Precision Fires Rocket and Missile Systems

Portfolio Overview to the Precision Strike Association

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Precision Fires Rocket and Missile Systems

**Mission:**
Through effective program management and a professional workforce; develop, produce, field, and sustain the Precision Fires family of launchers and munitions to fulfill the long-range artillery requirements of the U.S. Warfighter and Allies.

**What We Do:**
- Centralized Management for all Army Multiple Launch Rocket System Launcher platforms and associated Munitions suite
- Full Life-Cycle Management of Assigned Systems
- World Wide Support of Fielded Weapon Systems
- Key Link Between the User and Tech Base

**What We Manage:**
- Two Field Artillery Rocket / Missile Launcher Platforms
- Three MLRS Rocket and Two Missile Programs
- MLRS International Cooperative Development Program
- Fifty-five active FMS Cases with total case value of $1.28B
- Japanese Fire Control and Rocket Co-production

**Vision:**
Be a values based team providing the best long-range precision fires capability to the U.S. Warfighter and Allies.

**Workforce:**
- Military 8
- Government 219
- Support Contractors 82

Managing FY15
President’s Budget
$675M
FMS Undelivered Value
$212M, 11 Countries

To Support the Warfighter
Always On Target!

UNCLASSIFIED

PFRMS Launcher Platform Overview

**Program Description:**

**M270A1 Multiple Launch Rocket System (MLRS):**
- Combat-proven tracked launcher
- Mounted on modified Bradley M993 chassis
- Lightly Armored / man-rated 3 Man crew cab
- Rapidly deployable via C-17 and C-5
- Operable 24/7 in all weather and visibility conditions
- Fires entire MLRS / ATACMS Family of Munitions
- Carries 2 Pods of 6 Rockets or 1 Missile each
- Uses Improved Fire Control System (IFCS)
- On-board Self Reload / Self Location systems

**M142 High Mobility Artillery Rocket System (HIMARS):**
- Combat-proven wheeled MLRS
- Mounted on modified M1140A1 five-ton FMTV chassis
- Armored / man-rated 3 Man crew cab
- Rapidly deployable via C-130 and C-17
- Operable 24/7 in all weather and visibility conditions
- Fires entire MLRS / ATACMS Family of Munitions
- Carries 1 Pod of 6 Rockets or 1 Missile
- Uses Universal Fire Control System (UFCS)
- On-board Self Reload / Self Location system
PFRMS Munitions Overview

GMLRS DPICM (M30)
- Range: 15 – 84 km
- Payload: 404 M101s
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: 3,936
- Expenditures: US: 0

2004

GMLRS Unitary (M31 / M31A1)
- Range: 15 – 84 km
- Payload: 200lb-Class High Explosive / Blast Fragmentation
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: 17,184
- Expenditures: 3,141 (US: 1,255; USMC: 1,069; UK: 817)

2005

GMLRS Alternative Warhead (M30A1)
- Range: 15 – 84 km
- Payload: 200lb-Class High Explosive with Penetrators
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: N/A
- Expenditures: N/A

2015

Practice Rocket (M28A1 / M28A2)
- Range: 8 – 15 km
- Payload: Inert
- Guidance: None
- Quantity Produced: 110,748
- Expenditures: US: 42,000+

2003

ATACMS Block I (M39)
- Range: 25-165 km
- Payload: 950 M74s
- Guidance: Inertial
- Quantity Produced: 1,650
- Expenditures: Desert Storm: 32 / OIF: 379

1991

ATACMS Block IA (M39A1)
- Range: 70-300 km
- Payload: 300 M74s
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: 610
- Expenditures: OIF: 74

1997

ATACMS Quick Reaction Unitary (M48)
- Range: 70-300 km
- Payload: WDU-18 WHD / FMU-141/B PD Fuse
- Guidance: Inertial w/ GPS Aided
- Quantity Produced: 176
- Expenditures: OIF: 16 / OEF: 42

2001

ATACMS TACMS 2000 (M57)
- Range: 70-300 km
- Payload: WDU-18 WHD / FMU-161/B PD Fuse / Proximity Sensor
- Guidance: Inertial w/ GPS Aided
- Army Acq Obj: TBD
- Expenditures: N/A

2004

ATACMS Modifications (M57)
- Range: 70-300 km
- Payload: WDU-18 WHD / FMU-161/B PD Fuse / Proximity Sensor
- Guidance: Inertial w/ GPS Aided
- Army Acq Obj: TBD
- Expenditures: N/A

2016

Long Range Precision Fires (TBD)
- Range: 75-300 km
- Payload: TBD
- Guidance: TBD
- Army Acq Obj: TBD
- Expenditures: N/A

2023

As of 17 February 2015
GMLRS Unitary and Alternative Warhead Commonality

Unitary and AW Rockets are 90% common

Unitary Warhead (GD-OTS)
- Explosively Formed Steel Case Fragments
- Multiple Fuzing Options
- Precision Strike with Low Collateral Damage

Alternative Warhead (ATK)
- Pre-formed Penetrators
- Insensitive Munitions Design (Blow-out Venting)
- Area and Imprecisely Located Targets

Successful AW EMD Flight Tests:
Total of 75 rockets with 99% point reliability (74/75 success)

Successful AW Arena Tests:
Oct '13 and Jan '14

Legend:
Common Components
Unique Components
GMLRS Alternative Warhead (AW) Overview

**Requirement**

- Army requirement to service area and imprecisely located targets remains valid (JROC validated 11/8/11)
- GMLRS DPICM currently satisfies this Requirement
- DoD Policy on Cluster Munitions (CM) requires all cluster-type munitions to produce no more than 1% unexploded ordnance (UXO) by Jan 2019
- Current GMLRS DPICM does not meet DoD CM policy requirement; AW has 0% UXO by design

**Capabilities**

- Same Target Set / Environment as DPICM
- Same Guidance and Control, Motor, Aft Section as Unitary and DPICM
- Inertial (IMU) Guidance with GPS augmentation
- Minimum Range: 15km; Maximum Range: 70km
- Compatible with M270A1 and HIMARS Launchers

**Schedule**

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<td><strong>Alternative Warhead</strong></td>
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**Description / Status**

- ACAT IC (GMLRS)
- Preformed penetrators
- Warhead design incorporates Insensitive Munitions (IM) features
- Milestone (MS) A: 11 Sep 2009
- MS B: 19 Feb 2012
- MS C & FRP DR: Mar 2015
GMLRS Alternative Warhead Summary

- Completed developmental and operational testing with 0.987 reliability (74 successful flights for 75 attempts)
- Milestone C / FRP decision in April 2015
- US production on GMLRS FRP X contract with FY16 delivery
- “Should Cost” initiative delivering capability ahead of schedule and under cost
Why We Need
Long Range Precision Fires Capability

Max Range of Tube Artillery
(up to 40 km)

Max Range of GMLRS
(up to 84 km)

LRPF Range
(300 + km)
Long Range Precision Fires Overview

- **Description:**
  - 300+ km range threshold with a 200+lb class warhead
  - All weather, 24/7 responsive fires
  - Cluster Munition Policy compliant area effects
  - Leverages existing Guidance, Propulsion, CAS, Warhead and Fuze technologies

- **Warfighter Payoff:**
  - 2 Missiles per Launch Pod Container
  - Compatible with M270A1 and M142 Launchers
  - Sustains and advances Army missile capability to 2050 and beyond at affordable cost

- **Program Status:**
  - Completed MDD on 6 Nov 2013 -- Pre-MDAP
  - TRAC-WSMR conducting Analysis of Alternatives (AoA)
  - AoA expected completion 2Q FY15
  - MS A Oct 2015
GMLRS Alternative Warhead
QUESTIONS ?