Oct 2014	0.059	Oct 2015	-		0.059	Continuing	Continuing	-
Subtotal			0.000	0.989		2.403		0.118		-		0.118	-	-	-
Remarks AMCOM - US Army Aviation & Missile Life Cycle Management Command; GSA - General Services Administration; RSA - Redstone Arsenal, Alabama; C - Competitive SS - Sole Source; CPFF - Cost Plus Fixed Fee; CECOM - US Army Communications Electronics Command; PEO STRI - Program Executive Office for Simulation, Training and Instrumentation; AMRDEC - Aviation and Missile Research, Development and Engineering Center; LMMFC - Lockheed Martin Missiles and Fire Control															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	C/TBD	Camber Research, S3, TMI : Various	0.000	0.063	Oct 2013	0.165	Oct 2014	0.345	Oct 2015	-		0.345	Continuing	Continuing	-
Subtotal			0.000	0.063		0.165		0.345		-		0.345	-	-	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army													Date: February 2015		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program					Project (Number/Name) DX8 / HIMARS Product Improvement Program					
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks S3 - Systems, Studies, Simulation, Incorporated; TMI - Tec Masters, Incorporated															
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	C/TBD	Ft Hood, TX, ATEC, APG, MD, WSMR, RTC, RSA : Various	0.000	0.113	Oct 2013	0.287	Oct 2014	0.603	Oct 2015	-		0.603	Continuing	Continuing	-
Subtotal			0.000	0.113		0.287		0.603		-		0.603	-	-	-
Remarks ATEC - US Army Test and Evaluation Command; APG MD - Aberdeen Proving Grounds, Maryland; WSMR - White Sands Missile Range; RTC RSA - Redstone Test Center, Redstone Arsenal, Alabama															
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	1.215		2.992		1.355		-		1.355	-	-	-
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																Date: February 2015												
Appropriation/Budget Activity 2040 / 7										R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program								Project (Number/Name) DX8 / HIMARS Product Improvement Program										
Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
Central Technical Support Facility Certification																												
Enhanced Command and Control Development and Testing																												
Software Modification V8.0 Final IPR																												
Software Modification V8.0 Qualification Testing & Certification																												
Software Modification V8.0 Unit Fieldings																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program	Project (Number/Name) DX8 / HIMARS Product Improvement Program	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Central Technical Support Facility Certification	1	2014	4	2020
Enhanced Command and Control Development and Testing	1	2014	4	2020
Software Modification V8.0 Final IPR	4	2014	4	2014
Software Modification V8.0 Qualification Testing & Certification	1	2015	1	2016
Software Modification V8.0 Unit Fieldings	2	2016	1	2017

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 I 7					R-1 Program Element (Number/Name) PE 0603778A I MLRS Product Improvement Program				Project (Number/Name) DZ8 I Long Range Precision Fires			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
DZ8: Long Range Precision Fires	-	-	-	17.042	-	17.042	40.000	67.000	-	-	-	124.042
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The Army G-3/5/7 has directed that Guided Multiple Launch Rocket System (GMLRS) Increment 4 change its name to Long-Range Precision Fires (LRPF) to better reflect the solution as an Army Tactical Missile System (ATACMS) replacement versus a follow-on increment to the GMLRS program. Beginning in FY2016, LRPF is a New Start program.

A. Mission Description and Budget Item Justification

The LRPF is being developed as a cluster and insensitive munition-compliant system that replaces and improves upon ATACMS capabilities to provide Joint Force Commanders with a 24/7, all-weather, area target, long-range fires capability without placing aircraft and crews at risk. The mission of the LRPF System will be to attack/neutralize/suppress/destroy targets using missile delivered indirect precision fires. The LRPF will counter the enemy's ability to conduct combat maneuver and air defense operations. Targets include counterfire, air defense, command and control, and other high payoff targets at all depths of the tactical battlefield. LRPF requirements include 300km range; specified lethality against the designated target set, a Missile Launch Pod Container (MLPC) that holds a minimum of two missiles; and compatibility with the existing launcher platforms (M270A1 and High Mobility Artillery Rocket System (HIMARS)). The Army is conducting an Analysis of Alternatives (AoA), based on an Office of the Secretary of Defense (OSD) approved Material Development Decision (MDD) on 6 November 2013. The AoA is scheduled for completion in March 2015.

The Army is funding the development of the LRPF under Program Element 0603778A project code DZ8. The LRPF program currently has a Milestone (MS) A Decision scheduled for 1QFY16. Funding is requested in FY2016 to conduct competitive sub-system risk reduction activities under DoD Section 845 Other Transaction Authority (OTA), to mature the rocket motor and warhead technology to support the award of Technology Maturation/Risk Reduction (TM/RR) system demonstration contracts in FY17. LRPF will be developed using competitive prototyping, carrying two or more contractors through the TM/RR Phase. LRPF is scheduled for a MS B in FY2019 and MS C in FY2022.

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

	FY 2014	FY 2015	FY 2016
Title: TM/RR	-	-	17.042
Description: Funding is provided for the following effort			
FY 2016 Plans:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015	
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program	Project (Number/Name) DZ8 / Long Range Precision Fires	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015
Execute IM rocket motor and warhead risk reduction prototyping through DOTC OTA. Conduct source selection for TMRR contract; Qualify GFE flight termination systems for use in TM/RR systems integration and test.			
Accomplishments/Planned Programs Subtotals		-	17.042
C. Other Program Funding Summary (\$ in Millions) N/A			
Remarks			
D. Acquisition Strategy The LRPF is being developed as a cluster and insensitive munition-compliant system that replaces and improves upon ATACMS capabilities to provide Joint Force Commanders with a 24/7, all-weather, area target, long-range fires capability without placing aircraft and crews at risk. An AoA supporting a MS A decision is being conducted by U.S. Army Training and Doctrine Command (TRADOC) Analysis Center-White Sands Missile Range (TRAC-WSMR), with the final report to be completed in March 2015. The Milestone Decision Authority will hold a MS A decision review in 1QFY16. The Acquisition Strategy is for competitive prototyping for TM/RR at both the sub-system and system demonstration levels. After a MS A decision directing a new start LRPF system, the program office will initiate TM/RR activities with awards in 3QFY16 for critical sub-system prototyping under the DoD Ordnance Technology Consortium (DOTC) Section 845 (NDAA 1994) Other Transaction Authority. The program will also conduct a full and open competition in FY2016 of a 24-month TM/RR competitive prototyping and flight demonstration phase to be awarded to two contractors in 2QFY2017. Flight demonstrations and PDRs in FY18 will lead to a limited competition for the EMD contract and competitive down select at MS B.			
E. Performance Metrics N/A			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) DZ8 / Long Range Precision Fires					
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	PFRMS Project Office, : RSA	0.000	-		-		2.446	Oct 2015	-		2.446	-	2.446	-
Subtotal			0.000	-		-		2.446		-		2.446	-	2.446	-
Remarks PFRMS-Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama; TBD-To Be Determined															
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LRPF Risk Reduction – DOTC OTA (Sec 845)	C/TBD	TBD : TBD	0.000	-		-		12.033	Apr 2016	-		12.033	Continuing	Continuing	Continuing
Other Government Agencies	TBD	AMCOM/AMRDEC, : RSA	0.000	-		-		1.038	Apr 2016	-		1.038	-	1.038	-
Subtotal			0.000	-		-		13.071		-		13.071	-	-	-
Remarks LRPF-Long-Range Precision Fires; LMMFCS-Lockheed Martin Missile and Fire Control System; TX-Texas; C-Competitive; TBD: To Be Determined; AMCOM-Army Materiel Command; AMRDEC-U.S. Army Research, Development and Engineering Command; RSA-Redstone Arsenal, AL															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Contract	TBD	TBD : TBD	0.000	-		-		1.126	Oct 2015	-		1.126	-	1.126	-
Subtotal			0.000	-		-		1.126		-		1.126	-	1.126	-
Remarks S3-Systems Studies Simulation, Inc.; TMI-Tec Master, Inc.; TBD-To Be Determined															

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program				Project (Number/Name) DZ8 / Long Range Precision Fires					

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	TBD	WSMR, NM; : RTC, AL	0.000	-		-		0.399	May 2016	-		0.399	-	0.399	-
Subtotal			0.000	-		-		0.399		-		0.399	-	0.399	-

Remarks WSMR, NM-White Sands Missile Range, New Mexico; RTC, AL-Redstone Test Center, Alabama															
---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		17.042		-		17.042	-	-	-

Remarks													
----------------	--	--	--	--	--	--	--	--	--	--	--	--	--

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																Date: February 2015												
Appropriation/Budget Activity 2040 / 7										R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program								Project (Number/Name) DZ8 / Long Range Precision Fires										
Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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) MDD	▲1																											
AoA																												
(2) MS A																												
TM/RR																												
DOTC Sub-System Contracts																												
Vendor #1 Contract Award/Preparation/Execution of Flight Demo																												
Vendor #2 Contract Award/Preparation/Execution of Flight Demo																												
(3) MS B																												
Engineering Manufacturing Development Phase																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0603778A / MLRS Product Improvement Program	Project (Number/Name) DZ8 / Long Range Precision Fires	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MDD	1	2014	1	2014
AoA	1	2014	2	2015
MS A	1	2016	1	2016
TM/RR	2	2016	1	2019
DOTC Sub-System Contracts	3	2016	1	2017
Vendor #1 Contract Award/Preparation/Execution of Flight Demo	2	2017	1	2019
Vendor #2 Contract Award/Preparation/Execution of Flight Demo	2	2017	1	2019
MS B	1	2019	1	2019
Engineering Manufacturing Development Phase	1	2019	2	2021