



## Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-260



### **Guided Multiple Launch Rocket System/ Guided Multiple Launch Rocket System Alternative Warhead (GMLRS/GMLRS AW)**

As of FY 2016 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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## Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance  
ACAT - Acquisition Category  
ADM - Acquisition Decision Memorandum  
APB - Acquisition Program Baseline  
APPN - Appropriation  
APUC - Average Procurement Unit Cost  
\$B - Billions of Dollars  
BA - Budget Authority/Budget Activity  
Blk - Block  
BY - Base Year  
CAPE - Cost Assessment and Program Evaluation  
CARD - Cost Analysis Requirements Description  
CDD - Capability Development Document  
CLIN - Contract Line Item Number  
CPD - Capability Production Document  
CY - Calendar Year  
DAB - Defense Acquisition Board  
DAE - Defense Acquisition Executive  
DAMIR - Defense Acquisition Management Information Retrieval  
DoD - Department of Defense  
DSN - Defense Switched Network  
EMD - Engineering and Manufacturing Development  
EVM - Earned Value Management  
FOC - Full Operational Capability  
FMS - Foreign Military Sales  
FRP - Full Rate Production  
FY - Fiscal Year  
FYDP - Future Years Defense Program  
ICE - Independent Cost Estimate  
IOC - Initial Operational Capability  
Inc - Increment  
JROC - Joint Requirements Oversight Council  
\$K - Thousands of Dollars  
KPP - Key Performance Parameter  
LRIP - Low Rate Initial Production  
\$M - Millions of Dollars  
MDA - Milestone Decision Authority  
MDAP - Major Defense Acquisition Program  
MILCON - Military Construction  
N/A - Not Applicable  
O&M - Operations and Maintenance  
ORD - Operational Requirements Document  
OSD - Office of the Secretary of Defense  
O&S - Operating and Support  
PAUC - Program Acquisition Unit Cost

PB - President's Budget  
PE - Program Element  
PEO - Program Executive Officer  
PM - Program Manager  
POE - Program Office Estimate  
RDT&E - Research, Development, Test, and Evaluation  
SAR - Selected Acquisition Report  
SCP - Service Cost Position  
TBD - To Be Determined  
TY - Then Year  
UCR - Unit Cost Reporting  
U.S. - United States  
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

## Program Information

**Program Name**

Guided Multiple Launch Rocket System/Guided Multiple Launch Rocket System Alternative Warhead (GMLRS/GMLRS AW)

**DoD Component**

Army

## Responsible Office

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**Date**

**Assigned:** July 14, 2011

## References

**SAR Baseline (Production Estimate)**

Army Acquisition Executive (AAE) Approved Acquisition Program Baseline (APB) dated May 30, 2003

**Approved APB**

Army Acquisition Executive (AAE) Approved Acquisition Program Baseline (APB) dated February 1, 2012

## Mission and Description

The mission of the Guided Multiple Launch Rocket System/Guided Multiple Launch Rocket System Alternative Warhead (GMLRS/GMLRS AW) is to attack/neutralize/suppress/destroy targets using indirect precision fires. GMLRS provides Field Artillery units with medium- and long-range (70+ kilometers (Km)) fires while supporting brigade, division, corps, army, theater, Joint/Coalition Forces, and Marine Air-Ground Task Forces in full, limited, or expeditionary operations. GMLRS rocket is a solid propellant artillery rocket deployed from the M270A1 and the High Mobility Artillery Rocket System mobile launch vehicles. GMLRS/GMLRS AW uses an Inertial Measuring Unit with Global Positioning System assistance to guide the rocket to a specific point to deliver effects on target. GMLRS/GMLRS AW is transported and fired in a Rocket Pod Container that consists of six rockets. GMLRS family of munitions consists of three increments: Dual-Purpose Improved Conventional Munition (DPICM), Unitary (U), and Alternative Warhead (AW).

### GMLRS DPICM (Increment 1)

The GMLRS DPICM (Increment 1) has a range of 70+ Km, contains 404 DPICM, and is used to provide precision fires on area targets including personnel and thinly armored vehicles. The GMLRS DPICM was an international cooperative development program with five nations (United States, United Kingdom, France, Germany, and Italy).

### GMLRS-U (Increment 2)

The GMLRS-U (Increment 2) is equipped with a 200-pound Unitary high explosive warhead, has a range of 70+ Km, and is effective against multiple targets. The single warhead also limits collateral damage to areas surrounding the designated target.

### GMLRS AW (Increment 3)

The GMLRS AW (Increment 3) is currently designed to replace the DPICM, provide similar effects at comparable range, and eliminate the probability of Unexploded Ordnance (UXO). The AW will satisfy the UXO requirements as defined in the June 19, 2008 Department of Defense Policy on Cluster Munitions and Unintended Harm to Civilians.

## Executive Summary

### GMLRS Unitary

The Precision Fires Rocket and Missile Systems Project Office executed a GMLRS Unitary Reliability Scoring Conference on August 18, 2014 and assessed the continuous reliability of the GMLRS Unitary at 0.94.

### GMLRS AW

The GMLRS AW program successfully completed all testing for the EMD phase. Initial Operational Test and Evaluation (IOT&E) completed in November 2014. The reliability was assessed at 0.97 for IOT&E and an overall reliability of 0.99 for EMD. This exceeds the CDD requirement of 0.95.

The GMLRS AW warhead production line was assessed at a Manufacturing Readiness Level (MRL) of 9 in September 2014. The rocket integration production line at Lockheed Martin-Camden, Arkansas, was assessed at a MRL of 9 in October 2014.

The GMLRS AW Functional Configuration Audit was completed at the rocket/system level in November 2014.

The GMLRS AW program is scheduled to execute a combined Milestone C/FRP Decision Review in April 2015.

There are no significant software-related issues with this program at this time.

## Threshold Breaches

### APB Breaches

<b>Schedule</b>		<input type="checkbox"/>
<b>Performance</b>		<input type="checkbox"/>
<b>Cost</b>	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
<b>O&amp;S Cost</b>		<input type="checkbox"/>
<b>Unit Cost</b>	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

### Nunn-McCurdy Breaches

#### Current UCR Baseline

PAUC	None
APUC	None

#### Original UCR Baseline

PAUC	None
APUC	None

# Schedule



Schedule Events				
Events	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate
GMLRS MS II EMD	Mar 1998	Mar 1998	Sep 1998	Jul 1998
DPICM				
Milestone C	Mar 2003	Mar 2003	Sep 2003	Mar 2003
Full Rate Production Decision	Mar 2005	Jun 2005	Dec 2005	Jun 2005
Initial Operational Capability	Nov 2006	Dec 2005	Jun 2006	Dec 2005
UNITARY				
Milestone B	Mar 2003	Mar 2003	Sep 2003	Mar 2003
Milestone C	Sep 2006	May 2007	Nov 2007	May 2007
Full Rate Production Decision	Sep 2008	Sep 2008	Mar 2009	Dec 2008
Initial Operational Capability	Mar 2008	Aug 2008	Feb 2009	Dec 2008
Alternative Warhead				
Milestone B	N/A	Dec 2011	Jun 2012	Feb 2012
Milestone C	N/A	Mar 2015	Sep 2015	Apr 2015 (Ch-1)
Full Rate Production Decision	N/A	Dec 2016	Jun 2017	Apr 2015 (Ch-1)
Initial Operational Capability	N/A	Dec 2016	Jun 2017	Jun 2016

### Change Explanations

(Ch-1) The current estimate for the combined Milestone C and FRP Decision changed from May 2015 to April 2015 due to an accelerated schedule and alignment with the Shaping Brief to the Army Acquisition Executive on September 19, 2014.

### Acronyms and Abbreviations

DPICM - Dual Purpose Improved Conventional Munition  
MS - Milestone

## Performance

Performance Characteristics				
SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
<b>DPICM</b>				
<b>Range</b>				
<b>Max (Km)</b>				
70	70	60	73	70
<b>Min (Km)</b>				
10	10	15	15	10
<b>Effectiveness</b>				
<b>(Expected Fractional Damage [EFD])</b>				
30%	30%	30%	30%	30%
<b>Reliability</b>				
.95	.95	.92	.88	.92
<b>Hazardous Dud Rate</b>				
0	0%	2%/4%	1.71%/3.75%	1.71%/3.75%
<b>UNITARY</b>				
<b>Range</b>				
<b>Max (Km)</b>				
70	70	60	70	70
<b>Min (Km)</b>				
10	10	15	15	15
<b>Effectiveness</b>				
30%	30%	Functional Kill	30%	30%
<b>Reliability</b>				
.95	.95	.92	.94	.92
<b>Alternative Warhead</b>				
<b>Range</b>				
<b>Max (Km)</b>				
N/A	70	60	70	70
<b>Min (Km)</b>				
N/A	10	15	15	15
<b>Effectiveness</b>				
N/A	30%	Functional Kill	TBD	30%

Reliability					
N/A	.95	.92	.99	.99	(Ch-1)
Hazardous Dud Rate					
N/A	0%	<1%	0%	0%	

### Requirements Reference

Operational Requirements Document (ORD) dated November 14, 2003 (includes Dual Purpose Improved Conventional Munitions), Multiple Launch Rocket System Guided Unitary Rocket ORD dated May 16, 2007 (in lieu of Capability Production Document (CPD)), and GMLRS System Alternative Warhead Increment III Capability Development Document (CDD) dated November 8, 2011

### Change Explanations

(Ch-1) GMLRS AW Reliability Current Estimate changed from .92 to .99 due to the completion of Initial Operational Test and Evaluation (IOT&E).

### Notes

The GMLRS DPICM Demonstrated Performance in Reliability is 0.88. The GMLRS Reliability Working Group conducted a GMLRS DPICM Reliability Scoring Conference on August 18, 2014. The GMLRS DPICM Reliability was assessed at 0.88 (120 Flight Successes of 137 Attempts).

The GMLRS Unitary Demonstrated Performance in Reliability is 0.94. The GMLRS Reliability Working Group conducted a GMLRS Unitary Reliability Scoring Conference on August 18, 2014. The GMLRS Unitary Reliability was assessed at 0.94 (133 Flight Successes of 142 Attempts).

The GMLRS AW test program has a reliability growth curve and will demonstrate 0.92 Reliability by the end of IOT&E. The GMLRS AW Production Qualification Test (PQT) Phase I Reliability was assessed at 1.0 (17 Flight Successes of 17 Attempts). The program has completed PQT Phase II - Developmental Test/Operational Test Ground, flight phase and the assessed reliability is 1.0 (15 Flight Successes of 15 Attempts), the GMLRS AW Production Verification Test flight phase and the assessed reliability is 1.0 (6 Flight Successes of 6 Attempts). The program has completed the IOT&E with an assessed reliability of 0.97 (29 Flight Successes of 30 Attempts). GMLRS AW test program achieved an overall reliability of 0.99 (74 flight successes of 75 attempts). This completes the GMLRS AW test phase. GMLRS AW Range for Max and Min Demonstrated Performance changed from TBD to 70 and 15. The Hazardous Dud Rate Demonstrated Performance change from TBD to 0%. Both Changes are due to the demonstrated performance during IOT&E.

### Acronyms and Abbreviations

DPICM - Dual Purpose Improved Conventional Munitions  
 Max (Km) - Maximum Kilometers  
 Min (Km) - Minimum Kilometers

## Track to Budget

### RDT&E

Appn	BA	PE		
Army	2040	07	0205778A	
			Project	Name
			EG2	GMLRS AW
			EG3	GMLRS
Army	2040	07	0603778A	
			Project	Name
			784	GMLRS (Shared) (Sunk)
			78G	GMLRS AW (Sunk)

### Procurement

Appn	BA	PE		
Army	2032	07	0210602A	
			Line Item	Name
			C65404	GMLRS (Army)
			C65406	GMLRS (Army)

### Notes

Line Item C64400 is the parent line for Line Items C65404 and C65406.

## Cost and Funding

### Cost Summary

Total Acquisition Cost							
Appropriation	BY 2003 \$M			BY 2003 \$M	TY \$M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	485.4	779.1	857.0	826.7	500.5	881.3	957.1
Procurement	9294.8	4321.2	4753.3	4527.4	11348.4	5511.7	6060.2
Flyaway	--	--	--	4496.9	--	--	6025.1
Recurring	--	--	--	4441.9	--	--	5963.0
Non Recurring	--	--	--	55.0	--	--	62.1
Support	--	--	--	30.5	--	--	35.1
Other Support	--	--	--	28.1	--	--	32.0
Initial Spares	--	--	--	2.4	--	--	3.1
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	9780.2	5100.3	N/A	5354.1	11848.9	6393.0	7017.3

#### Confidence Level

Confidence Level of cost estimate for current APB: 50%

The confidence level used in establishing the cost estimate for GMLRS/GMLRS AW is 50% based on standard Department of the Army costing policy.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	235	376	376
Procurement	140004	43560	43560
Total	140239	43936	43936

## Cost and Funding

### Funding Summary

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	734.4	45.4	17.5	27.8	29.7	29.4	24.0	48.9	957.1
Procurement	2618.6	127.1	251.0	155.4	170.8	205.0	232.6	2299.7	6060.2
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	3353.0	172.5	268.5	183.2	200.5	234.4	256.6	2348.6	7017.3
PB 2015 Total	3354.5	172.5	212.0	194.7	217.2	117.3	466.8	2469.3	7204.3
Delta	-1.5	0.0	56.5	-11.5	-16.7	117.1	-210.2	-120.7	-187.0

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	376	0	0	0	0	0	0	0	0	376
Production	0	21684	654	1746	888	1002	1278	1470	14838	43560
PB 2016 Total	376	21684	654	1746	888	1002	1278	1470	14838	43936
PB 2015 Total	376	21498	535	1029	795	1009	265	2850	15579	43936
Delta	0	186	119	717	93	-7	1013	-1380	-741	0

## Cost and Funding

### Annual Funding By Appropriation

Annual Funding							
2040   RDT&E   Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1998	--	--	--	--	--	--	13.6
1999	--	--	--	--	--	--	17.7
2000	--	--	--	--	--	--	26.8
2001	--	--	--	--	--	--	16.8
2002	--	--	--	--	--	--	45.6
2003	--	--	--	--	--	--	59.4
2004	--	--	--	--	--	--	54.4
2005	--	--	--	--	--	--	90.0
2006	--	--	--	--	--	--	98.3
2007	--	--	--	--	--	--	43.2
2008	--	--	--	--	--	--	33.5
2009	--	--	--	--	--	--	46.3
2010	--	--	--	--	--	--	18.4
2011	--	--	--	--	--	--	12.2
2012	--	--	--	--	--	--	43.3
2013	--	--	--	--	--	--	61.2
2014	--	--	--	--	--	--	53.7
2015	--	--	--	--	--	--	45.4
2016	--	--	--	--	--	--	17.5
2017	--	--	--	--	--	--	27.8
2018	--	--	--	--	--	--	29.7
2019	--	--	--	--	--	--	29.4
2020	--	--	--	--	--	--	24.0
2021	--	--	--	--	--	--	24.3
2022	--	--	--	--	--	--	24.6
Subtotal	376	--	--	--	--	--	957.1

Annual Funding 2040   RDT&E   Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	BY 2003 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1998	--	--	--	--	--	--	14.3
1999	--	--	--	--	--	--	18.4
2000	--	--	--	--	--	--	27.4
2001	--	--	--	--	--	--	17.0
2002	--	--	--	--	--	--	45.6
2003	--	--	--	--	--	--	58.3
2004	--	--	--	--	--	--	52.1
2005	--	--	--	--	--	--	83.8
2006	--	--	--	--	--	--	89.0
2007	--	--	--	--	--	--	38.2
2008	--	--	--	--	--	--	29.1
2009	--	--	--	--	--	--	39.7
2010	--	--	--	--	--	--	15.5
2011	--	--	--	--	--	--	10.1
2012	--	--	--	--	--	--	35.3
2013	--	--	--	--	--	--	49.0
2014	--	--	--	--	--	--	42.0
2015	--	--	--	--	--	--	34.9
2016	--	--	--	--	--	--	13.3
2017	--	--	--	--	--	--	20.7
2018	--	--	--	--	--	--	21.7
2019	--	--	--	--	--	--	21.1
2020	--	--	--	--	--	--	16.9
2021	--	--	--	--	--	--	16.7
2022	--	--	--	--	--	--	16.6
Subtotal	376	--	--	--	--	--	826.7

Annual Funding 2032   Procurement   Missile Procurement, Army							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2003	822	110.4	--	13.1	123.5	6.6	130.1
2004	683	97.2	--	7.0	104.2	4.8	109.0
2005	954	96.9	--	3.7	100.6	11.3	111.9
2006	984	119.8	--	0.3	120.1	1.5	121.6
2007	925	123.4	--	0.9	124.3	0.7	125.0
2008	2070	241.8	--	20.8	262.6	1.1	263.7
2009	2646	298.7	--	10.1	308.8	0.4	309.2
2010	3228	343.7	--	--	343.7	0.4	344.1
2011	2442	264.1	--	--	264.1	0.4	264.5
2012	2940	332.8	--	--	332.8	0.4	333.2
2013	1824	232.9	--	--	232.9	0.4	233.3
2014	2166	269.6	--	3.0	272.6	0.4	273.0
2015	654	123.5	--	3.2	126.7	0.4	127.1
2016	1746	248.7	--	--	248.7	2.3	251.0
2017	888	154.9	--	--	154.9	0.5	155.4
2018	1002	170.3	--	--	170.3	0.5	170.8
2019	1278	204.5	--	--	204.5	0.5	205.0
2020	1470	232.1	--	--	232.1	0.5	232.6
2021	2622	362.5	--	--	362.5	0.5	363.0
2022	2802	387.8	--	--	387.8	0.5	388.3
2023	2628	374.9	--	--	374.9	0.5	375.4
2024	2562	373.6	--	--	373.6	0.5	374.1
2025	1986	312.0	--	--	312.0	--	312.0
2026	2040	323.9	--	--	323.9	--	323.9
2027	198	91.0	--	--	91.0	--	91.0
2028	--	--	36.8	--	36.8	--	36.8
2029	--	--	35.2	--	35.2	--	35.2
Subtotal	43560	5891.0	72.0	62.1	6025.1	35.1	6060.2

Annual Funding 2032   Procurement   Missile Procurement, Army							
Fiscal Year	Quantity	BY 2003 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2003	822	106.1	--	12.6	118.7	6.3	125.0
2004	683	90.9	--	6.6	97.5	4.5	102.0
2005	954	88.2	--	3.4	91.6	10.2	101.8
2006	984	106.7	--	0.3	107.0	1.3	108.3
2007	925	107.8	--	0.8	108.6	0.6	109.2
2008	2070	208.0	--	17.9	225.9	0.9	226.8
2009	2646	253.7	--	8.6	262.3	0.3	262.6
2010	3228	287.0	--	--	287.0	0.3	287.3
2011	2442	216.7	--	--	216.7	0.3	217.0
2012	2940	268.9	--	--	268.9	0.4	269.3
2013	1824	183.7	--	--	183.7	0.3	184.0
2014	2166	210.3	--	2.3	212.6	0.3	212.9
2015	654	94.8	--	2.5	97.3	0.3	97.6
2016	1746	187.3	--	--	187.3	1.7	189.0
2017	888	114.4	--	--	114.4	0.4	114.8
2018	1002	123.3	--	--	123.3	0.4	123.7
2019	1278	145.2	--	--	145.2	0.3	145.5
2020	1470	161.6	--	--	161.6	0.3	161.9
2021	2622	247.4	--	--	247.4	0.3	247.7
2022	2802	259.4	--	--	259.4	0.4	259.8
2023	2628	245.9	--	--	245.9	0.3	246.2
2024	2562	240.2	--	--	240.2	0.4	240.6
2025	1986	196.7	--	--	196.7	--	196.7
2026	2040	200.2	--	--	200.2	--	200.2
2027	198	55.1	--	--	55.1	--	55.1
2028	--	--	21.9	--	21.9	--	21.9
2029	--	--	20.5	--	20.5	--	20.5
Subtotal	43560	4399.5	42.4	55.0	4496.9	30.5	4527.4

## Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
<b>Approval Date</b>	3/24/2003	1/7/2013
<b>Approved Quantity</b>	13998	4445
<b>Reference</b>	Milestone C ADM (DPICM)	Acquisition Strategy (AW)
<b>Start Year</b>	2003	2003
<b>End Year</b>	2005	2015

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the summation of 1,961 GMLRS Dual Purpose Improved Conventional Munition (DPICM) Rockets plus 2,484 GMLRS Unitary Rockets.

The GMLRS DPICM Milestone C ADM, approved on March 24, 2003, authorized LRIP quantity not to exceed 13,998 rockets. This quantity was based on the Army Acquisition Objective of 140,004 rockets. The actual GMLRS DPICM LRIP quantity is 1,961 rockets.

The GMLRS Unitary Milestone C ADM, signed May 2, 2007, authorized the LRIP quantity not to exceed 3,480 rockets based on the total expected procurement quantity of 34,848. The actual GMLRS LRIP quantity is 2,484 rockets.

The GMLRS AW Milestone B ADM was signed on February 19, 2012 and approved an LRIP quantity of 498 rockets. However, the Acquisition Strategy for GMLRS AW, signed on January 7, 2013, states the program will conduct the Initial Operational Test and Evaluation (IOT&E) during the EMD phase and combine Milestone C with the FRP Decision Review. Therefore, no LRIP quantity is needed. Necessary assets will be procured to support IOT&E during EMD.

The Current Total LRIP reported in the December 31, 2012 SAR was 4,943. This value was the summation of 1,961 GMLRS DPICM, 2,484 GMLRS Unitary, and 498 GMLRS AW. This quantity has been adjusted to 4,445, as explained above, to reflect actual LRIP quantities of the three GMLRS variants.

## Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
Singapore	2/28/2014	348	59.7	Unitary rockets
Singapore	3/15/2012	72	10.5	Unitary rockets.
Japan	5/12/2011	168	25.0	Unitary rockets.
Singapore	2/18/2011	84	112.1	Unitary rockets
Jordan	1/15/2010	432	182.1	Unitary rockets.
Japan	2/1/2009	180	24.7	Unitary rockets.
Bahrain	1/5/2008	72	46.9	Unitary rockets.
Singapore	12/5/2007	108	115.5	Unitary rockets.
United Arab Emirates	8/1/2007	1560	772.2	DPICM and Unitary rockets.

### Notes

The United Kingdom (UK), Germany, France, and Italy are not FMS customers but rather Cooperative Partner nations. Development of the original GMLRS rocket was cooperatively funded by these four nations and the U.S. under the authority of a Memorandum of Understanding. Since then, all four Cooperative Partner nations have procured GMLRS rockets from the U.S. production line, and may procure additional GMLRS rockets in the future.

The UK has procured 2,844 GMLRS Unitary rockets under LRIP and FRP III, IV, and V contracts. The UK successfully fired 817 GMLRS rockets in a combat environment in support of Coalition Forces. Germany has procured 420 rockets under GMLRS FRP I, III, IV, and V contracts. France has procured 270 rockets under GMLRS FRP IV and V contracts. Italy has procured 216 rockets under GMLRS FRP VII and IX contracts.

## Nuclear Costs

None

## Unit Cost

### Unit Cost Report

Item	BY 2003 \$M	BY 2003 \$M	% Change
	Current UCR Baseline (Feb 2012 APB)	Current Estimate (Dec 2014 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	5100.3	5354.1	
Quantity	43936	43936	
Item	0.116	0.122	+5.17
<b>Average Procurement Unit Cost</b>			
Cost	4321.2	4527.4	
Quantity	43560	43560	
Unit Cost	0.099	0.104	+5.05

Item	BY 2003 \$M	BY 2003 \$M	% Change
	Revised Original UCR Baseline (Jun 2007 APB)	Current Estimate (Dec 2014 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	4578.4	5354.1	
Quantity	43795	43936	
Unit Cost	0.105	0.122	+16.19
<b>Average Procurement Unit Cost</b>			
Cost	3966.7	4527.4	
Quantity	43560	43560	
Unit Cost	0.091	0.104	+14.29

In accordance with the April 26, 2007 ADM, separate APUCs and PAUCs were prepared for all GMLRS configurations (Dual Purpose Improved Conventional Munitions (DPICM) and Unitary). The GMLRS hardware will maintain approximately 80-percent commonality, regardless of which warhead is integrated into the systems. Consequently, changes in cost of any variant will directly affect the APUCs and PAUCs of the others.

The split-out APUC and PAUC of the GMLRS variants are:

GMLRS DPICM APUC (\$0.135M (BY\$ 2003); Quantity (Qty) = 2,472)

GMLRS UNITARY APUC (\$0 .099M (BY\$ 2003); Qty = 22,506)

GMLRS AW APUC (\$0.106M (BY\$ 2003); Qty = 18,582)

GMLRS DPICM PAUC (\$0.192M (BY\$ 2003); Qty = 2,565)

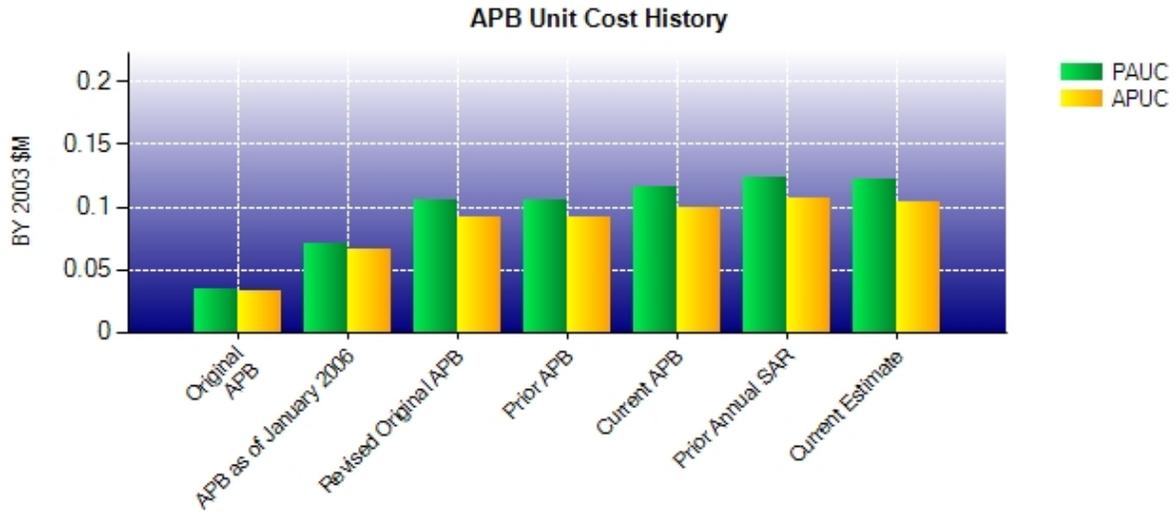
GMLRS UNITARY PAUC (\$0.118M (BY\$ 2003); Qty = 22,684)

GMLRS AW PAUC (\$0.117M (BY\$ 2003); Qty = 18,723)

Because all GMLRS Variants benefit from the RDT&E future system enhancements (Insensitive Munitions, obsolescence,

cost reduction initiatives), an artificial pro-rating would have to be made to include them in the split-out PAUCs above. Therefore, the split-out PAUCs above exclude the funding for these future enhancements. However, these dollars are included in the composite PAUC shown in the Unit Cost section.

**Unit Cost History**



Item	Date	BY 2003 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Mar 1998	0.034	0.032	0.039	0.037
APB as of January 2006	May 2003	0.070	0.066	0.084	0.081
Revised Original APB	Jun 2007	0.105	0.091	0.133	0.119
Prior APB	Jun 2007	0.105	0.091	0.133	0.119
Current APB	Feb 2012	0.116	0.099	0.146	0.127
Prior Annual SAR	Dec 2013	0.124	0.107	0.164	0.143
Current Estimate	Dec 2014	0.122	0.104	0.160	0.139

**SAR Unit Cost History**

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.039	-0.003	0.001	0.001	0.009	0.037	0.000	0.000	0.045	0.084

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.084	0.013	-0.012	0.035	0.000	0.040	0.000	0.000	0.076	0.160

Initial SAR Baseline to Current SAR Baseline (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.037	-0.003	0.004	0.001	0.006	0.036	0.000	0.000	0.044	0.081

Current SAR Baseline to Current Estimate (TY \$M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.081	0.013	-0.026	0.036	0.000	0.035	0.000	0.000	0.058	0.139

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone I	N/A	N/A	N/A	N/A
Milestone II	N/A	Mar 1998	Mar 1998	Jul 1998
Milestone C	N/A	Oct 2003	N/A	Mar 2003
IOC	N/A	Apr 2004	N/A	Dec 2005
Total Cost (TY \$M)	N/A	1688.6	11848.9	7017.3
Total Quantity	N/A	43182	140239	43936
PAUC	N/A	0.039	0.084	0.160

The Milestone C and IOC reported above reflect the GMLRS Dual Purpose Improved Conventional Munition variant. Milestone C for the GMLRS Unitary variant was approved May 2007. Milestone B for the GMLRS AW variant was approved February 2012.

## Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	500.5	11348.4	--	11848.9
Previous Changes				
Economic	+10.1	+576.5	--	+586.6
Quantity	+196.0	-8922.7	--	-8726.7
Schedule	-9.1	+1567.8	--	+1558.7
Engineering	--	+10.8	--	+10.8
Estimating	+262.7	+1651.6	--	+1914.3
Other	--	--	--	--
Support	--	+11.7	--	+11.7
Subtotal	+459.7	-5104.3	--	-4644.6
Current Changes				
Economic	-3.5	-30.6	--	-34.1
Quantity	--	--	--	--
Schedule	--	-9.0	--	-9.0
Engineering	--	--	--	--
Estimating	+0.4	-143.8	--	-143.4
Other	--	--	--	--
Support	--	-0.5	--	-0.5
Subtotal	-3.1	-183.9	--	-187.0
Total Changes	+456.6	-5288.2	--	-4831.6
CE - Cost Variance	957.1	6060.2	--	7017.3
CE - Cost & Funding	957.1	6060.2	--	7017.3

Summary BY 2003 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	485.4	9294.8	--	9780.2
Previous Changes				
Economic	--	--	--	--
Quantity	+159.0	-5929.7	--	-5770.7
Schedule	-5.1	+241.7	--	+236.6
Engineering	--	+8.5	--	+8.5
Estimating	+186.8	+1016.6	--	+1203.4
Other	--	--	--	--
Support	--	+10.4	--	+10.4
Subtotal	+340.7	-4652.5	--	-4311.8
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+0.6	-114.3	--	-113.7
Other	--	--	--	--
Support	--	-0.6	--	-0.6
Subtotal	+0.6	-114.9	--	-114.3
Total Changes	+341.3	-4767.4	--	-4426.1
CE - Cost Variance	826.7	4527.4	--	5354.1
CE - Cost & Funding	826.7	4527.4	--	5354.1

Previous Estimate: December 2013

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-3.5
Adjustment for current and prior escalation. (Estimating)	+0.6	+0.8
Revised estimate for Insensitive Munitions (IM) Motor. (Estimating)	+0.9	+1.3
Revised estimate for GMLRS AW due to Army budget changes. (Estimating)	-1.1	-1.4
Revised estimate for IM Pod. (Estimating)	+0.2	-0.3
<b>RDT&amp;E Subtotal</b>	<b>+0.6</b>	<b>-3.1</b>

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-30.6
Stretch-out of procurement buy profile due to reduction in funding from FY 2027 to FY 2029. (Schedule) (QR)	0.0	-9.0
Adjustment for current and prior escalation. (Estimating)	+2.7	+3.3
Revised estimate to reflect removal of the cost of the IM motor from the POE due to immaturity of design and uncertainty regarding implementation timing. (Estimating)	-19.3	-28.1
Revised estimate to reflect change in Cost Data/Methodology due to inclusion of four new data points in the POE. (Estimating)	-140.1	-191.0
Revised estimate to include two additional years of procurement funding. (Estimating)	+42.4	+72.0
Adjustment for current and prior escalation. (Support)	-0.1	0.0
Decrease in Other Support due to updated engineering support costs. (Support)	-0.5	-0.5
<b>Procurement Subtotal</b>	<b>-114.9</b>	<b>-183.9</b>

(QR) Quantity Related

## Contracts

### Contract Identification

**Appropriation:** Procurement  
**Contract Name:** GMLRS FRP VI  
**Contractor:** Lockheed Martin Missiles and Fire Control - Dallas  
**Contractor Location:** 1701 W Marshall Drive  
 Grand Prairie, TX 75051-0000  
**Contract Number:** W31P4Q-11-C-0166  
**Contract Type:** Firm Fixed Price (FFP), Cost Plus Fixed Fee (CPFF)  
**Award Date:** June 10, 2011  
**Definitization Date:** June 10, 2011

### Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
445.4	N/A	4440	483.7	N/A	4704	483.7	483.7

### Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to options exercised, change order incorporations, and negotiated reopener clauses.

### Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

### Cost and Schedule Variance Explanations

None

### General Contract Variance Explanation

Cost and schedule variances are not reported for this contract, because the cost portion does not meet the threshold requirements for EVM reporting.

**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** GMLRS FRP VII  
**Contractor:** Lockheed Martin Missiles and Fire Control - Dallas  
**Contractor Location:** 1701 W Marshall Drive  
 Grand Prairie, TX 75051-0000  
**Contract Number:** W31P4Q-12-C-0151  
**Contract Type:** Firm Fixed Price (FFP), Cost Plus Fixed Fee (CPFF)  
**Award Date:** June 29, 2012  
**Definitization Date:** June 29, 2012

Contract Price								
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)		
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager	
353.2	N/A	3306	548.9	N/A	5550	548.9	548.9	

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to option exercises, change order incorporations, and negotiated reopener clauses.

Contract Variance			
Item	Cost Variance		Schedule Variance
Cumulative Variances To Date	0.0		0.0
Previous Cumulative Variances	--		--
Net Change	+0.0		+0.0

**Cost and Schedule Variance Explanations**

None

**General Contract Variance Explanation**

Cost and schedule variances are not reported for this contract, because the cost portion does not meet the threshold requirements for EVM reporting.

**Notes**

Full Rate Production (FRP) VIII is an option modification to FRP VII, which was awarded December 2012.

**Contract Identification**

**Appropriation:** RDT&E  
**Contract Name:** AW EMD  
**Contractor:** Lockheed Martin Missiles and Fire Control - Dallas  
**Contractor Location:** 1701 W Marshal Drive  
 Grand Prairie, TX 75051-0000  
**Contract Number:** W31P4Q-12-C-0121  
**Contract Type:** Firm Fixed Price (FFP)  
**Award Date:** March 30, 2012  
**Definitization Date:** March 30, 2012

**Contract Price**

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
25.0	N/A	N/A	105.9	N/A	N/A	105.9	104.0

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to option exercises, change order incorporations, and negotiated reopener clauses.

**Cost and Schedule Variance Explanations**

Cost and Schedule Variance reporting is not required on this (FFP) contract.

**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** GMLRS FRP IX  
**Contractor:** Lockheed Martin Missiles and Fire Control - Dallas  
**Contractor Location:** 1701 W Marshall Drive  
 Grand Prairie, TX 75051-0000  
**Contract Number:** W31P4Q-14-C-0066  
**Contract Type:** Firm Fixed Price (FFP), Cost Plus Fixed Fee (CPFF)  
**Award Date:** December 20, 2013  
**Definitization Date:** May 13, 2015

Contract Price								
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)		
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager	
255.1	N/A	1824	341.6	N/A	2922	341.6	341.6	

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the increase in quantities, adding Singapore requirements and adding additional scope.

Contract Variance			
Item	Cost Variance		Schedule Variance
Cumulative Variances To Date	0.0		0.0
Previous Cumulative Variances	--		--
Net Change	+0.0		+0.0

**Cost and Schedule Variance Explanations**

None

**General Contract Variance Explanation**

Cost and schedule variances are not reported for this contract, because the cost portion does not meet the threshold requirements for EVM reporting.

**Notes**

Originally, the GMLRS FRP IX contract was executed on December 20, 2013, as an Undefined Contract Action in the Not to Exceed (NTE) amount of \$255.1M and awarded for GMLRS Unitary plus Low Cost Reduced range Practice Rocket requirements for the Army, USMC, and Italy. The new NTE includes increased quantities, Singapore requirements and additional scope.

## Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	376	235	376	62.50%
Production	17904	17904	43560	41.10%
Total Program Quantity Delivered	18280	18139	43936	41.29%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	7017.3	Years Appropriated	18
Expended to Date	3585.9	Percent Years Appropriated	56.25%
Percent Expended	51.10%	Appropriated to Date	3525.5
Total Funding Years	32	Percent Appropriated	50.24%

The above data is current as of January 22, 2015.

## Operating and Support Cost

### Cost Estimate Details

<b>Date of Estimate:</b>	January 02, 2015
<b>Source of Estimate:</b>	POE
<b>Quantity to Sustain:</b>	7260
<b>Unit of Measure:</b>	Rocket Pod
<b>Service Life per Unit:</b>	10.00 Years
<b>Fiscal Years in Service:</b>	FY 2005 - FY 2036

The O&S Costs include all variants (GMLRS Dual Purpose Improved Conventional Munition (DPICM), Unitary, and AW). The rocket pod refers to the Rocket Pod Container that consists of six guided rockets with an expected service life of 10-years and procurement of 7,260 rocket pods (total of 43,560 rockets). The 376 RDT&E rockets are test articles and have already been consumed.

### Sustainment Strategy

The Sustainment Strategy is two-level maintenance - field and sustainment. An organic depot capability was established for GMLRS DPICM and Unitary variants in 2nd Quarter FY 2009, this capability will be upgraded to incorporate GMLRS AW in 1st Quarter FY 2016.

### Antecedent Information

No Antecedent

Cost Element	Annual O&S Costs BY2003 \$K	
	GMLRS/GMLRS AW Average Annual Cost Per Rocket Pod	No GMLRS Antecedent (Antecedent)
Unit-Level Manpower	0.019	--
Unit Operations	0.043	--
Maintenance	0.972	--
Sustaining Support	1.243	--
Continuing System Improvements	0.168	--
Indirect Support	0.000	--
Other	0.000	--
<b>Total</b>	<b>2.445</b>	<b>--</b>

The Cost Element Sustaining Support includes Missile Stockpile Reliability Certification, base operations, second destination transportation, System Engineering Program Management, and training. The Continuing System Improvements consists of software maintenance.

Item	Total O&S Cost \$M			
	GMLRS/GMLRS AW			No GMLRS Antecedent (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	169.5	186.5	177.5	N/A
Then Year	252.9	N/A	297.8	N/A

#### Equation to Translate Annual Cost to Total Cost

Total O&S Cost = Average Annual Cost per Rocket Pod \* Number of Rocket Pods \* Life per Rocket Pod = \$2.445K \* 7260 Rocket Pods \* 10 Years = \$177.5M (BY 2003 \$M)

O&S Cost Variance		
Category	BY 2003 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2013 SAR	161.0	
Programmatic/Planning Factors	7.8	Sustainment costs extended due to additional two years of procurement.
Cost Estimating Methodology	0.0	
Cost Data Update	8.7	Updated Logistics and Test cost data.
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	16.5	
Current Estimate	177.5	

#### Disposal Estimate Details

**Date of Estimate:** January 02, 2015  
**Source of Estimate:** POE  
**Disposal/Demilitarization Total Cost (BY 2003 \$M):** Total costs for disposal of all Rocket Pod are 63.9