Precision Fires
Rocket and Missile Systems

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Darren McConnell
Director, Systems Engineering and Integration
Precision Fires Rocket and Missile Systems
Phone (256) 876-6128 (DSN 746)
Email: darren.mcconnell@msl.army.mil

Any Warfighter - Anywhere - All The Time
Any Warfighter, Anywhere, All The Time

PFRMS Systems at War

- All systems are supporting the Global War on Terrorism
- Currently supporting Operation Iraqi Freedom and Operation Enduring Freedom
- Performance is above Army Standards
- Launchers returning in excellent condition requiring only routine and minimal maintenance

M270A1
98% Readiness Rate

HIMARS
99% Readiness Rate

GMLRS Unitary
1,124 Rockets Fired
As of 5 Mar 09
98% Reliability

ATACMS
543 Missiles Fired
As of 10 Dec 09
98% Reliability
GMLRS-Unitary Rocket Usage
in Theater

1,124 Total Rockets Fired As Of 5 Mar 2009

Who Shoots GMLRS-U:
US Army
USMC
UK
M270A1
M142
M270B1

US Army Missions
Who Requests GMLRS-U:
Army
USMC
Other
How GMLRS-U is employed:
Troops in Contact
Pre-Planned
Environments employed:
Urban/COIN
Other (TD/Test)

Capability Gap: Persistent, responsive, all-weather, rapidly-deployable, long-range, surface-to-surface, precision-strike capability.

Description
• GPS-Augmented Inertial Guidance
• 200lb-Class HE IM-Compliant Warhead
• Multi-Fuze Selection (Point Detonating, Delay, Proximity)
• 15-70km Range

Current Targets
• Precisely Located/Mensurated Point targets
• Congested/Complex Urban Targets
• Targets in Areas Where Collateral Damage is of Concern

Effectiveness/Reliability
• BDA Shows High Level of Effectiveness
• Rare Reports of Minor Collateral Damage
• Reliability of US Army Missions: 98.68%
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ATACMS QRU Usage In Theater

543 Total Missiles Fired as of 10 Dec 2008

Who uses ATACMS?
- Army
- Marines
- USAF
- Joint Operations

How ATACMS is Employed:
- Time-Sensitive Targets
- Pre-Planned

Employment Environments:
- Initial OIF Conflict
- COIN

Mission Process
- Target located by Multiple Sensors
- Target refined using Precision Strike Suite - Special Operation Forces or Mensuration via Rainstorm/Raindrop, etc.
- Passed to AFATDS for tactical fire control
- Launcher receives and executes mission
• All FAL variants (M270, M270A1, M270B1 and M142) have supported GWOT operations
• Launchers variants currently support both OIF and OEF operations
  – M142s support OIF / OEF
  – M270B1s support OEF
  – M270A1s support OIF
  – M142s support OIF
• Launchers deployed in Theatre continue to perform above Army Standards
  – Operational readiness exceeds 97%
  – Reliability is over 350 hours between System Abort Failures
  – No maintenance issues
• M142 and M270A1 launchers returning from both Theaters are in excellent condition requiring minimal Reset
MLRS Worldwide Third Party Sales

MOU PARTNERS

- **Canada** (17)
- **Slovakia** (26)
- **Finland** (22)
- **Norway** (12)
- **Denmark** (12)
- **Jordan** (18)
- **South Korea** (48)
- **JAPAN** (77)
- **Singapore** (18)
- **UAE** (20)
- **FRANCE**
- **UK**
- **Germany**
- **Italy**
- **US**
- **Greece** (36)
- **Turkey** (12)
- **Egypt** (26)
- **Israel** (48)
- **BahRAIN** (9) + [6]
- **A-30**
- **Oman** (20)
- **Canada** (6)
- **Greece** (A-100)
- **Turkey** (A-71)
- **Egypt** (26)
- **Israel** (A-30)
- **Oman** (A-101)
- (A) **ATACMS**
- () **HIMARS**
- ( ) **M270**
- ( ) **M270A1**
- *Co-Production

1/ | RM-70 Modular Launchers / 810 M26 Rockets

**Potential**
Requirement: Suppress, neutralize, destroy various armored or soft, mobile or fixed, active or passive, precisely or imprecisely located, high-payoff area and point targets

Cluster Munitions Policy Memo (19 Jun 08)
- After 2018, cluster munitions must not produce >1% UXO; limit will not be waived
- No differentiation between types of UXO (hazardous or non-hazardous duds)
- All cluster munition stocks that exceed operational planning requirements will be removed from the inventory as soon as possible, but not later than Jun ‘09

Self Destruct Fuze (SDF) Development and Performance
- Previous UXO Requirement: <2% 20-60km; <4% <20km and >60km
  Does not Comply with the new DOD Policy
- GMLRS DPICM w/pSDF demonstrated “hazardous” dud rate of only 0.15%, overall UXO 3.7%:
  Does not comply with the new DOD Policy
Serviceable Rocket Inventory 2008-2019

<table>
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<th>Munition</th>
<th>Available munitions</th>
<th>Range</th>
<th>2008</th>
<th>2019</th>
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<tr>
<td>M26 (DPICM)</td>
<td>360,192</td>
<td>32.5km</td>
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<td>M26A2 (DPICM)</td>
<td>3,924</td>
<td>45.0km</td>
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<td>0</td>
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<td>M30 (DPICM)</td>
<td>1,914</td>
<td>70.0km</td>
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<tr>
<td>M31A1 (Unitary)</td>
<td>204</td>
<td>70.0km</td>
<td>33,006</td>
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Operational Risks

- GMLRS AWP production schedule may not provide sufficient numbers by 2019 to support COCOM operational plans
- AMSAA/ARL approved models for AWP technologies
Program Overview

• Program composition
  • ACAT 1C with two variants
    • DPICM in Full Rate Production (FRP)
    • Unitary Completing LRIP headed to FRP Decision
  • Variants share documentation
    • APB
    • Common Funding (RDTE and Procurement) Lines

Second Order Effects

• Impact to APB
• Item C of Nunn-McCurdy ADM (April 2007)
• Future of DPICM Production
• Elimination of DPICM, impact on the USMC and FMS Customers
• Meets DPICM ORD requirements in servicing targets
• Produce no residual cluster munition UXO
• Achieve required warhead IM rating
• Compatible with the M270A1 and HIMARS Launchers
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GMLRS System Description

Unitary
Unique
Components

Warhead
Prox Sensor
Radome

Electronic Safe & Arm Fuze (ESAP)

GMLRS
Common
Components

Roll
Motor
Spring Fins

Control
Actuation
System
Guidance
Processor
Electronics

Canards
Battery
Nose Cap

Electronic Safe & Arm Device (ESAD)

Payload Dispensing Core Assembly

Sub-munitions

M270A1

HIMARS

Alternative
Warhead
Unique
Components

Warhead
Prox Sensor
TBD

Fuze TBD

Nose Cap
TBD
### AWP Schedule Overview

#### FY08 - FY16

<table>
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<tr>
<th>Year</th>
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<tr>
<td>M</td>
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<td>S</td>
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</tbody>
</table>

#### Tech Development Outputs
- Update AOA, TEMP
- Critical Design Review Request (CDR) & ICE
- Low Rate Initial Production (LRIP) Outputs
- Affordability Assessment & CCA
- System Functional Specifications
- Performance Based Logistics (PBL) Strategy
- Update Cost & Manpower Estimates
- Update Acquisition Plan & Strategy
- Validate System Safety, Maintainability, And Requirements

#### Low Rate Initial Production Outputs
- Update AOA, APB
- Risk Assessment
- AFRL, CCA
- Product Support Baseline (PSB)
- Performance Based Logistics (PBL)
- Update Acquisition Plan & Strategy
- Validate System Safety, Maintainability, And Requirements

#### Deployment
- FRP-VIII Contract
- Unitary FRP VIII Deliveries
- Unitary FRP IX Deliveries

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**Current Focus**

- **Concept**
  - Current Focus
  - Concept Steering Board
  - Validates the Requirement, Technology Development Strategy, and Contracting Plan

- **Tech Development**
  - Draft CDD
  - 6 months

- **Design Readiness Review**
  - System Development and Demonstration
  - Preparations
  - System Development and Demonstration Outputs

- **PMG Decision**
  - System Development and Demonstration

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**Any Warfighter, Anywhere, All The Time**

UNCLASSIFIED

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Review of Eliminating DPICM

- Current pSDF (nor DPICM) is not compliant with DoD cluster munition policy
- Must demilitarize all non-compliant DPICMs after 2018; cost TBD
- UAE DPICM Procurement in FRP 4
- USMC Unexercised DPICM Option in FRP 4

Recommend Build Unitary in Lieu of DPICM FY09-FY13
Questions?