

NDIA Armaments and Munitions Forum



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Presented by: Rene Kiebler
Deputy Project Manager for
Combat Ammunition Systems
973 724-2110, rene.c.kiebler.civ@mail.mil



FY13 Munitions Delivered



➤ Mortar

- ✓ 60mm – 226,381
- ✓ 81mm – 438,042
- ✓ 120mm – 62,967

➤ Artillery

- ✓ Artillery Projectiles – 221,772
- ✓ Artillery Fuzes – 111,905
- ✓ Energetics
 - 60/81/120mm Mortar Ignition Cartridges - 520,564
 - 60/81/120mm Mortar Propelling Charges – 1,776,325
 - 155mm MACS M232A1 – 322,795
- XM982 Excalibur– 845
- XM395 APMI – 1,356
- XM1156 PGK – 1,842



Approx \$650 Million Ammo Delivered



FY14 Munitions Planned Deliveries



- **Artillery Rounds**
 - ✓ 75mm – 0
 - ✓ 105mm – 81,464
 - ✓ 155mm – 162,623
 - ✓ Fuzes – 210,000

- **Mortar Rounds**
 - ✓ 60mm – 401,934
 - ✓ 81mm – 789,626
 - ✓ 120mm – 110,062

- **Precision**
 - XM982 Excalibur – 2357 1a-2 rds, 1428 lb rds
 - PGK – 1953

- **Energetics**
 - ✓ Ignition Cartridges-750,008
(60, 81,120mm Mortar)
 - ✓ Mortar Propelling Charges – 1,814,562 (60, 81,120mm Mortar)
 - ✓ MACS M232A1– 706,650

Approx \$793 Million Ammo to be Delivered



XM1156 Precision Guidance Kit (PGK)



Requirement:

Key Performance Parameters

Net Ready:

- Incorporated into Digital Fire Support Systems: AFATDS; M109A6 (Paladin); M777A2 (LW155); EPIAFS; GPS

Reliability by IOC:

- 0.92 (T); 0.97 (O)

Accuracy:

- ≤50m CEP (T); ≤30m CEP (O)

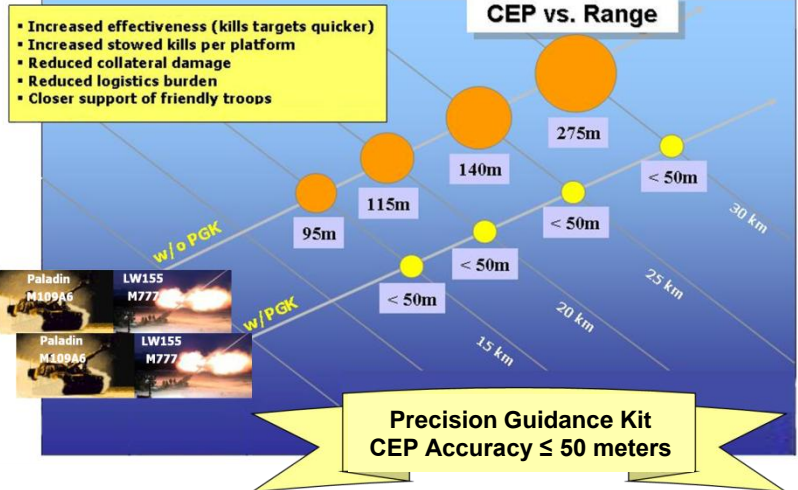
Attributes

Munition / Platform Types:

- 155mm High Explosive Projectiles: M795, M549A1
- M109A6 (Paladin), M777A2 (LW155)



Description



Baseline Program Schedule:

| Task | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
|------------------------------------|----------------|----------------|---------|-----------|
| PGK EMD | [Progress Bar] | | | |
| Design Verification Phase | [Progress Bar] | | | |
| Govt Qualification Part 1 | [Progress Bar] | | | |
| Govt Qualification Part 2 | | [Progress Bar] | | |
| Milestone C (Mar 2013) | | ◆ | | |
| Production/Deployment | | [Progress Bar] | | |
| Full Materiel Release (4Q 2014) | | | ◆ | |
| Initial Operational Cap. (1Q 2015) | | | | ◆ → |
| | | | | Qty 2,160 |

Issues/ Status:

- PGK Exceeding Accuracy KPP Threshold of 50 meter CEP
- Program is on track to meet 92% Reliability KPP by IOC
- Fielded to Operation Enduring Freedom (OEF) via Urgent Material Release (UMR) (Mar 2013): being used in combat
- Production of Full Material Release (FMR) version underway following Milestone C (Mar 2103)
 - ✓ First Article Testing underway
 - ✓ Initial Operational Test & Evaluation Jan-Feb 2014
 - ✓ Full Material Release: 4QFY14
 - ✓ Initial Operational Capability: 1QFY15



FY14 Planned Acquisitions



| Product | Projected Award Date | Dollar Amount | Contract Type |
|--|----------------------|---------------|---------------|
| MACS Combustible Cases | 1QFY14 | \$32.9 | SS |
| M739 Fuze | 1QFY14 | \$83M | NTIB |
| M1 HE Metal Parts | 2QFY14 | \$9M | SS |
| PGU-43B, PGU-44B, PGU-45B LAP | 3QFY14 | \$37M | NTIB |
| M819 Gas Absorbent Modules (GAMS) | 3QFY14 | \$5.9M | SBSA |
| 120mm M931 (FRPC), M933A1 and M934A1 High Explosive (HE) Mortar Cartridge LAP | 3QFY14 | \$85M | NTIB |
| Mortar Weapon Systems: 60mm, 81mm, and 120mm, both lightweight and Legacy Systems and the M326 120mm Mortar Stowage Kit (MSK). | 3QFY14 | \$297M | NTIB |
| M762A1 Safe & Arm (S&A) Assemblies | 3QFY14 | \$7.6M | NTIB |
| 120mm Mortar Fuze Adapter | 3QFY14 | \$14M | 8a |
| M734A1 Multi Option Fuze & M783 PD/DLY Fuze | 4QFY14 | \$156.5M | NTIB |
| M795 Artillery Projectile Bodies | 4QFY14 | \$17.2M | NTIB |
| Mortar Fire Control Systems | 4QFY14 | \$22M | F&O |

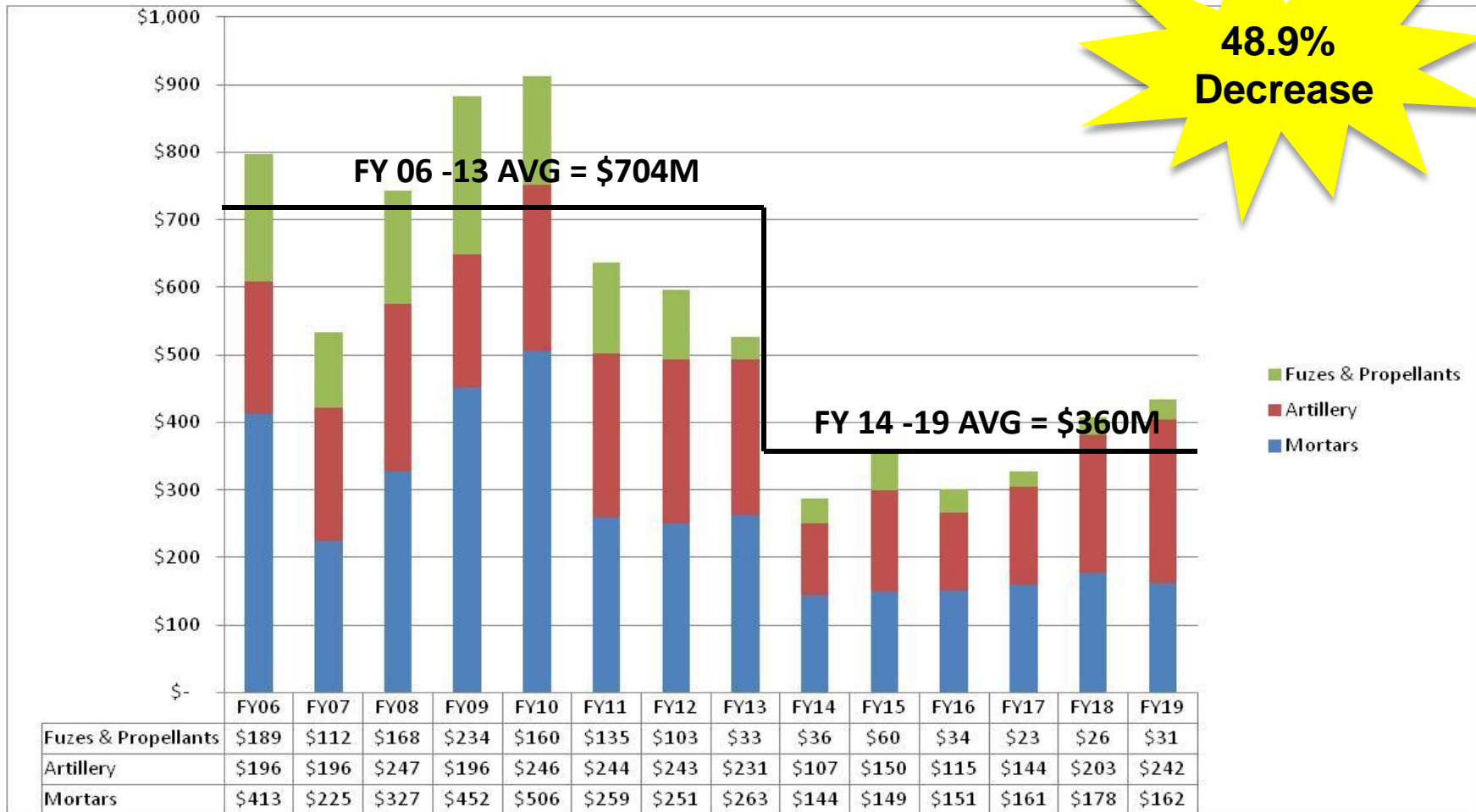


Conventional Funding – Over Time



Program Dollars (\$M)

**48.9%
Decrease**



Funding Profile Based on FY15 POM/BES

Conventional Funding does not include Excalibur and Precision Guidance Kit



Industrial Base Challenges



Challenges

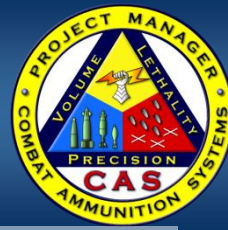
- **Declining Budget vs. Industrial Base Sustainment**
 - ✓ Fuze
 - ✓ Propellant/Energetics/Melt-pour
 - ✓ Metal Parts Forging
 - ✓ Illum Candle/Smoke Mfg
- **Counterfeit Parts**
 - ✓ GPS receiver Module
 - ✓ SRAM
- **International Competition**
 - ✓ Fewer World Market Opportunities
 - ✓ Increasing CONUS Involvement by Foreign Based Companies

Activities

- Continue to Support PEO IB Strategic Plan and "Watch List"
 - ✓ Renewed emphasis on Make or Buy process
- Restated Industrial Base Concern to G-8
- Assessing Future Acquisitions to Minimize impact
- Tightened Contract/Language to Verify Component OEM Authenticity
- Increased FMS Focus
- Leveraging Stockpile Surplus Where Possible
- Supporting CRADA Approach to Address DCS Opportunities



Combat Ammunition Systems “Top 10” Techbase Priorities



1. Enhanced / Scalable / Affordable Lethality / Cannon Cluster Replacement Munition for More Efficient Target Engagements
2. Insensitive Munitions and Advanced Propellants
3. Multi-Spectral, Non-Toxic, Non-Incendiary, Persistent Screening Smoke
4. Extended Range Capabilities (HE, Illum, Smoke) for 120mm and 155mm munitions
5. Improved 6-DOF NABK Ballistics
6. Network Assisted GPS for Precision Indirect Fires in Degraded GPS Signal Environments [Funded via AFATDS FY13-15 RDTE MDEP]
7. Common Affordable Precision Munitions Components and Systems (including MEMS-based Precision IMU, GPS AJ/AS, VAPP, and 20 yr Pre-Launch Power Source)
8. Advanced Next Generation Fuzing (including Multi-spectral Height of Burst (HOB) Fuze Replacement with Anti-Tamper/Anti-Reverse Engineering (i.e. NGPS with built-in DEF))
9. Migration to Next Generation M-Code Military GPS User Equipment (MGUE)
10. Training Aids and Improvements

**Continue to Coordinate with ARDEC & ARL WMRD
Senior Leadership to Leverage Techbase Funding**



Back-Up

