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## 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 2020 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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## Sensitivity Originator

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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)  
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)

## 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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## 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 May 20, 2015

## 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, or destroy targets using indirect precision fires. GMLRS/GMLRS AW 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. The GMLRS/GMLRS AW 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 Launch Pod Container that consists of six rockets. The current GMLRS family of munitions consists of three fielded variants: Dual-Purpose Improved Conventional Munition (DPICM), Unitary and Alternative Warhead (AW). A fourth GMLRS variant is currently in development, Extended Range (ER) GMLRS, and will carry both the Unitary and AW payloads to a maximum objective range of 200-Km.

### **GMLRS DPICM:**

The GMLRS DPICM has a range of 70+ Km, contains 404 M101 grenades to engage area or imprecisely located targets. The GMLRS DPICM was an international cooperative development program with five nations (U.S., United Kingdom, France, Germany, and Italy).

### **GMLRS Unitary:**

The GMLRS Unitary is equipped with a single 200-pound Unitary high explosive warhead with a range of 70+ Km to engage point targets with collateral damage to surrounding areas.

### **GMLRS AW:**

The GMLRS AW is a non-cluster munition replacing GMLRS DPICM to engage area or imprecisely located targets. GMLRS AW eliminates the probability of Unexploded Ordnance (UXO) and satisfies UXO requirements as defined in the November 30, 2017, Department of Defense Policy on Cluster Munitions.

### **Extended Range (ER) GMLRS:**

ER GMLRS variant began development in FY 2018 to carry both the Unitary and AW payloads to a maximum objective range of 200-Km. Development and production of ER GMLRS is being executed as an engineering change proposal modification to the existing rocket.



## Executive Summary

### Program Highlights Since Last Report

The GMLRS/GMLRS AW requirements are stable and funding is adequate to meet cost, schedule, and performance objectives established in the current approved APB. Since the last SAR, FY 2019 Congressional reductions of \$35M (RDT&E) and \$8.6M (Procurement) caused negative impacts to GMLRS production quantities and delayed ER GMLRS development/fielding by nine months.

#### **GMLRS:**

On November 16, 2018, the Army rescinded the GMLRS Army Procurement Objective of 43,560 rockets and reaffirmed the previously validated Army Acquisition Objective of 140,004 rockets.

FRP XII production contract was definitized on June 1, 2018 to procure 2,970 GMLRS AW and Unitary rockets. The total contract quantity of 5,796 rockets included the Low Cost Reduced Range Practice Rocket (LCRRPR) plus depot spares in support of the Army, U.S. Marine Corps, Germany, France, Finland, and Singapore.

FRP XIII procurement contract was executed on April 27, 2018, as an Undefinitized Contract Award in the Not-to-Exceed (NTE) amount of \$828.7M to procure 6,996 rockets. The total contract quantity of 11,196 rockets included the LCRRPR in support of the Army, U.S. Marine Corps, and Romania. The contract was definitized September 11, 2018 for \$793.2M.

#### **GMLRS Unitary:**

The GMLRS Reliability Working Group conducted a GMLRS Reliability Scoring Conference on February 28, 2018. The GMLRS Unitary Reliability was assessed at 0.94 (177 Flight Success / 188 Flight Attempts). This exceeds the Threshold requirement for the GMLRS Unitary Reliability KPP of 0.92; Objective requirement is 0.95.

#### **GMLRS AW:**

The GMLRS Reliability Working Group conducted a GMLRS Reliability Scoring Conference on February 28, 2018. The GMLRS AW Reliability was assessed at 0.99 (78 Flight Success / 79 Flight Attempts). This exceeds the Threshold requirement for the GMLRS AW Reliability KPP of 0.92, as well as the Objective requirement of 0.95.

#### **Extended Range (ER) GMLRS:**

A fourth variant of GMLRS, the ER GMLRS, began development in FY 2018. The ER GMLRS Phase II development contract was awarded on August 23, 2018 to finalize performance requirements definition and complete the system's preliminary design review (PDR). The JROC approved an updated GMLRS AW CDD in lieu of a CPD in June 2018 which changed the GMLRS Maximum Range (Objective) KPP to 200-Km.

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



| History of Significant Developments Since Program Initiation |  |
|--|--|
| History of Significant Developments Since Program Initiation |  |
| Date   | Significant Development Description  |
| June 1998  | Milestone II Decision Review was executed in June 1998 approving GMLRS Dual Purpose Improved Conventional Munition (DPICM) entry into EMD.   |
| September 1998   | A Memorandum of Understanding was finalized in September 1998 with the U.S., United Kingdom, Ireland, Germany, France and Italy, which resulted in a November 1998 EMD contract award for the international development program to produce a common product with sharing and minimizing costs and risks.   |
| October 2000   | The GMLRS program was restructured in October 2000 due to development problems experienced by the previous guidance set subcontractor.   |
| December 2001  | A special Army Systems Acquisition Review Council (ASARC) was held on December 6, 2001, during which the Acting Army Acquisition Executive (AAE) and the Vice Chief of Staff of the Army reviewed the Nunn-McCurdy Unit Cost breach and initiated Secretary of Defense certification procedures.   |
| December 2002  | The GMLRS program was redesignated ACAT IC.  |
| February 2003  | A February 2003 Production Readiness Statement concluded that the GMLRS DPICM program was ready for production. The Chief Information Officer certified that both GMLRS DPICM and GMLRS Unitary met all interoperability requirements.   |
| March 2003   | A combined ASARC for the GMLRS DPICM and GMLRS Unitary systems was successfully conducted in March 2003. The ASARC approved entry into LRIP for GMLRS DPICM and entry into System Development and Demonstration for GMLRS Unitary. The ADMs were signed on March 24, 2003.   |
| March 2003   | The GMLRS DPICM Test and Evaluation Master Plan (TEMP) was signed by the Director, Under Secretary of the Army for Operational Requirements in March 2003. The Test and Evaluation Strategy was approved in May 2003.  |
| November 2003  | A paper JROC was completed on November 14, 2003. The JROC Memorandum was published on November 14, 2003, and accepted the Army's proposed change to the threshold average hazardous dud rate for submunitions. The change amends performance requirements for ranges between 20-60 kilometers (Km) to less than 2 percent with an objective of 0 percent. The threshold average hazardous dud rate must be less than 4 percent with an objective of 0 percent for ranges between 15-20 kilometers (Km) and 60-70 Km. |
| March 2004   | The GMLRS Unitary TEMP was approved on March 17, 2004.   |
| November 2004  | The Initial Operational Testing and Evaluation (IOT&E) was completed on November 10, 2004, and the Army Test and Evaluation Command's Initial Operational Test System Evaluation Report was signed January 26, 2005. All reliability and maintainability requirements in the CDD (formerly ORD) and the performance specification were met or exceeded.  |
| June 2005  | The GMLRS DPICM IOC was approved by the AAE on June 22, 2005.  |
| June 2005  | The TEMP, supporting the GMLRS DPICM FRP Decision, was signed by the Director of Operational Test and Evaluation on June 8, 2005.  |
| September 2005   | In September 2005 the first ever combat fire mission was conducted using GMLRS Unitary rockets against enemy positions in Iraq. At a distance of greater than 50 Km, eight rockets were fired, destroying insurgent strongholds and killing enemy insurgents. Collateral damage to adjacent structures was minimal.  |
| December 2005  | The GMLRS DPICM IOC was achieved on or before the Objective APB schedule date.   |
| September 2006   | Deliveries of GMLRS Urgent Materiel Release (UMR) Unitary rockets began in September 2006 and continue to date. These deliveries are in response to a second request received from U.S. Central  |



|                |   |
|----------------|---|
|                | Command for additional UMR Unitary rockets to be used in theater.   |
| January 2007   | Title 10, U.S. Code, requires that munitions be Insensitive Munition (IM) compliant. To approach this objective the GMLRS program incorporated the development and procurement of an IM Warhead for Unitary and is investigating other IM related improvements. The GMLRS program submitted an IM Plan of Action and Milestones and a request for IM waiver as part of the PEO Missiles and Space IM Strategic Plan. The IM waiver for FY 2007 through FY 2008 was approved by the JROC on January 4, 2007. |
| February 2007  | The PEO Missiles and Space submitted a Program Deviation Report (PDR) to the MDA on February 9, 2007, which provided notification that the GMLRS program anticipates a critical Nunn-McCurdy unit cost breach. Consequently, the GMLRS program completed an intense review by a certification team composed of five separate Integrated Product Teams.  |
| April 2007     | The GMLRS program successfully obtained Nunn-McCurdy Certification on April 26, 2007, when the DAE signed an ADM approving the continuation of the restructured GMLRS program as ACAT IC. The DAE directed GMLRS to restructure the program to "buy-to-budget" additional rocket quantities as can be afforded in each year, FY 2008 through FY 2013. The DAE further instructed the PM to actively pursue the potential for a multi-year procurement strategy beginning with Full Rate Production.         |
| May 2007       | The May 2, 2007 GMLRS Unitary Milestone C and LRIP Decision ADM approved the Acquisition Strategy and APB.  |
| June 2008      | A GMLRS AW Directed Requirement Memorandum signed by the Army Deputy Chief of Staff for Operations, Plans and Training on June 25, 2008, validated the requirement for GMLRS AW.  |
| December 2008  | GMLRS Unitary FRP Decision was approved on December 23, 2008, and IOC was achieved in December 2008.  |
| July 2009      | The GMLRS AW project received validation of the current GMLRS Analysis of Alternatives on July 31, 2009.  |
| September 2009 | On September 11, 2009, the AAE granted GMLRS approval to enter into the Technology Development at Milestone A.  |
| November 2009  | The GMLRS DPICM program completed its last production on November 5, 2009.  |
| February 2010  | The GMLRS class Justification & Approval (J&A) was approved on February 18, 2010, for the procurement of continued FRP of the GMLRS Unitary for FY 2010 through FY 2012.  |
| February 2011  | In the FY 2012 PB, a GMLRS RDT&E funding increase caused a Total RDT&E cost breach. The increase funded technological enhancements to the GMLRS Unitary based on emerging requirements currently in the Joint Capabilities Integration Development System process. Future increments of GMLRS will utilize these enhancements to further reduce collateral damage and expand target options for the Warfighter.   |
| April 2011     | The GMLRS AW Sole Source J&A for the EMD Contract to Lockheed Martin Missiles and Fire Control-Dallas (LMMFC-D) was approved by the AAE on April 29, 2011.  |
| July 2011      | The Aviation and Missile Command Source Selection Authority completed evaluation of the three competing AW designs on July 25, 2011, and selected the Alliant Techsystems, Inc (ATK) warhead for the GMLRS AW rocket. ATK was designated as the Government-directed subcontractor to LMMFC-D for EMD.   |
| February 2012  | Milestone B Decision Review was executed on February 19, 2012, approving entry into EMD.  |
| July 2013      | The GMLRS AW program successfully completed the Critical Design Review at the system level. All Engineering Development Test flight tests were successfully completed (seven rockets fired over three tests), placing the program on track to meet the reliability growth curve.  |
| September 2013 | The Precision Fires Rocket and Missile Systems Project Office took delivery of the 20,000th GMLRS rocket.   |
| September 2014 | The GMLRS AW warhead production line was assessed at Manufacturing Readiness Level (MRL) 9 in   |

|                |   |
|----------------|---|
|                | September 2014. The rocket integration production line at Lockheed Martin-Camden, Arkansas, was assessed at MRL 9 in October 2014.  |
| November 2014  | The GMLRS AW program successfully completed all testing for the EMD phase. 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.   |
| April 2015     | The GMLRS AW program successfully completed the combined Milestone C and FRP Decision Review on April 8, 2015. The GMLRS AW Cost Position was approved on April 15, 2015. The ADM to enter into Production and Deployment and begin FRP and the revised APB were approved by the AAE on May 20, 2015. |
| September 2015 | GMLRS AW completed IOT&E with an assessed reliability of 0.97 (29 Flight Success of 30 attempts). GMLRS AW test program achieved an overall reliability of 0.99 (98 Flight Success of 99 Attempts). The JROC was briefed in September 2015.   |
| March 2016     | IM rocket motor contracts were awarded to Orbital ATK and Aerojet Rocketdyne on March 4, 2016, for \$17.8M and \$13.8M, respectively. The two 22-month contracts result in qualified IM rocket motor for GMLRS.   |
| July 2016      | The first six GMLRS AW rocket pods were delivered to Letterkenny Munitions Center on July 7, 2016.  |
| September 2016 | The GMLRS AW program successfully completed IOC in November 2016. The IOC quantity of 54 GMLRS AW pods was delivered in September 2016. Type Classification was approved on October 13, 2016. Full Materiel Release was approved on November 7, 2016.   |
| October 2016   | The Deputy Secretary of Defense directed the Army to conduct a 140-Km range, multi-domain, GMLRS improvement program. The AAE approved and signed the Extended Range (ER) GMLRS modification memorandum on June 26, 2017.   |
| May 2017       | The Precision Fires Rocket and Missile Systems Project Office executed a GMLRS Unitary Reliability Scoring Conference on May 25, 2017, and assessed the continuous reliability of the GMLRS Unitary at 0.94 (172 Flight Successes of 182 Attempts).   |
| June 2017      | The GMLRS/GMLRS AW program experienced breaches in RDT&E costs and PAUC as the result of additional Army funding in FY 2018 through FY 2022 to support modification and testing of the ER GMLRS. A PDR was submitted to the MDA.  |
| June 2017      | The Army Acquisition Executive approved management of the ER GMLRS as a modification program by memorandum on June 26, 2017.  |
| June 2018      | The JROC approved an updated GMLRS AW CDD in lieu of CPD which changed the GMLRS Maximum Range (Objective) KPP to 200-Km.   |
| June 2018      | GMLRS FRP XII contract was definitized the NTE price was increased to include purchase of M31 parts to send to Software Engineering Directorate to build a test bed, and extend Period of Performance to December 31, 2019 for the M31 Iron Bird effort.  |
| August 2018    | GMLRS ER Phase II development contract was awarded to finalize performance requirements definition and complete the system's PDR.   |
| September 2018 | GMLRS FRP XIII contract was definitized for \$793.2M.   |

## Threshold Breaches

### APB Breaches

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

### Explanation of Breach

The RDT&E, Procurement, and O&S Cost deviations were previously reported in the December 2017 SAR. A Program Deviation Report dated February 12, 2018 was acknowledged by the Army Acquisition Executive on April 13, 2018.

### Nunn-McCurdy Breaches

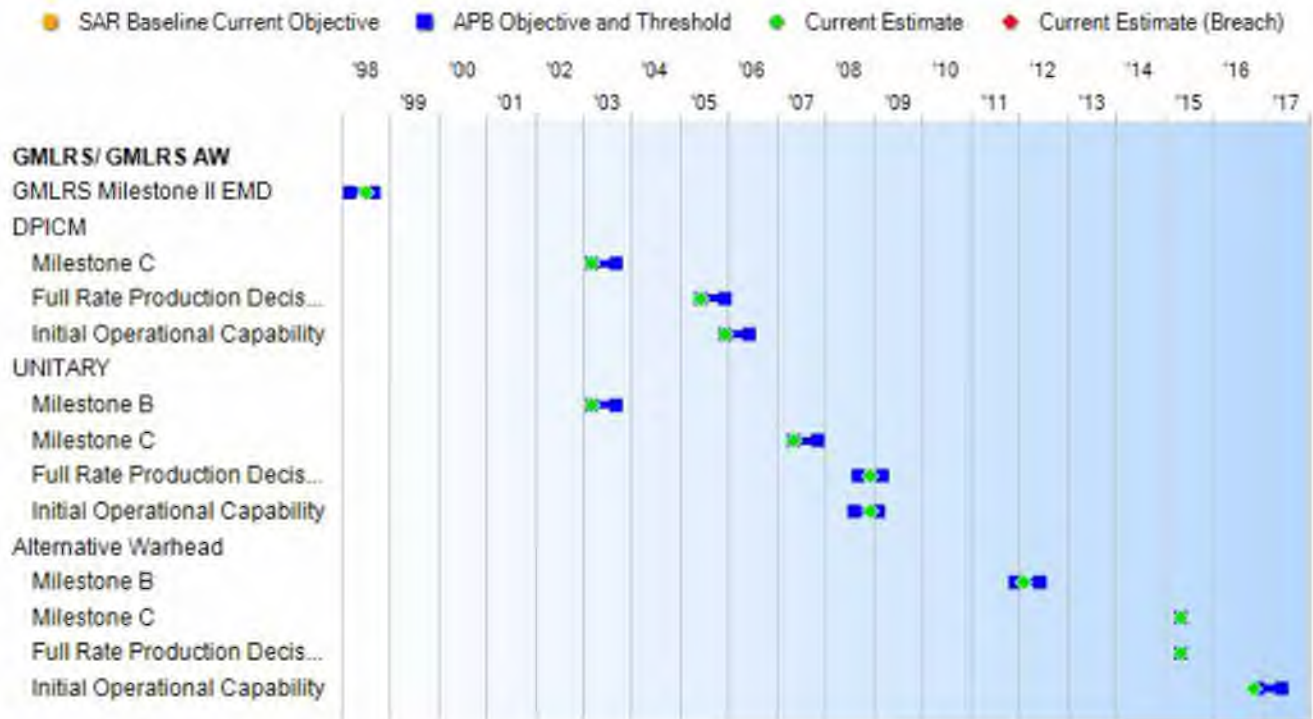
#### Current UCR Baseline

|      |      |
|------|------|
| 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 Milestone II EMD         | Mar 1998                         | Mar 1998                                   | Sep 1998 | Jul 1998         |
| <b>DPICM</b>                   |                                  |  |          |                  |
| 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         |
| <b>UNITARY</b>                 |                                  |  |          |                  |
| 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         |
| <b>Alternative Warhead</b>     |                                  |  |          |                  |
| Milestone B                    | N/A                              | Dec 2011                                   | Jun 2012 | Feb 2012         |
| Milestone C                    | N/A                              | May 2015                                   | May 2015 | May 2015         |
| Full Rate Production Decision  | N/A                              | May 2015                                   | May 2015 | May 2015         |
| Initial Operational Capability | N/A                              | Dec 2016                                   | Jun 2017 | Nov 2016         |

#### Change Explanations

None

#### Acronyms and Abbreviations

DPICM - Dual Purpose Improved Conventional Munition

## 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             | 0.88                     | 0.92             |
| <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              | 84                       | 70               |
| <b>Min (Km)</b>                           |  |                 |                          |                  |
| 10  | 10   | 15              | 15                       | 15               |
| <b>Effectiveness</b>                      |  |                 |                          |                  |
| 30%                                       | 30%  | Functional Kill | Meets Threshold          | 30%              |
| <b>Reliability</b>                        |  |                 |                          |                  |
| .95                                       | .95  | .92             | 0.94                     | 0.94             |
| <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 | Meets Threshold          | Meets Threshold  |



| <b>Reliability</b>        |     |     |      |      |
|---------------------------|-----|-----|------|------|
| N/A                       | .95 | .92 | 0.99 | 0.99 |
| <b>Hazardous Dud Rate</b> |     |     |      |      |
| N/A                       | 0%  | <1% | 0%   | 0%   |

### Requirements Reference

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 CPD), and GMLRS System Alternative Warhead Increment III CDD dated November 8, 2011

### Change Explanations

None

### Notes

The JROC approved an updated GMLRS AW CDD June 27, 2018, in lieu of CPD which changed the GMLRS Maximum Range (Objective) KPP to 200km.

The GMLRS DPICM Demonstrated Performance in Reliability is 0.88. The GMLRS Reliability Working Group conducted a GMLRS DPICM Reliability Scoring Conference on February 28, 2018. The GMLRS DPICM Reliability was assessed at 0.88 (130 Flight Success / 147 Flight Attempts).

The GMLRS Unitary Demonstrated Performance in Reliability is 0.94. The GMLRS Reliability Working Group conducted a GMLRS Unitary Reliability Scoring Conference on February 28, 2018. The GMLRS Unitary Reliability was assessed at 0.94 (177 Flight Success / 188 Flight Attempts).

The GMLRS AW Demonstrated Performance in Reliability is 0.99. The GMLRS Reliability Working Group conducted a GMLRS AW Reliability Scoring Conference on February 28, 2018. The GMLRS AW Reliability was assessed at 0.99 (78 Flight Success / 79 Flight Attempts).

### 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 |
|      | <b>Project</b> | <b>Name</b> |          |
|      | EG2            | GMLRS AW    |          |
|      | EG3            | GMLRS       |          |
| Army | 2040           | 07          | 0603778A |
|      | <b>Project</b> | <b>Name</b> |          |
|      | 784            | GMLRS       | (Sunk)   |
|      | 78G            | GMLRS AW    | (Sunk)   |

#### Procurement

| Appn | BA               | PE           |          |
|------|------------------|--------------|----------|
| Army | 2032             | 02           | 0210602A |
|      | <b>Line Item</b> | <b>Name</b>  |          |
|      | C65404           | GMLRS (Army) |          |
|      | C65406           | GMLRS (Army) |          |

#### Notes

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

#### Acq O&M

| Appn | BA                       | PE   |          |
|------|--------------------------|--|----------|
| Army | 2020                     | 04   | 0702806A |
|      | <b>Subactivity Group</b> | <b>Name</b>  |          |
|      | 435                      | Acquisition and Management Support: Precision (Shared) Fires Rocket and Missile Systems Project Office |          |



## 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 | 909.4  | Current Estimate     | SAR Baseline Production Estimate | Current APB Production Objective | Current Estimate |
| RDT&E                  | 485.4                            | 826.7                                      | 909.4  | 1082.7 <sup>1</sup>  | 500.5                            | 957.1                            | 1312.2           |
| Procurement            | 9294.8                           | 4367.1                                     | 4803.8 | 10052.6 <sup>1</sup> | 11348.4                          | 5796.3                           | 14347.7          |
| Flyaway                | --                               | --   | --     | 10023.0              | --                               | --                               | 14313.8          |
| Recurring              | --                               | --   | --     | 9591.8               | --                               | --                               | 13693.1          |
| Non Recurring          | --                               | --   | --     | 431.2                | --                               | --                               | 620.7            |
| Support                | --                               | --   | --     | 29.6                 | --                               | --                               | 33.9             |
| Other Support          | --                               | --   | --     | 27.3                 | --                               | --                               | 31.0             |
| Initial Spares         | --                               | --   | --     | 2.3                  | --                               | --                               | 2.9              |
| MILCON                 | 0.0                              | 0.0  | 0.0    | 0.0                  | 0.0                              | 0.0                              | 0.0              |
| Acq O&M                | 0.0                              | 0.0  | --     | 18.3                 | 0.0                              | 0.0                              | 27.5             |
| Total                  | 9780.2                           | 5193.8                                     | N/A    | 11153.6              | 11848.9                          | 6753.4                           | 15687.4          |

<sup>1</sup> APB Breach

#### Current APB Cost Estimate Reference

GMLRS Alternative Warhead (AW) Army Cost Position dated April 14, 2015

#### Cost Notes

The RDT&E and Procurement cost deviations were reported in the December 2017 SAR. The RDT&E cost deviation is due to additional RDT&E funding in FY 2018 to FY 2022 to support the modification and testing of Extended Range GMLRS. The Procurement cost breach is due to an increase in procurement quantities to support the Total Army Munitions Requirement.

No additional programmatic risks were identified in the latest POE. The program office will continue to deliver to the Army requirement.

| Total Quantity |                                  |                        |                  |
|----------------|----------------------------------|------------------------|------------------|
| Quantity       | SAR Baseline Production Estimate | Current APB Production | Current Estimate |
| RDT&E          | 235                              | 376                    | 420              |
| Procurement    | 140004                           | 43560                  | 97051            |
| Total          | 140239                           | 43936                  | 97471            |

#### Quantity Notes

The Current Estimate for Procurement quantity changed from 96,186 to 97,051 to reflect the current combined Total Munitions Requirement for Unitary and AW variants of 94,579 plus the historical Dual-Purpose Improved Conventional Munition procurement quantity of 2,472. This change coincides with Army direction provided in the Rescission of the Army Procurement Objective for the Guided Multiple Launch Rocket System memorandum dated November 16, 2018.

## Cost and Funding

### Funding Summary

| Appropriation Summary                                   |        |         |         |         |         |         |         |             |         |
|---|--------|---------|---------|---------|---------|---------|---------|-------------|---------|
| FY 2020 President's Budget / December 2018 SAR (TY\$ M) |        |         |         |         |         |         |         |             |         |
| Appropriation   | Prior  | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | To Complete | Total   |
| RDT&E   | 929.2  | 119.0   | 138.6   | 54.3    | 64.8    | 2.0     | 2.1     | 2.2         | 1312.2  |
| Procurement   | 4433.6 | 975.6   | 1228.8  | 1239.3  | 706.7   | 976.7   | 991.1   | 3795.9      | 14347.7 |
| MILCON  | 0.0    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0         | 0.0     |
| Acq O&M   | 0.0    | 2.8     | 2.8     | 2.9     | 2.9     | 3.0     | 3.1     | 10.0        | 27.5    |
| PB 2020 Total   | 5362.8 | 1097.4  | 1370.2  | 1296.5  | 774.4   | 981.7   | 996.3   | 3808.1      | 15687.4 |
| PB 2019 Total   | 5124.2 | 1141.5  | 736.4   | 712.5   | 786.5   | 881.1   | 730.1   | 6647.8      | 16760.1 |
| Delta   | 238.6  | -44.1   | 633.8   | 584.0   | -12.1   | 100.6   | 266.2   | -2839.7     | -1072.7 |

#### Funding Notes

\$35M FY 2019 RDT&E decrement delays ER GMLRS Early Operational Capability by 9 months.

| Quantity Summary  |               |       |         |         |         |         |         |         |             |       |
|---|---------------|-------|---------|---------|---------|---------|---------|---------|-------------|-------|
| FY 2020 President's Budget / December 2018 SAR (TY\$ M) |               |       |         |         |         |         |         |         |             |       |
| Quantity  | Undistributed | Prior | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | To Complete | Total |
| Development   | 420           | 0     | 0       | 0       | 0       | 0       | 0       | 0       | 0           | 420   |
| Production  | 0             | 33204 | 7818    | 9570    | 9492    | 4620    | 6336    | 5808    | 20203       | 97051 |
| PB 2020 Total   | 420           | 33204 | 7818    | 9570    | 9492    | 4620    | 6336    | 5808    | 20203       | 97471 |
| PB 2019 Total   | 420           | 32630 | 9450    | 5142    | 5118    | 5118    | 3942    | 3798    | 30988       | 96606 |
| Delta   | 0             | 574   | -1632   | 4428    | 4374    | -498    | 2394    | 2010    | -10785      | 865   |



## 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   | --       | --                         | --                             | --                    | --            | --            | 43.7          |
| 2016   | --       | --                         | --                             | --                    | --            | --            | 36.0          |
| 2017   | --       | --                         | --                             | --                    | --            | --            | 21.2          |
| 2018   | --       | --                         | --                             | --                    | --            | --            | 93.9          |
| 2019   | --       | --                         | --                             | --                    | --            | --            | 119.0         |
| 2020   | --       | --                         | --                             | --                    | --            | --            | 138.6         |
| 2021   | --       | --                         | --                             | --                    | --            | --            | 54.3          |
| 2022   | --       | --                         | --                             | --                    | --            | --            | 64.8          |
| 2023   | --       | --                         | --                             | --                    | --            | --            | 2.0           |
| 2024   | --       | --                         | --                             | --                    | --            | --            | 2.1           |
| 2025   | --       | --                         | --                             | --                    | --            | --            | 2.2           |
| Subtotal   | 420      | --                         | --                             | --                    | --            | --            | 1312.2        |

| 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   | --       | --                         | --                             | --                    | --            | --            | 49.1          |
| 2014   | --       | --                         | --                             | --                    | --            | --            | 42.2          |
| 2015   | --       | --                         | --                             | --                    | --            | --            | 33.8          |
| 2016   | --       | --                         | --                             | --                    | --            | --            | 27.6          |
| 2017   | --       | --                         | --                             | --                    | --            | --            | 15.9          |
| 2018   | --       | --                         | --                             | --                    | --            | --            | 69.2          |
| 2019   | --       | --                         | --                             | --                    | --            | --            | 86.4          |
| 2020   | --       | --                         | --                             | --                    | --            | --            | 98.5          |
| 2021   | --       | --                         | --                             | --                    | --            | --            | 37.8          |
| 2022   | --       | --                         | --                             | --                    | --            | --            | 44.3          |
| 2023   | --       | --                         | --                             | --                    | --            | --            | 1.3           |
| 2024   | --       | --                         | --                             | --                    | --            | --            | 1.4           |
| 2025   | --       | --                         | --                             | --                    | --            | --            | 1.4           |
| Subtotal   | 420      | --                         | --                             | --                    | --            | --            | 1082.7        |

| 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   | 450      | 121.5                      | --                             | 5.2                   | 126.7         | 0.4           | 127.1         |  |
| 2016   | 1572     | 234.5                      | --                             | 14.5                  | 249.0         | 2.1           | 251.1         |  |
| 2017   | 2970     | 391.9                      | --                             | 16.4                  | 408.3         | 0.5           | 408.8         |  |
| 2018   | 6528     | 938.6                      | --                             | 88.9                  | 1027.5        | 0.5           | 1028.0        |  |
| 2019   | 7818     | 927.8                      | --                             | 47.3                  | 975.1         | 0.5           | 975.6         |  |
| 2020   | 9570     | 1175.2                     | --                             | 53.1                  | 1228.3        | 0.5           | 1228.8        |  |
| 2021   | 9492     | 1186.5                     | --                             | 52.3                  | 1238.8        | 0.5           | 1239.3        |  |
| 2022   | 4620     | 675.0                      | --                             | 31.2                  | 706.2         | 0.5           | 706.7         |  |
| 2023   | 6336     | 934.1                      | --                             | 42.6                  | 976.7         | --            | 976.7         |  |
| 2024   | 5808     | 947.8                      | --                             | 43.3                  | 991.1         | --            | 991.1         |  |
| 2025   | 5256     | 914.7                      | --                             | 41.9                  | 956.6         | --            | 956.6         |  |
| 2026   | 5388     | 952.2                      | --                             | 43.6                  | 995.8         | --            | 995.8         |  |
| 2027   | 5376     | 970.8                      | --                             | 44.6                  | 1015.4        | --            | 1015.4        |  |
| 2028   | 4183     | 785.5                      | --                             | 36.9                  | 822.4         | --            | 822.4         |  |
| 2029   | --       | --                         | 5.7                            | --                    | 5.7           | --            | 5.7           |  |
| Subtotal                                       | 97051    | 13687.4                    | 5.7                            | 620.7                 | 14313.8       | 33.9          | 14347.7       |  |



| Annual Funding<br>2032   Procurement   Missile Procurement, Army |          |                                  |   |                             |                  |                  |                  |
|--|----------|----------------------------------|---|-----------------------------|------------------|------------------|------------------|
| Fiscal Year  | Quantity | BY 2003 \$M                      |   |                             |                  |                  |                  |
|  |          | End Item<br>Recurring<br>Flyaway | Non End<br>Item<br>Recurring<br>Flyaway | Non<br>Recurring<br>Flyaway | Total<br>Flyaway | Total<br>Support | Total<br>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     | 269.1                            | --                                      | --                          | 269.1            | 0.3              | 269.4            |
| 2013   | 1824     | 184.3                            | --                                      | --                          | 184.3            | 0.3              | 184.6            |
| 2014   | 2166     | 211.3                            | --                                      | 2.4                         | 213.7            | 0.3              | 214.0            |
| 2015   | 450      | 93.9                             | --                                      | 4.0                         | 97.9             | 0.3              | 98.2             |
| 2016   | 1572     | 177.7                            | --                                      | 10.9                        | 188.6            | 1.6              | 190.2            |
| 2017   | 2970     | 290.9                            | --                                      | 12.2                        | 303.1            | 0.4              | 303.5            |
| 2018   | 6528     | 683.3                            | --                                      | 64.7                        | 748.0            | 0.4              | 748.4            |
| 2019   | 7818     | 662.2                            | --                                      | 33.7                        | 695.9            | 0.4              | 696.3            |
| 2020   | 9570     | 822.3                            | --                                      | 37.2                        | 859.5            | 0.3              | 859.8            |
| 2021   | 9492     | 814.0                            | --                                      | 35.9                        | 849.9            | 0.3              | 850.2            |
| 2022   | 4620     | 454.0                            | --                                      | 21.0                        | 475.0            | 0.3              | 475.3            |
| 2023   | 6336     | 615.9                            | --                                      | 28.1                        | 644.0            | --               | 644.0            |
| 2024   | 5808     | 612.7                            | --                                      | 28.0                        | 640.7            | --               | 640.7            |
| 2025   | 5256     | 579.7                            | --                                      | 26.6                        | 606.3            | --               | 606.3            |
| 2026   | 5388     | 591.6                            | --                                      | 27.1                        | 618.7            | --               | 618.7            |
| 2027   | 5376     | 591.4                            | --                                      | 27.1                        | 618.5            | --               | 618.5            |
| 2028   | 4183     | 469.1                            | --                                      | 22.1                        | 491.2            | --               | 491.2            |
| 2029   | --       | --                               | 3.3                                     | --                          | 3.3              | --               | 3.3              |
| Subtotal   | 97051    | 9588.5                           | 3.3                                     | 431.2                       | 10023.0          | 29.6             | 10052.6          |

FY 2020 funding total includes \$431.6M OCO for a quantity of 3,361 rockets.

| Annual Funding                                   |               |      |
|--|---------------|------|
| 2020   Acq O&M   Operation and Maintenance, Army |               |      |
| Fiscal Year                                      | TY \$M        |      |
|  | Total Program |      |
| 2019   |               | 2.8  |
| 2020   |               | 2.8  |
| 2021   |               | 2.9  |
| 2022   |               | 2.9  |
| 2023   |               | 3.0  |
| 2024   |               | 3.1  |
| 2025   |               | 3.1  |
| 2026   |               | 3.1  |
| 2027   |               | 2.9  |
| 2028   |               | 0.9  |
| Subtotal   |               | 27.5 |

| Annual Funding<br>2020   Acq O&M   Operation and Maintenance, Army |                  |
|--|------------------|
| Fiscal<br>Year   | BY 2003 \$M      |
|  | Total<br>Program |
| 2019   | 2.0              |
| 2020   | 2.0              |
| 2021   | 2.0              |
| 2022   | 2.0              |
| 2023   | 2.0              |
| 2024   | 2.0              |
| 2025   | 2.0              |
| 2026   | 2.0              |
| 2027   | 1.8              |
| 2028   | 0.5              |
| Subtotal   | 18.3             |

## 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 GMLRS DPICM Milestone C ADM signed on March 24, 2003, approved an 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, approved an LRIP quantity not to exceed 3,480 rockets based on the total expected procurement quantity of 34,848. The actual GMLRS Unitary LRIP quantity is 2,484 rockets.

The GMLRS AW Milestone B ADM signed on February 19, 2012, 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 is needed. Necessary assets were procured to support IOT&E during EMD.



## Foreign Military Sales

| Country              | Date of Sale | Quantity | Total Cost \$M | Description   |
|----------------------|--------------|----------|----------------|---|
| Finland              | 5/31/2018    | 15       | 17.7           | GMLRS Unitary rockets. Case ID FI-B-VAQ   |
| Finland              | 5/31/2018    | 25       | 28.7           | GMLRS AW rockets. Case ID FI-B-VAP  |
| Germany              | 7/12/2017    | 100      | 82.5           | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR018GE  |
| Finland              | 1/27/2017    | 8        | 8.8            | GMLRS AW Rockets. Case ID FI-B-VAR  |
| France               | 12/22/2016   | 25       | 19.4           | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR012FR  |
| Germany              | 12/20/2016   | 2        | 1.9            | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR017GE  |
| France               | 8/9/2016     | 21       | 24.6           | GMLRS Unitary Rockets. Case ID FR-B-WAN   |
| Jordan               | 2/5/2016     | 24       | 28.9           | GMLRS AW rockets. Case ID JO-B-YAY  |
| United Arab Emirates | 3/12/2015    | 65       | 83.5           | GMLRS Unitary rockets. Case ID AE-B-ZVE   |
| Bahrain              | 6/30/2014    | 8        | 5.6            | GMLRS Unitary rockets. Case ID BA-B-UIW. Originally 6 GMLRS-U pods were on BA-UIW, but due to an increase in cost, only 4 pods were procured. |
| Singapore            | 2/28/2014    | 58       | 54.8           | GMLRS Unitary rockets. Case ID SN-B-VFM   |
| Italy                | 12/5/2012    | 25       | 18.6           | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR004IT  |
| Singapore            | 3/26/2012    | 12       | 10.1           | GMLRS Unitary rockets. Case ID SN-B-VET   |
| Italy                | 11/30/2011   | 11       | 7.8            | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR001IT  |
| Japan                | 5/1/2011     | 28       | 22.5           | GMLRS Unitary rockets. Case ID JA-B-XIJ   |
| Singapore            | 2/25/2011    | 14       | 10.2           | GMLRS Unitary rockets. Case ID SN-N-VEN   |
| Germany              | 11/24/2010   | 2        | 1.3            | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR010GE  |
| United Kingdom       | 2/1/2010     | 72       | 48.9           | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR011UK  |
| Jordan               | 1/27/2010    | 72       | 47.1           | GMLRS Unitary rockets. Case ID JO-B-WYB   |
| France               | 12/4/2009    | 43       | 33.8           | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR004FR  |
| Germany              | 6/1/2009     | 20       | 13.6           | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR009GE  |
| Japan                | 2/1/2009     | 30       | 22.7           | GMLRS Unitary rockets. Case ID JA-B-XGH   |
| United Kingdom       | 1/12/2009    | 50       | 31.5           | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR008UK  |
| France               | 12/18/2008   | 2        | 1.4            | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR002FR  |
| United Kingdom       | 12/5/2008    | 168      | 105.8          | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR007UK  |
| Germany              | 10/15/2008   | 35       | 24.5           | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR006GE  |
| United Kingdom       | 7/25/2008    | 75       | 48.5           | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR003UK  |
| Germany              | 12/31/2007   | 13       | 9.4            | GMLRS Unitary rockets. International Cooperative  |

|                      |           |     |       |  |
|----------------------|-----------|-----|-------|--|
| Singapore            | 12/5/2007 | 18  | 15.0  | Program. Agreement Number GIPR001GE<br>GMLRS Unitary rockets. Case ID SN-B-VDO       |
| United Arab Emirates | 8/1/2007  | 130 | 102.8 | GMLRS DPICM and Unitary rockets. Case ID AE-B-ZUD                                    |
| United Kingdom       | 8/15/2005 | 109 | 67.7  | GMLRS Unitary rockets. International Cooperative Program. Agreement Number GIPR001UK |

### Notes

All quantities are listed as rocket pods. The rocket pod refers to the Launch Pod Container that consists of six guided rockets.

The Multiple Launch Rocket System (MLRS) was cooperatively developed under a Memorandum of Understanding (MOU) partnership between the U.S., United Kingdom (UK), France, Germany and Italy. The design for the GMLRS DPICM rocket was developed under the terms and conditions of the MLRS MOU.

Only the U.S. and the United Arab Emirates (UAE) procured and continue to maintain stockpiles of M30 GMLRS DPICM pods.

Two additional variants of GMLRS were developed by the U.S. Army: the M31A1 GMLRS Unitary and M30A1 GMLRS AW. The following nations procured and continue to maintain stockpiles of M31A1 GMLRS Unitary pods: Bahrain, France, Germany, Italy, Japan, Jordan, Singapore, UAE, UK, and U.S.

The U.S., Jordan and Finland procured and continue to maintain stockpiles of M30A1 GMLRS AW.

### Acronyms and Abbreviations

DPICM - Dual Purpose Improved Conventional Munition

### Nuclear Costs

None



**Unit Cost**

| Current UCR Baseline and Current Estimate (Base-Year Dollars) |                                     |                                 |          |
|---|-------------------------------------|---------------------------------|----------|
| Item  | BY 2003 \$M                         | BY 2003 \$M                     | % Change |
|   | Current UCR Baseline (May 2015 APB) | Current Estimate (Dec 2018 SAR) |          |
| <b>Program Acquisition Unit Cost</b>                          |                                     |                                 |          |
| Cost  | 5193.8                              | 11153.6                         |          |
| Quantity  | 43936                               | 97471                           |          |
| Unit Cost   | 0.118                               | 0.114                           | -3.39    |
| <b>Average Procurement Unit Cost</b>                          |                                     |                                 |          |
| Cost  | 4367.1                              | 10052.6                         |          |
| Quantity  | 43560                               | 97051                           |          |
| Unit Cost   | 0.100                               | 0.104                           | +4.00    |

| Original UCR Baseline and Current Estimate (Base-Year Dollars) |  |                                 |          |
|--|--|---------------------------------|----------|
| Item   | BY 2003 \$M                                  | BY 2003 \$M                     | % Change |
|  | Revised Original UCR Baseline (Jun 2007 APB) | Current Estimate (Dec 2018 SAR) |          |
| <b>Program Acquisition Unit Cost</b>                           |  |                                 |          |
| Cost   | 4578.4                                       | 11153.6                         |          |
| Quantity   | 43795  | 97471                           |          |
| Unit Cost  | 0.105  | 0.114                           | +8.57    |
| <b>Average Procurement Unit Cost</b>                           |  |                                 |          |
| Cost   | 3966.7                                       | 10052.6                         |          |
| Quantity   | 43560  | 97051                           |          |
| Unit Cost  | 0.091  | 0.104                           | +14.29   |

The GMLRS hardware maintains approximately 80 percent commonality regardless of which warhead is integrated into the system. Consequently, changes in cost of any variant directly affect the APUCs and PAUCs of the others.

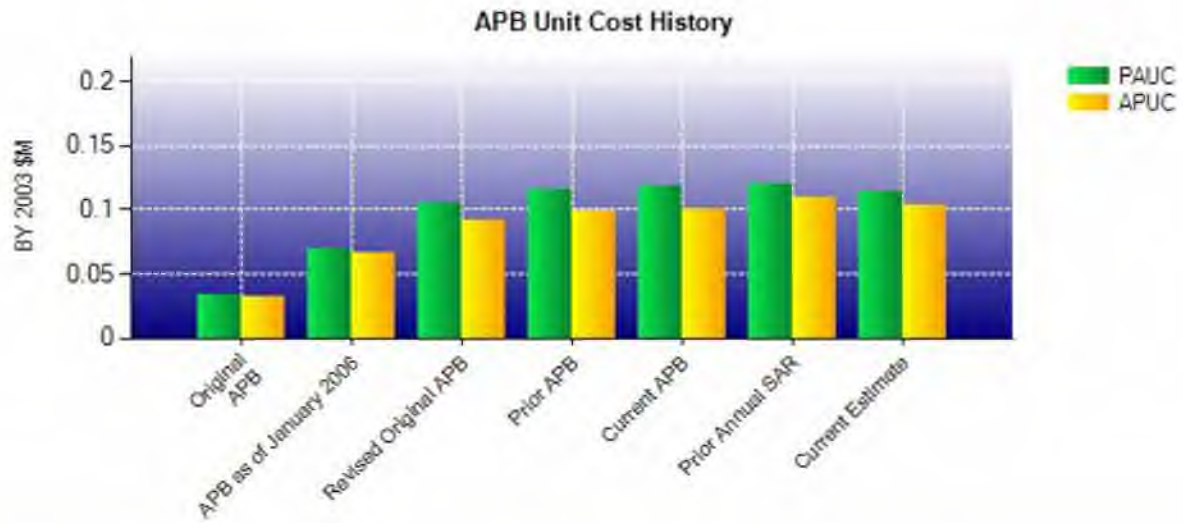
The split-out APUC and PAUC of the GMLRS variants are:

GMLRS DPICM APUC (\$0.133M (BY\$ 2003); Qty = 2,472)  
 GMLRS UNITARY APUC (\$0.092M (BY\$ 2003); Qty = 49,894)  
 GMLRS AW APUC (\$0.098M (BY\$ 2003); Qty = 33,117)  
 GMLRS Unitary ER APUC (\$0.138M (BY\$ 2003), Qty = 5,784)  
 GMLRS AW ER APUC (\$0.147M (BY\$ 2003), Qty = 5,784)

GMLRS DPICM PAUC (\$0.189M (BY\$ 2003); Qty = 2,565)  
 GMLRS UNITARY PAUC (\$0.099M (BY\$ 2003); Qty = 50,036)  
 GMLRS AW PAUC (\$0.104M (BY\$ 2003); Qty = 33,258)  
 GMLRS Unitary ER PAUC (\$0.181M (BY\$ 2003), Qty = 5,807)  
 GMLRS AW ER PAUC (\$0.190M (BY\$ 2003), Qty = 5,805)



All GMLRS variants benefit from RDT&E funded future system enhancements (insensitive munitions, obsolescence, cost reduction initiatives), therefore an artificial pro-rating must be calculated to include them in the split-out PAUCs above. The split-out PAUCs exclude the funding for these future enhancements; these dollars are included in the composite PAUC shown in the Unit Cost section.



| APB 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              | Feb 2012 | 0.116       | 0.099 | 0.146  | 0.127 |
| Current APB            | May 2015 | 0.118       | 0.100 | 0.154  | 0.133 |
| Prior Annual SAR       | Dec 2017 | 0.120       | 0.109 | 0.173  | 0.160 |
| Current Estimate       | Dec 2018 | 0.114       | 0.104 | 0.161  | 0.148 |

### 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   | 0.006   | 0.003 | 0.026 | 0.000 | 0.042 | 0.000 | 0.000 | 0.077 | 0.161                 |

| 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   | 0.006   | -0.002 | 0.027 | 0.000 | 0.036 | 0.000 | 0.000 | 0.067 | 0.148                 |

| 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                | Mar 2003         | Mar 2003 |
| IOC                  |                       | N/A                      | Apr 2004                | Nov 2006         | Dec 2005 |
| Total Cost (TY \$M)  |                       | N/A                      | 1688.6                  | 11848.9          | 15687.4  |
| Total Quantity       |                       | N/A                      | 43182                   | 140239           | 97471    |
| PAUC                 |                       | N/A                      | 0.039                   | 0.084            | 0.161    |

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 and GMLRS AW variant was approved May 2015. IOC for the GMLRS Unitary variant was approved December 2008 and GMLRS AW variant was approved November 2016.



**Cost Variance**

| Summary TY \$M                     |               |                |           |              |                |
|------------------------------------|---------------|----------------|-----------|--------------|----------------|
| Item                               | RDT&E         | Procurement    | MILCON    | Acq O&M      | Total          |
| SAR Baseline (Production Estimate) | 500.5         | 11348.4        | --        | --           | 11848.9        |
| Previous Changes                   |               |                |           |              |                |
| Economic                           | -2.2          | +493.5         | --        | --           | +491.3         |
| Quantity                           | +212.0        | -3767.2        | --        | --           | -3555.2        |
| Schedule                           | -9.1          | +2994.5        | --        | --           | +2985.4        |
| Engineering                        | --            | +24.0          | --        | --           | +24.0          |
| Estimating                         | +646.8        | +4257.8        | --        | +45.0        | +4949.6        |
| Other                              | --            | --             | --        | --           | --             |
| Support                            | --            | +16.1          | --        | --           | +16.1          |
| <b>Subtotal</b>                    | <b>-847.5</b> | <b>+4018.7</b> | <b>--</b> | <b>+45.0</b> | <b>+4911.2</b> |
| Current Changes                    |               |                |           |              |                |
| Economic                           | +5.4          | +122.3         | --        | +0.3         | +128.0         |
| Quantity                           | --            | +85.1          | --        | --           | +85.1          |
| Schedule                           | --            | -412.8         | --        | --           | -412.8         |
| Engineering                        | --            | +0.2           | --        | --           | +0.2           |
| Estimating                         | -41.2         | -808.1         | --        | -17.8        | -867.1         |
| Other                              | --            | --             | --        | --           | --             |
| Support                            | --            | -6.1           | --        | --           | -6.1           |
| <b>Subtotal</b>                    | <b>-35.8</b>  | <b>-1019.4</b> | <b>--</b> | <b>-17.5</b> | <b>-1072.7</b> |
| <b>Total Changes</b>               | <b>+811.7</b> | <b>+2999.3</b> | <b>--</b> | <b>+27.5</b> | <b>+3838.5</b> |
| CE - Cost Variance                 | 1312.2        | 14347.7        | --        | 27.5         | 15687.4        |
| CE - Cost & Funding                | 1312.2        | 14347.7        | --        | 27.5         | 15687.4        |

| Summary BY 2003 \$M                |        |             |        |         |         |
|------------------------------------|--------|-------------|--------|---------|---------|
| Item                               | RDT&E  | Procurement | MILCON | Acq O&M | Total   |
| SAR Baseline (Production Estimate) | 485.4  | 9294.8      | --     | --      | 9780.2  |
| Previous Changes                   |        |             |        |         |         |
| Economic                           | --     | --          | --     | --      | --      |
| Quantity                           | +170.7 | -2688.7     | --     | --      | -2518.0 |
| Schedule                           | -5.1   | +1273.0     | --     | --      | +1267.9 |
| Engineering                        | --     | +16.7       | --     | --      | +16.7   |
| Estimating                         | +462.1 | +2538.0     | --     | +28.7   | +3028.8 |
| Other                              | --     | --          | --     | --      | --      |
| Support                            | --     | +12.5       | --     | --      | +12.5   |
| Subtotal                           | +627.7 | +1151.5     | --     | +28.7   | +1807.9 |
| Current Changes                    |        |             |        |         |         |
| Economic                           | --     | --          | --     | --      | --      |
| Quantity                           | --     | +50.8       | --     | --      | +50.8   |
| Schedule                           | --     | +18.3       | --     | --      | +18.3   |
| Engineering                        | --     | +0.1        | --     | --      | +0.1    |
| Estimating                         | -30.4  | -459.3      | --     | -10.4   | -500.1  |
| Other                              | --     | --          | --     | --      | --      |
| Support                            | --     | -3.6        | --     | --      | -3.6    |
| Subtotal                           | -30.4  | -393.7      | --     | -10.4   | -434.5  |
| Total Changes                      | +597.3 | +757.8      | --     | +18.3   | +1373.4 |
| CE - Cost Variance                 | 1082.7 | 10052.6     | --     | 18.3    | 11153.6 |
| CE - Cost & Funding                | 1082.7 | 10052.6     | --     | 18.3    | 11153.6 |

Previous Estimate: December 2017



| RDT&E  | \$M          |              |
|--|--------------|--------------|
| Current Change Explanations  | Base Year    | Then Year    |
| Revised escalation indices. (Economic)   | N/A          | +5.4         |
| Revised estimate to conduct qualification and test for Insensitive Munitions Propulsion System. (Estimating) | -1.1         | -0.8         |
| Revised estimate for ER GMLRS development to reflect Congressional mark in FY 2019. (Estimating)             | -27.6        | -38.1        |
| Adjustment for current and prior escalation. (Estimating)  | -1.7         | -2.3         |
| <b>RDT&amp;E Subtotal</b>  | <b>-30.4</b> | <b>-35.8</b> |

| Procurement   | \$M           |                |
|---|---------------|----------------|
| Current Change Explanations   | Base Year     | Then Year      |
| Revised escalation indices. (Economic)  | N/A           | +122.3         |
| Total Quantity variance resulting from an increase of 865 GMLRS from 96,186 to 97,051. (Subtotal)   | +95.3         | +159.6         |
| Quantity variance resulting from an increase of 865 GMLRS from 96,186 to 97,051. (Quantity)   | (+50.8)       | (+85.1)        |
| Allocation to Schedule resulting from Quantity change. (Schedule) (QR)  | (+18.3)       | (+30.6)        |
| Allocation to Engineering resulting from Quantity change. (Engineering) (QR)  | (+0.1)        | (+0.2)         |
| Allocation to Estimating resulting from Quantity change. (Estimating) (QR)  | (+26.1)       | (+43.7)        |
| Additional quantity variance due to a change in the mix of rocket variants with different price points. The acceleration of the procurement buy profile results in lower annual unit costs due to economies of scale and reduction in the amount of ER variants to be procured. (Estimating) (QR) | -469.7        | -830.1         |
| Acceleration of procurement buy profile due to increase of production capacity in FY 2019. (Schedule) (QR)  | 0.0           | -443.4         |
| Adjustment for current and prior escalation. (Estimating)   | -15.7         | -21.7          |
| Decrease in Other Support to align with final year of Training Aids and simulation funding from FY 2033 to FY 2022. (Support) (QR)  | -3.6          | -6.1           |
| <b>Procurement Subtotal</b>   | <b>-393.7</b> | <b>-1019.4</b> |

(QR) Quantity Related

| Acq O&M   | \$M          |              |
|---|--------------|--------------|
| Current Change Explanations   | Base Year    | Then Year    |
| Revised escalation indices. (Economic)  | N/A          | +0.3         |
| Revised estimate to reflect acceleration of last year of production from FY 2033 to FY 2028. (Estimating) | -10.3        | -17.7        |
| Adjustment for current and prior escalation. (Estimating)   | -0.1         | -0.1         |
| <b>Acq O&amp;M Subtotal</b>   | <b>-10.4</b> | <b>-17.5</b> |

## Contracts

### Contract Identification

**Appropriation:** Procurement  
**Contract Name:** GMLRS FRP X  
**Contractor:** Lockheed Martin Missiles and Fire Control - Dallas  
**Contractor Location:** 1701 W Marshall Drive  
 Grand Prairie, TX 75051-0000  
**Contract Number:** W31P4Q-15-C-0103  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Fixed Fee (CPFF)  
**Award Date:** June 04, 2015  
**Definitization Date:** November 01, 2016

### Contract Price

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price At Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 226.9                        | N/A     | 924 | 223.2                        | 223.2   | 924 | 223.2                               | 223.2           |

### Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the increase in Low Cost, Reduced Range Practice Rocket (LCRRPR) pod quantities for the Army.

### Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FPIF/CPFF) contract.

### General Contract Variance Explanation

Cost and schedule variances are not reported for the incentive portion of this contract because an EVM Waiver and Class Deviation was approved by the Army Acquisition Executive on December 6, 2015, for all FPIF FRP contracts subsequent to FRP Lot 1.

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



**Notes**

The contract was executed June 4, 2015, as an undefinitized contract action change order in the Not-To-Exceed (NTE) amount of \$226.9M. The NTE was awarded for GMLRS AW and LCRRPR requirements and Depot Spares for the Army, U.S. Marine Corps, Bahrain and United Arab Emirates.

FRP X was originally combined with FRP IX and was decoupled during OSD Peer Review. Additional delays in definitization were caused by changing contract type from FFP to FPIF, Army Peer Review requirements and Army Contracting Command personnel shortages. FRP X was definitization on November 1, 2016.

The Period of Performance (PoP) was extended from March 2017 to December 2017 for incoming Receiving Inspection Rework for a U.S. Marine Corps GMLRS AW pod.

P00023 extended the contract PoP from December 2017 to September 2019 to incorporate \$10K for tooling to support increased production capacity. P00027 extended the PoP to July 2020 to support the longest lead time supplier in the increased production capacity effort, P00028 executed 75% of the 10K funding for the tooling effort.



**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** GMLRS FRP XI  
**Contractor:** Lockheed Martin Missiles and Fire Control - Dallas  
**Contractor Location:** 1701 W Marshall Drive  
 Grand Prairie, TX 75051-0000  
**Contract Number:** W31P4Q-16-C-0102  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Fixed Fee (CPFF)  
**Award Date:** May 19, 2016  
**Definitization Date:** December 01, 2017

| Contract Price               |         |      |                              |         |      |                                     |                 |
|------------------------------|---------|------|------------------------------|---------|------|-------------------------------------|-----------------|
| Initial Contract Price (\$M) |         |      | Current Contract Price (\$M) |         |      | Estimated Price At Completion (\$M) |                 |
| Target                       | Ceiling | Qty  | Target                       | Ceiling | Qty  | Contractor                          | Program Manager |
| 331.7                        | 331.7   | 4974 | 499.0                        | 499.0   | 7158 | 499.0                               | 499.0           |

**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.

**Cost and Schedule Variance Explanations**

Cost and Schedule Variance reporting is not required on this (FPIF/CPFF) contract.

**General Contract Variance Explanation**

Cost and schedule variances are not reported for the incentive portion of this contract because an EVM Waiver and Class Deviation was approved by the Army Acquisition Executive on December 6, 2015, for all FPIF FRP contracts subsequent to FRP Lot 1.

Cost and schedule variances are not reported for the cost portion of this contract because an EVM deviation was granted by the Army Contracting Command on January 31, 2019, with the EVM for FRP XI Memorandum.

**Notes**

The contract was executed May 19, 2016, as an undefinitized contract action change order in the Not-To-Exceed (NTE) amount of \$331.7M. The NTE was awarded for GMLRS AW and Low Cost, Reduced Range Practice Rocket (LCRRPR) requirements for the Army, U.S. Marine Corps, Finland, Israel, Jordan and Singapore. The NTE was updated on July 27, 2016, to the amount of \$321.4M.

Definitization was December 1, 2017, to include 240 GMLRS AW rockets and 1944 LCRRPR. P00020 modification added 2400 Insensitive Munition (IM) Propulsion Systems, and funding was increased by \$91.3M.

The target price increased due to additional efforts to include GMLRS Phase II pod replacement and the IMPS Phase II. The Period of Performance was extended to August 31, 2020 to coincide with delivery of IM Motors.

Initial quantity of 1944 (this was the added LCRRPR) was reported in error, the correct initial should have been reported as 4974, with the added 240 GMLRS AW rockets and 1944 LCRRPR the current quantity is 7158.



**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** GMLRS FRP XII  
**Contractor:** Lockheed Martin Missiles and Fire Control - Dallas  
**Contractor Location:** 1701 W Marshall Drive  
 Grand Prairie, TX 75051-0000  
**Contract Number:** W31P4Q-17-C-0080  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Fixed Fee (CPFF)  
**Award Date:** May 19, 2016  
**Definitization Date:** June 01, 2018

| Contract Price               |         |      |                              |         |      |                                     |                 |
|------------------------------|---------|------|------------------------------|---------|------|-------------------------------------|-----------------|
| Initial Contract Price (\$M) |         |      | Current Contract Price (\$M) |         |      | Estimated Price At Completion (\$M) |                 |
| Target                       | Ceiling | Qty  | Target                       | Ceiling | Qty  | Contractor                          | Program Manager |
| 471.7                        | 471.7   | 5736 | 425.0                        | 425.0   | 5796 | 471.7                               | 471.7           |

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the purchase of M31 parts to send to Software Engineering Directorate to build a testbed and to extend Period of Performance to December 31, 2019 for the M31 Iron Bird effort.

**Cost and Schedule Variance Explanations**

Cost and Schedule Variance reporting is not required on this (FPIF/CPFF) contract.

**General Contract Variance Explanation**

Cost and schedule variances are not reported for the incentive portion of this contract because an EVM Waiver and Class Deviation was approved by the Army Acquisition Executive on December 6, 2015, for all FPIF FRP contracts subsequent to FRP Lot 1.

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

**Notes**

The contract was executed on June 15, 2017, as an undefinitized contract award in the Not-To-Exceed (NTE) amount of \$471.7M. The NTE was awarded for GMLRS AW and Unitary Rockets, plus LCRRPR requirements for the Army, U.S. Marine Corps, Germany, France, Finland, and Singapore.

FRP XII contract was definitized on June 1, 2018. Added NTE for purchase of M31 parts to send to Software Engineering Directorate to build a testbed. Extended Period of Performance to December 31, 2019 for the M31 Iron Bird effort.



**Contract Identification**

**Appropriation:** Procurement  
**Contract Name:** GMLRS FRP XIII  
**Contractor:** Lockheed Martin Missiles and Fire Control - Dallas  
**Contractor Location:** 1701 W. Marshall Dr.  
 Grande Prairie, TX 75051  
**Contract Number:** W31P4Q-18-C-0049  
**Contract Type:** Fixed Price Incentive(Firm Target) (FPIF), Cost Plus Fixed Fee (CPFF)  
**Award Date:** April 28, 2018  
**Definitization Date:** September 11, 2018

**Contract Price**

| Initial Contract Price (\$M) |         |       | Current Contract Price (\$M) |         |       | Estimated Price At Completion (\$M) |                 |
|------------------------------|---------|-------|------------------------------|---------|-------|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty   | Target                       | Ceiling | Qty   | Contractor                          | Program Manager |
| 828.7                        | 828.7   | 11196 | 766.3                        | 793.2   | 11196 | 766.3                               | 766.3           |

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to Pod versus Rocket count.

**Cost and Schedule Variance Explanations**

Cost and Schedule Variance reporting is not required on this (FPIF/CPFF) contract.

**General Contract Variance Explanation**

Cost and schedule variances are not reported for the incentive portion of this contract because an EVM Waiver and Class Deviation was approved by the Army Acquisition Executive on December 6, 2015, for all FPIF FRP contracts subsequent to FRP Lot 1.

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

**Notes**

This is the first time this contract is being reported.

The contract was executed on April 27, 2018, as an undefinitized contract action in the Not-to-Exceed (NTE) amount of \$828.7M for 6,996 rockets. The contract was awarded below the NTE for GMLRS AW and Unitary Rockets 6,996 tactical rockets and 4,200 LCRRPR requirements for the Army, U.S. Marine Corps, and Romania. The contract was definitized September 11, 2018, for a quantity of 11,196 rockets.

## Deliveries and Expenditures

| Deliveries                       |                 |                |                |                   |
|----------------------------------|-----------------|----------------|----------------|-------------------|
| Delivered to Date                | Planned to Date | Actual to Date | Total Quantity | Percent Delivered |
| Development                      | 420             | 420            | 420            | 100.00%           |
| Production                       | 25272           | 25272          | 97051          | 26.04%            |
| Total Program Quantity Delivered | 25692           | 25692          | 97471          | 26.36%            |

| Expended and Appropriated (TY \$M) |         |                            |        |
|------------------------------------|---------|----------------------------|--------|
| Total Acquisition Cost             | 15687.4 | Years Appropriated         | 22     |
| Expended to Date                   | 4669.1  | Percent Years Appropriated | 68.75% |
| Percent Expended                   | 29.76%  | Appropriated to Date       | 6460.2 |
| Total Funding Years                | 32      | Percent Appropriated       | 41.18% |

The above data is current as of March 11, 2019.



## Operating and Support Cost

### Cost Estimate Details

|                                 |                   |
|---------------------------------|-------------------|
| <b>Date of Estimate:</b>        | December 03, 2018 |
| <b>Source of Estimate:</b>      | POE               |
| <b>Quantity to Sustain:</b>     | 16175             |
| <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 2040 |

The O&S Costs include all variants (Dual Purpose Improved Conventional Munition (DPICM), Unitary, Alternative Warhead (AW), Extended Range (ER) Unitary and ER AW). The rocket pod refers to the Launch Pod Container that consists of six guided rockets with an expected service life of ten years and procurement of 16,175 rocket pods (total of 97,051 rockets). The 420 RDT&E rockets are test articles and will be 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 was upgraded to incorporate GMLRS AW in 3rd Quarter FY 2016.

### Antecedent Information

No Antecedent

| Cost Element                   | Annual O&S Costs BY2003 \$K                              |                            |
|--------------------------------|--|----------------------------|
|                                | GMLRS/ GMLRS AW<br>Average Annual Cost Per Rocket<br>Pod | No Antecedent (Antecedent) |
| Unit-Level Manpower            | 0.000  | --                         |
| Unit Operations                | 0.030  | --                         |
| Maintenance                    | 0.727  | --                         |
| Sustaining Support             | 1.720  | --                         |
| Continuing System Improvements | 0.048  | --                         |
| Indirect Support               | 0.000  | --                         |
| Other                          | 0.000  | --                         |
| <b>Total</b>                   | <b>2.525</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 Antecedent<br>(Antecedent) |
|                  | Current Production APB<br>Objective/Threshold |       | Current Estimate         |                               |
| <b>Base Year</b> | 204.8   | 225.3 | <b>408.4<sup>1</sup></b> | N/A                           |
| <b>Then Year</b> | 337.0   | N/A   | 645.7                    | N/A                           |

<sup>1</sup> APB O&S Cost Breach

The O&S Cost deviation was reported in the December 2017 SAR and is due to an increase in quantities from 43,560 to 97,051 to support the Total Army Munitions Requirements.

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

Total O&S Cost = Average Annual Cost per Rocket Pod x Number of Rocket Pods x Life per Rocket Pod = \$2.525K x 16,175 Rocket Pods x 10 Years = \$408.4 (BY 2003 \$K)

| O&S Cost Variance                            |                |  |
|--|----------------|--|
| Category                                     | BY 2003<br>\$M | Change Explanations  |
| Prior SAR Total O&S Estimates - Dec 2017 SAR | 441.8          |  |
| Programmatic/Planning Factors                | -33.4          | The last year of production shifted from FY 2033 to FY 2028. |
| Cost Estimating Methodology                  | 0.0            |  |
| Cost Data Update                             | 0.0            |  |
| Labor Rate                                   | 0.0            |  |
| Energy Rate                                  | 0.0            |  |
| Technical Input                              | 0.0            |  |
| Other  | 0.0            |  |
| <b>Total Changes</b>                         | <b>-33.4</b>   |  |
| Current Estimate                             | 408.4          |  |

#### Disposal Estimate Details

|  |                   |
|--|-------------------|
| <b>Date of Estimate:</b>                                   | December 03, 2017 |
| <b>Source of Estimate:</b>                                 | POE               |
| <b>Disposal/Demilitarization Total Cost (BY 2003 \$M):</b> | 94.3              |