

Project Manager Soldier Weapons Ammunition Programs

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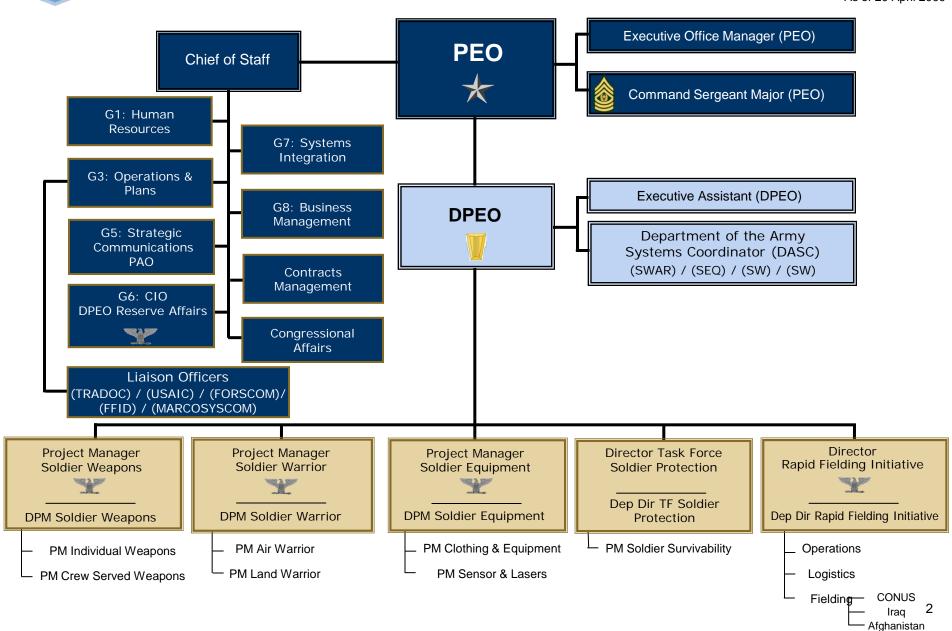
20 May 2009

COL Douglas A. Tamilio
Project Manager Soldier Weapons



Program Executive Office Soldier

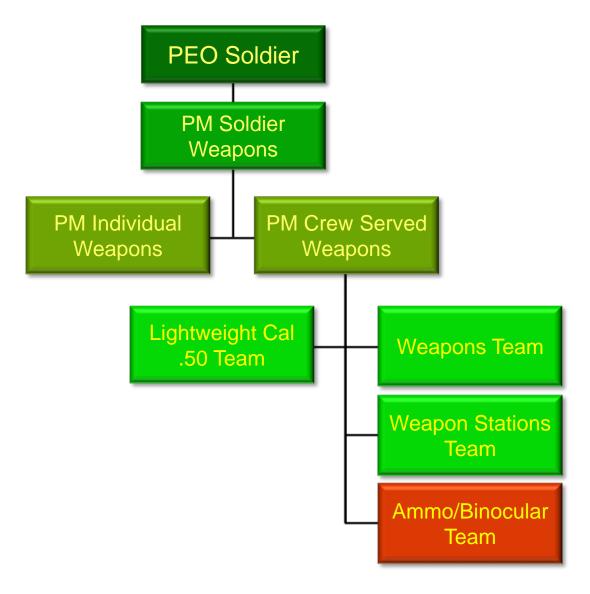






Organizational Tree







Small Arm Systems Improvements



- View Small Arms as Systems
 - Weapon
 - Fire Control
 - Ammunition

Programs Coordinated with PEO Ammo

- Concur on Acquisition Strategy
- Concur on Executive Summary

- RDT&E of Ammunition for Existing Weapon Systems
 - Includes Small Cal and 40mm Development Projects
 - Tactical/Lethal
 - Lightweight
 - Training
 - Non Lethal



PM CSW Ammo Team



Rob Zienowicz Ammunition Team Chief - PM Crew Served Weapons Office

Percy Mistry

XM1112 40mm Airburst Non Lethal Cartridge Micro Electro-Mechanical S&A

Ben Wong

M100 GREM / M101 GREM-TP M903/M962 Cal .50 SLAP/SLAP-T M973/M974 7.62mm Short Range Training Ctg

Fred Fitzsimmons

XM1110 40mm Day/Night TP Cartridge M24 Minature Binocular M25 Stabilized Binocular

George Dieterle

Improved 9mm Cartridge
40mm Close-In Antipersonnel Cartridge
M992 40mm Infrared Illumination Cartridge

Brian O'Neill

M862 5.56mm Short Range Training Cartridge M1030 12 Gauge Breaching Cartridge

Gene Hudson

XM1037 5.56mm Short Range Training Cartridge M1041/M1042/M1071 CCMCK Ammo

Audrey Shabazz

Lightweight Small Caliber Ammo
XM1116 12 Ga Extended Range Non Lethal Ctg
XM1140 40mm Extended Range Non Lethal Ctg

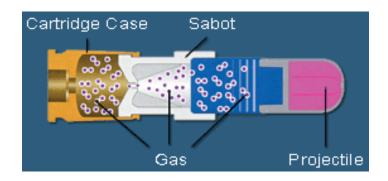
PM-SW Managed
Support to PM-MAS FY09 Production



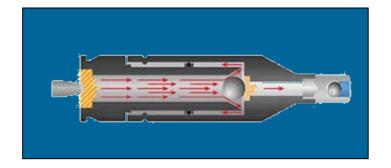
Close Combat Mission Capability Kit (CCMCK)







- Operator Installation
- Must Not Fire Service Ammo
- Not Fracture SWD Goggles at 12 in
- Fire From Standard M4/M16/M249/M9/M11
- Not Penetrate Skin Thru Hot BDU at 5M (T) 0M (O)



Milestone C Approved July 2008



Close Combat Mission Capability Kit



Rifle XM1042

SAW XM1071

Pistol XM1041









Close Combat Mission Capability Kit







XM1037 5.56mm Short Range Training Ctg





- Ballistic match with standard ammo out to 100m
- Maximum Range 600m
- M4, M16, M249 Series Weapons
- No Weapon Modification

Program Objective:

Development

- Developmental Program
- Initial Production Start up FY10

Next Major Milestone – Conduct Developmental Test

- Conduct Limited User Evaluation
- ATC Final Report
- ATEC Independent Evaluation (OER)



Lightweight Small Caliber Ammuninition



Objectives

To develop a functional alternative 7.62mm M80 Ball and M62 Tracer cartridges assembled with an alternative case material

- 20% weight savings
- Meets current ballistic performance
- Manufactured using standard industrial techniques
- Assembled on LCAAP loading machinery

Move on to:

- 7.62mm Blank
- 5.56mm Ball
- 5.56mm Blank
- Cal .50



Lightweight Small Caliber Ammunition



- Feasibility Computer Modeling & Studies
- Phase 1 –Demonstration
 - Test full up cartridges in a Mann barrel
 - Machinegun tests
- Phase 2 Development & Production Prove Out
 - Ballistic testing
 - Product refinement
 - Ensure compatibility with production equipment
- Phase 3 Production Qualification Testing (PQT)



Lightweight Small Caliber Ammunition





Weight Of **5** Assembled LSCA M80 Cartridges = **4** Conventional Brass Cased M80

- Accomplishments
 - Weight reduction objective met
 - Demonstrated F&C with M240 Machinegun in Ball & Tracer configurations
 - Complies with MIL-C-46931 Specification
 - Compatible with conventional loading equipment



Improved 9mm Ammunition



- Develop an Environmentally Friendly 9mm Cartridge that will Exhibit Better Performance Than Current Leaded M882
 - Operational In M9 & M11 Weapons
 - Improve Lethality
 - Meet NATO Requirements
 - Utilizes Latest Science And Technology To Improve Upon All Aspects Of The Round (Environmental Compliance, Accuracy)
 - Ballistically Matched To M882
 - Cost Equivalent to M882
- Two Phased Approach
 - Study Determines Feasibility of Alternative Designs
 - Perform Qualification of Selected Design





XM1116 12 Ga Ext Range NL



- Based on Urgent Requirement for XM1092
- Blunt Trauma Non Lethal Munition
- Capable of Marking Targets
- No Weapon Modifications Required
- Range 5-75 Meters





XM1140 40mm Ext Range NL



- Based on Urgent Requirement for XM1091
- Blunt Trauma Non Lethal Munition
- Capable of Marking Targets
- Fired From M203/M320
- Range 10-80+ meters



Notional Pending Source Selection



40mm Airburst Non-Lethal Munition, XM1112



Develop A Cartridge That Provides
Non Lethal Effects Through Blast
Characteristics (E.G. Flash & Sound)
Without The Range Limitations
Encountered With Traditional Blunt
Trauma Munitions



Capabilities:

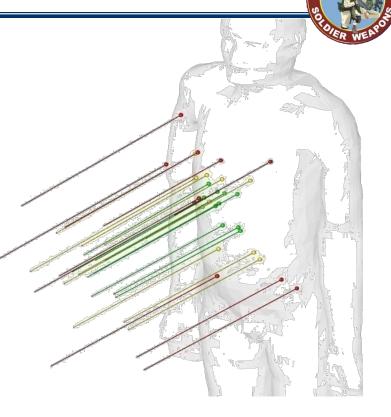
Increased Range (300m (T), 400m (O)) for Crowd Dispersal Capability with 40mm systems.



40mm Close-In Antipersonnel (CIAP)

Description:

- Low velocity 40mm cartridge fired from M203 and M320 grenade launchers
- Expels multiple projectiles providing anti-personnel capability at short ranges
- Evaluate buckshot versus flechette cartridges for lethality and probability of a hit





XM1110 Improved 40mm Training Cartridge



- Contains Both A Day And Night Signature And W/Improved Performance On Soft Targets
- Annular Groove In Ogive
- Payload = M781's Orange Powder Plus Glow
 Stick Mix In Glass Ampoules
- Non Dud Producing /No Pyrotechnics/
 No Brush Fires
- Compatible W/ All 40mm
 LV Grenade Launchers
- Developed To Support SOCOM'S EGLMW/ Day-night Sights
- Marks With Visible Light For Night
 Time TP Capability







Micro Electro-Mechanical S&A (MEMS)

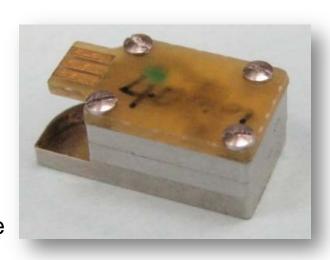


Goal: Develop Mechanical safety and arming (S&A) device and explosive ink writing technology for the M433 & M430A1 40mm HEDP cartridges

- New fuze with electronic initiation, improved target sensing, self-destruct capability, command-arm-enable function, more accurate arming distance, lower volume & cost
- Improved reliability on soft targets and in graze impacts using paired MEMS omnidirectional impact sensors (g-switch)

Objective:

- Reduced fuze volume
- Equal to or better Lethality and penetration
- Improved reliability on soft targets (snow, grass)/graze angles
- Reduced tolerance on arming/non-arming distance





Future Plans



- Develop Materiel Solutions to Meet Gaps
 - Extended Ranges
 - Marking
 - Training
 - Door Breaching
- Continue Weight Reduction Efforts
- Incorporate Technological Improvements
 - Lethality
 - Insensitive Munitions Technology
- Mature Relationship With PEO Ammo

