Missiles and Rockets
Overview

NDIA Armaments Technology
Fire Power Forum

11 Jun 2008

Robert Kirby
Division Chief, Advanced Systems and Requirements
Precision Fires Rocket and Missile Systems
Phone (256) 876-8791 (DSN 746)
Email: robert.kirby@us.army.mil

Recipients of the 2008 William J. Perry Award

Distribution A: Approved for Public Release
Topics

• Precision Fires products and performance
• Rocket and missile industrial base
• Contemplated capabilities
• GMLRS with Self Destruct Fuze
• 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 & minimal maintenance

M270A1
98% Readiness Rate

HIMARS
99% Readiness Rate

GMLRS Unitary
747 Rockets Fired
98% Reliability

ATACMS
537 Missiles Fired
98% Reliability

Play Video 1
Play Video 2
Q: SDF needed by the user?

A: Requirement remains valid
   √ TCM-RAM
   √ TCM-Cannon

GMLRS
   • Less than 1% hazardous duds
   Assumptions:
   • No degradation of primary mode (95% reliability)
   • SD mode operates as well as in artillery (95% reliability)

XM864
   • 97% Primary Mode Reliability
   • 95% Self Destruct Mode Reliability
   • 99.85% Overall Fuze Reliability
Comparison Of M26 And GMLRS M30 DPICM w/SDF Engaging SAM Missile Site

**M26**
- Engagement Site (SA-6)
- 284,000 m²
- 75 Rockets Required To Destroy Target
- 644 Grenades Per Rocket
- At 5% Dud Rate, Over 2400 Unexploded Grenades Throughout Engagement Site
- Grenades Spread Over 12 Grid Squares

**M30 w/SDF**
- Engagement Site (SA-6)
- 82,000 m²
- 15 Rockets Required To Destroy Target
- 404 Grenades Per Rocket
- At <1% Dud Rate, Less than 60 Unexploded Grenades Remain At Engagement Site
- All Grenades Contained Within 1 Grid Square
MLRS Worldwide

MOU Partners

- United States
- United Kingdom
- France
- Germany
- Italy
- Norway
- Denmark
- Finland
- Slovakia
- Greece
- Turkey
- Egypt
- Israel
- Jordan
- Bahrain
- Oman
- South Korea
- Japan
- Singapore
- United Arab Emirates

Potential Customers

- Egypt
- Israel
- Bahrain
- Oman
- United Arab Emirates

Any Warfighter - Anywhere - All The Time

Distribution A: Approved for Public Release
MLRS Worldwide

MOU Partners
United States
United Kingdom
France
Germany
Italy

Potential Customer

Canada*
Peru*

Peru

Any Warfighter - Anywhere - All The Time

Distribution A: Approved for Public Release - Release

RS33-08060501-7 5 Jun 08
Terminated Army Missile Programs

The spectrum of threats requires a mix of missile system capabilities.

- Patriot and SLAMRAAM missiles also part of Army Missile Enterprise

<table>
<thead>
<tr>
<th>Missile System</th>
<th>Range (Km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STINGER</td>
<td>6</td>
</tr>
<tr>
<td>Javelin P3I</td>
<td>4</td>
</tr>
<tr>
<td>LOSAT</td>
<td>4</td>
</tr>
<tr>
<td>CKEM</td>
<td>5</td>
</tr>
<tr>
<td>Common Missiles</td>
<td>12-16</td>
</tr>
<tr>
<td>APKWS</td>
<td>7.2</td>
</tr>
<tr>
<td>JAGM</td>
<td>60</td>
</tr>
<tr>
<td>GMLRS</td>
<td>270</td>
</tr>
<tr>
<td>ATACMS</td>
<td>180</td>
</tr>
<tr>
<td>BAT P3I</td>
<td>145</td>
</tr>
<tr>
<td>NLOS-LS</td>
<td>100 + Loiter</td>
</tr>
<tr>
<td>FLOT</td>
<td>45</td>
</tr>
</tbody>
</table>

Terminated Army Missile Programs

Distribution A: Approved for Public Release
Contemplated Capabilities

- Precision, precision, precision
- Elimination of UXOs
- Selectable warheads
- In-flight redirect
- Programmable trajectory
- Reduced signature
- Demil
Suggestions

- PM / TCM relationship and requirements
- Get plugged into G-3 Ammo
- ASA(ALT)
- OSD
- Media – tell your story
...we never forget our real customer...