

ARMAMENTS TECHNOLOGY FIRE POWER FORUM



MARINE CORP MUNITIONS OVERVIEW

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- 1. PM Ammunition Overview
- 2. Munitions Requirements
- 3. Funding

SUPPORTING THE WARRIGHTER A MARINE CORPS TRADITION

- 4. Quality & Reliablity
- 5. Precision
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- 7. Summary

SUPPORTING THE WARRGHTER A MARINE CORPS TRADITION

PM Ammunition Overview

MARCORSYSCOM ORGANIZATION



PM AMMUNITION MISSION

Conduct acquisition, life cycle management support, and limited research & development for all conventional ground ammunition (Class V(W)) required by Marine Corps Forces to train for and successfully conduct Expeditionary maneuver Warfare.

"sustaining the forces"



LIFE-CYCLE MANAGEMENT



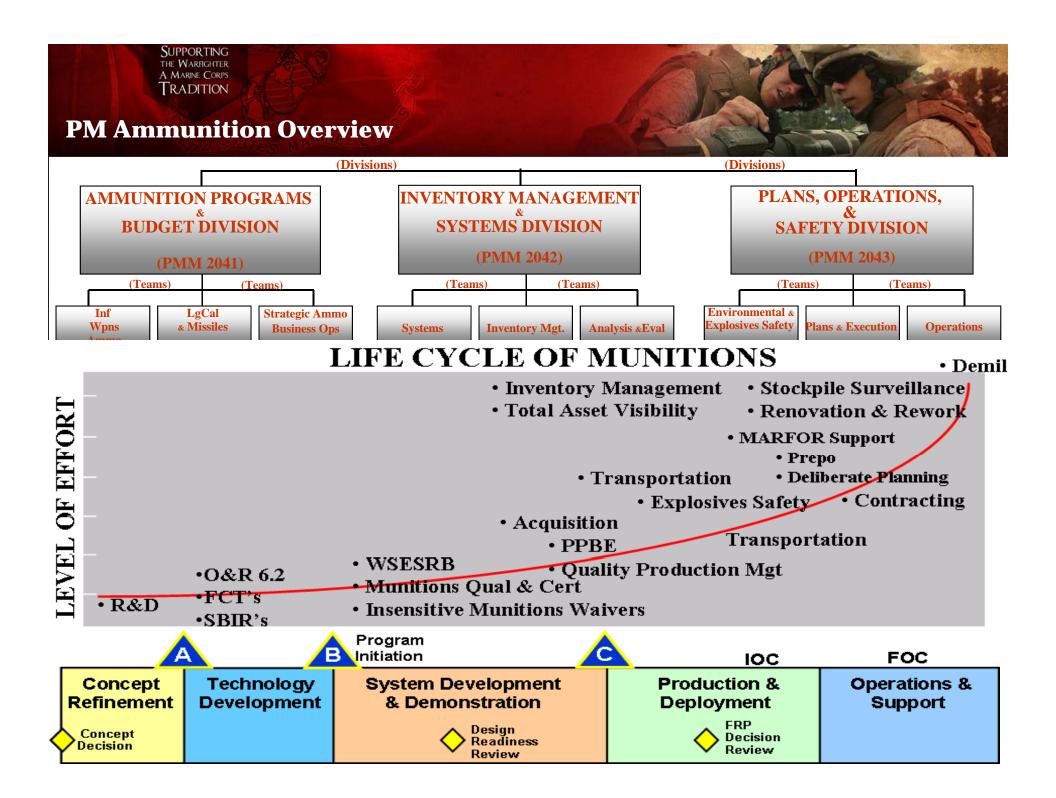
SUPPORTING THE WARFIGHTER A MARINE CORPS TRADITION

PM Ammunition Overview



Conduct research, development, procurement planning, budgeting, acquisition, maintenance and surveillance, of ammunition in support of the operating forces.

Manage the ammunition stockpile, develop and maintain configuration control of Ordnance Information Systems, and conduct Class V(W) accountability oversight. Enable Class V support in the functional areas of MAGTF planning, operations planning, explosives safety, and environmental Compliance.



CLASS V(W) Conventional Ground Ammunition (300 + Items)

JP 1-02 munition — "A complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological, or chemical material for use in military operations, including demolitions."

- **Small Arms Ammunition** 12 gauge, 9mm, .45 cal, 5.56mm, 7.62mm, .50 Caliber, Non-Lethal, SESAMS, tracer, sniper, frangible, green, paintball, AK47, REHA
- Medium Caliber Ammunition 25mm, 30mm, 40mm
- Mortar 60mm, 81mm, 120mm (HE, Smoke, Illum, Infrared)
- **Tank** 120mm KE, HEAT-MP-T, MPHE, Training, Canister (APERS)
- **Artillery** 155mm HE, DPICM, ADAMS, RAAMS, RAP, Smoke, Illum (VL/IR), Excalibur PGM, Propellant Chgs, MACS, fuzes, primers.
- **Pyrotechnics** (Smoke, diversionary grenades, flares, obscurants, signaling devices)
- **Demolition** (C4, TNT blocks, LDC, Initiators/ignitors, Demo kits, APOBS)
- **Rockets/Missiles** (LAAW, SMAW Family, TOW, JAVELIN, AT-4, STINGER)

Supports ALL Howitzers, Mortar Tubes, rifles, shotguns, tanks, 40mm grenade launchers, LAV, EFV, mine clearing capabilities, anti-armor, bunker busting, pistols, EFSS and, all self defense, hand emplaced items (hand grenades, demo blocks, signaling devices)

Designed to Kill and Destroy - Personnel & Materiel

Explosives Safety

"Provide environmentally compliant, explosives safety support throughout the life cycle of ammunition"

• HQMC (SD) Designates Cmdr, MCSC "lead" for Explosives Safety (ES)

(MCO 5100.29A Marine Corps Safety Manual 4.I.(3))

- PM Ammo executes the Corps wide ES Program
 - Develops & promulgates ammo management policies ISO Marine Forces
 - Ensures compliance with environmental & explosives safety regulations
 - Provides compliant munitions disposition instructions
- Serves as Principle on the DOD Explosives Safety Board
- Guiding Explosives Safety Policies:
 - DoDD 6055.9 STD
 - OPNAVINST 8020.14/ MCO P8020.11 -DoN Explosives Safety Policy Manual
 - MCO P8020.10Å USMC A&E Safety Programs for Class V Materiel
 - MCO 8023.3A USMC Qualification & Certification Program for Class V Materiel
- Explosives Safety Site Plans/Waivers
 - Incorporating ORM & SAFER



Inventory Control Point (ICP)

• Manage the stockpile (\$6.0 Billion)

- Stratification/Cross-leveling (Right size the stockpile!)
- Sourcing:
 - War Reserve Materiel: Preferred lots suitable f/long term storage



"Manage the Marine Corps Class V(W) stockpile by utilizing or developing inventory management policies, practices, or procedures ensuring the stockpile meets our customers needs."

- Ensure assets that are showing degradation are resourced first
- Identifies assets "excess/deficient in" the USMC Class V(W) stockpile
- Quarterly Readiness Report to Congress (QRRC)
- Quarterly Stockpile Valuation Report (DC P&R)

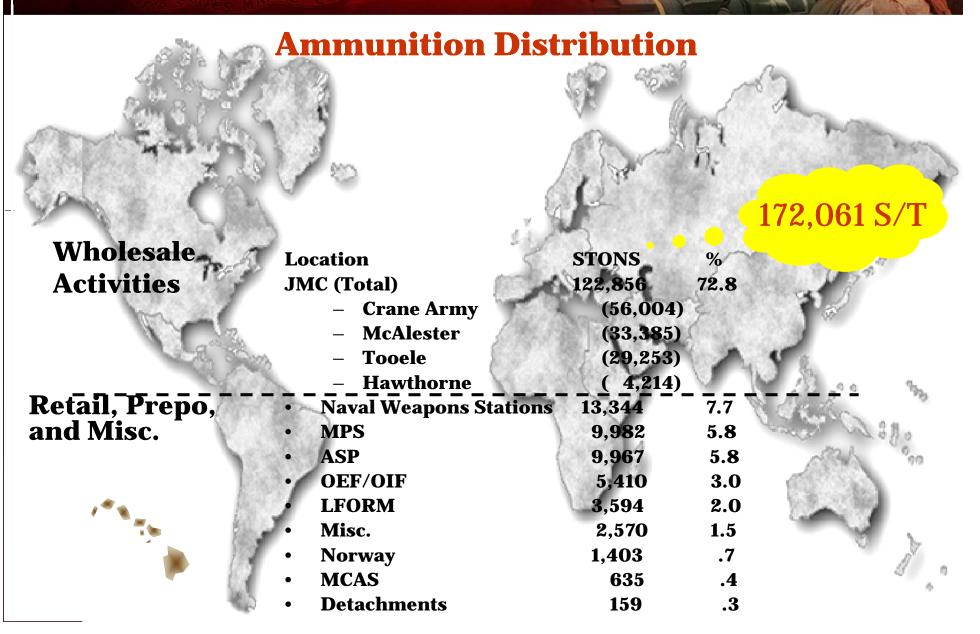
• Stockpile Reclassifications - Suspensions (NARs/AINS, etc.)

• Provides:

- sourcing data & supportability to assist in building TPFDD
- retrograde destinations at completion of operation
- disposition instruction on unserviceable assets, assets not cost effective to renovate, and assets no longer required
- an accurate inventory at the end of each fiscal year (30Sep),
- inventory and location as a basis for decisions on testing, and maintenance to move assets in support of projects.

SUPPORTING THE WARFIGHTER A MARINE CORPS TRADITION

PM Ammunition Overview



Information Technology

" Provide Life Cycle Management support for all ammunition management systems used to account for Class V(W) assets"

- Wholesale Accounting
 - Ordnance Information System Marine Corps (OIS-MC)
 - Class V(W) Wholesale Accounting System
 - Significant IT effort; joint with USN; NLI Initiative and ONE NETWORK!
 - Transition during Oct'08 with ONE NETWORK Functionality
 - Retired MAARSII Legacy System
- Retail Ordnance Logistics Management System (ROLMS)
 - Retail-level accounting system for ASPs & Liaison Activities
 - Standard system for all Marine & Navy users
 - Capable of running stand-alone on a PC workstation or laptop for use during deployment.



SUPPORTING THE WARFIGHTER A MARINE CORPS TRADITION

PM Ammunition Overview

OIS-MC Overview



- Key capabilities:
 - Requisition management (create. receive, fill, track)
 - Inventory visibility and maintenance
 - Lot and serialized item tracking
 - Tech data management
 - Receipts from procurement*
 - LSA process* (allowance budgets)
 - Supported Unit Ammunition Module* (unit-level ammunition inventory management)
- Extensible foundation for future efforts and business transformation



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SUPPORTING THE WARFIGHTER A MARINE CORPS TRADITION

PM Ammunition Overview

State of the Stockpile Program M 6

Welcome to the One Stop Shop for Ground Ammunition Information. Provided by the Program Manager for Ammunition.

- स्टि

Network Process Subject Process of building an experimental system quickly and inexpensively for demonstration and evaluation so that end users can better determine information requirements.

 "Inventory numbers represented in this Portal are extracted from the Marine Corps Ground Ammunition Inventory Control Point system MARRS II and include Total On-Hands, Total Due-Outs, Total In-Transit and Total Freeze Quantities. In the future this Portal will Break out the aforementioned quantities individually."

The following data sources have been included in this phase of the Knowledge Management Portal:

nagement Portal

- CAIMS Technical Data as of 11/7/01

- CAIMS Technical Data as of 11/7/01
 MAAPS II Daily Inventory as of 11/16/01 4:00:48 AM (PDT) by Condition Code, Location
 MAAPS II Procurrement as of 10/22/01
 MCCDC Total Munitions Requirements as of 3/7/01
 MCD Cataloging Handbook as of SEP 2001
 PM-AMMO In Lieu of (Interchangeable DODIC) as of 5/14/01
 MCD Tech Data Sheet CD as of 11/2/01
 MCD Tech Data Sheet CD as of 01/2/02
 MCD Tech Data Sheet CD as of 07 2001
 MCD Tech Data Sheet CD as of 07 2001
 MCD State of the Stockpile as of OCT 2000

Program M

More data sources coming soon!

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DODIC

Safety Lev

Cartridge and Launcher, 84mm M136 AT-4 (DODIC C995)



OF PAGE

Enter DODIC

Interchangeable DODIC Can be used in Lieu of:

BEGIN YOUR SEARCH BY CLICKING THE

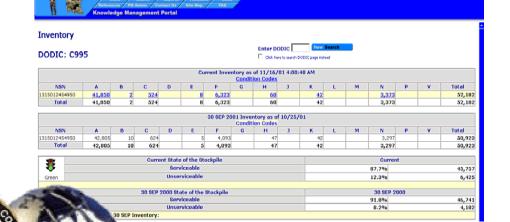
KNOWLEDGE MANAGEMENT PORTAL IMAGE OR

STATES MAR

2 GROUND

BY CLICKING ON THE SEARCH BUTTON AT TOP

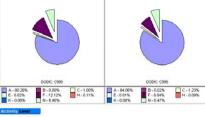
Daily Inventory, Condition Code, Location Program Manager 00



Total Munitions Requirements

| 7 Yr. Master Maintenance Plan as of 10/1/01 | Total Munitions Requirements as of 3/7/01 | QTY | |
|--|--|--------|--|
| Project No. | Combat Requirements | 54,140 | |
| Fiscal Year | Residual Readiness Requirements (RRR) | 1 | |
| Quantity | Strategic Readiness Requirements (SRR) | | |
| Project Cost | War Reserve Material Requirement(WRMR) | 54,148 | |
| Component Cost | Training Requirement | 2,315 | |
| lustification: | Current Operational Requirement (COR) | | |
| | Testing Requirement | 129 | |
| cope of Work: Training Logistical Support (313 Day Pipeline) | Training Logistical Support (313 Day Pipeline) | 1,985 | |
| | Testing Training Logistical COR (TTCOR) | 4,429 | |
| | Total Munitions Requirement (TMR) | 58,577 | |
| | Approved Acquisition Objective (AAO) | 56,133 | |

Current Inventory By Condition Code 30 SEP Inventory By Condition Code



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Technical Data

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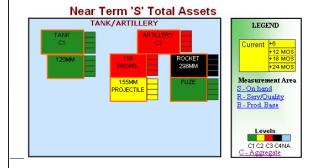
Serviceable 07.7% 45,757 Total QTY Maint. Due Planned Procurement 52,102 Unserviceable 12.3% 6,425 ISN 131501245499

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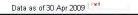
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SUPPORTING THE WARRIGHTER A MARINE CORPS TRADITION

PM Ammunition Overview



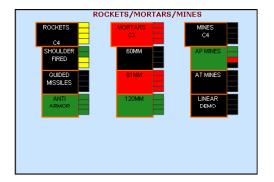
TANK/AT





Munitions Readiness Reporting (MRR)

| | SMALL CALIBER C1 | | MEDIUM CALIBER C2 | |
|---------|------------------------|----------|-------------------------|--|
| .50 CAL | | 12 GAUGE | 25MM | |
| 7.62MM | | 5.56MM | 40MM M203 | |
| .22 CAL | E | 9MM | 30MM | |
| .30 CAL | | .45 CAL | 40MM MK19 | |



Munitions Requirements

Munitions Requirement Process

• Total Munitions Requirement (TMR)

- **<u>DIRECTED</u>** by DoDI 3000.4/MCO 8000.8 Munitions Requirements Process
- **EXECUTED** by Logistics Integration Division, Capabilities Development Directorate, MCCDC
- **MODELED** based on scenario durations and MCO end-states identified by the

DPG, COCOM determined targets, and Marine Forces input.

• WAR RESERVE MUNITIONS REQUIREMENT (WRMR)

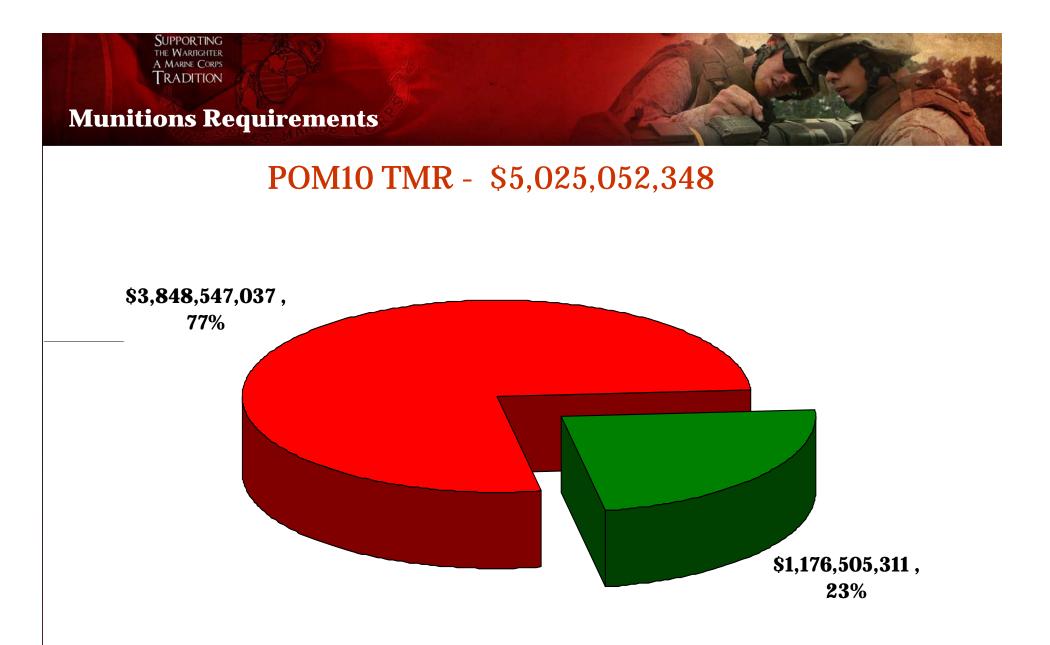
- Combat Requirement (**CR**) The quantity of munitions required to equip a specified force structure to its designated military capability and to meet Combatant Commander's objectives, including munitions needed for overlap.
- Current Operations/Forward Presence Requirement (**CO/FPR**) The sum of munitions required to arm forces to conduct current operations and meet forward presence obligations in accordance with the DPG. Forward presence includes Global Naval Force Presence Policy and operations that the National Command Authority (NCA) directs.

• Strategic Readiness Requirement (**SRR**) - The quantity of munitions needed to arm forces not committed to support combat operations in the assigned MTW's as well as those in the strategic reserve. It also includes any additional munitions requirements generated from treaties or statutory obligations to allies.

• **TESTING and TRAINING REQUIREMENT (TTR)**

• Testing (**T**) - Surveillance, acceptance testing and production losses of munition items are accounted for in this category.

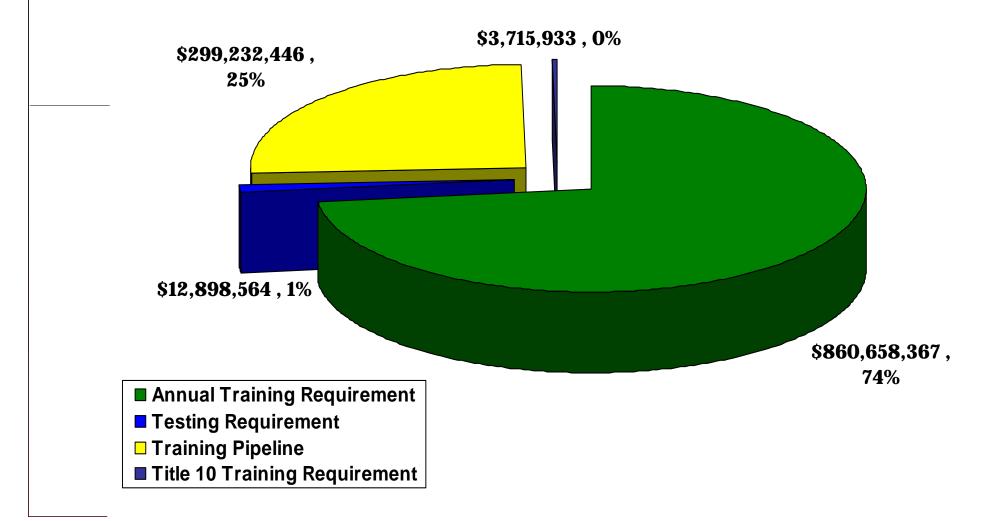
• Training (**TR**) - Munitions required to train forces and support Service programs ensuring that weapons and platforms deliver the intended effectiveness (can be stated as an annual requirement, a Future Years Defense Program (FYDP) requirement, and/or projected life cycle of each munition)



War Reserve Munitions Requirement
 Training and Testing Requirement



Testing & Training Requirement (TTR) - \$1,176,505,311



Munitions Requirements

- Future Requirement Drivers:
 - Cluster Munitions?
 - Landmines? (SPIDER, IMS)
 - 25mm Mk 2 SAPHEI-T
 - USMC Shift to OEF; Artillery, 120MM Mortar
 - 2 Additional Tank Companies (FY11) +28 M1A1's
 - Shoulder Fired Rockets:
 - Increase M72 LAAW Procurements
 - 80% M72A9 ASM; 20% M72A7 AT
 - AT4 War Reserve Only
 - SMAW II FFE MP Warhead









Munitions Requirements

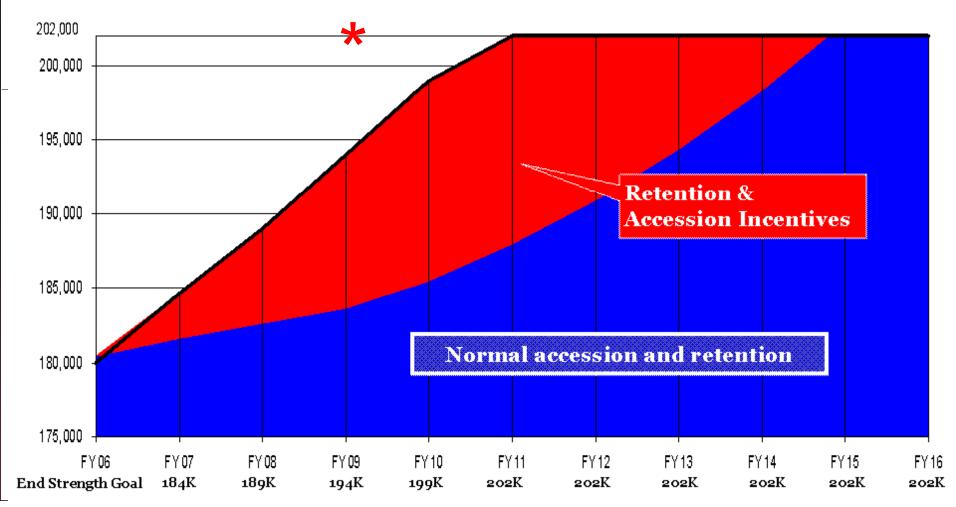
- Future Requirement Drivers:
 - Urgent Universal Needs Statements Supported
 - 120MM Canister, M72A7 LAAW, SAA-AP,
 - Foreign Wpns SAA, 155mm Excalibur, 155mm IR
 - Urgent Universal Needs Statements Working
 - 120MM MP-HE
 - capable of point- or delayed-detonation for anti-materiel application or air burst for anti-personnel (fragmentation)





• Future Requirement Drivers:

• USMC 202K Growth - all heavy shooters



Munitions Requirements

Product/Service Enhancements

• <u>FCT</u>:

- Screening Colored Smoke Grenade (SCSG)
- 66mm Grenade Discharger, Visual and Infra-Red Screening Smoke (VIRSS)
- M72A7 LAAW Insensitive Munitions Effort
- 40MM Low/High Velocity Day/Night Marking

• <u>SBIR</u>

Red Phosphorus Fill - Mortars

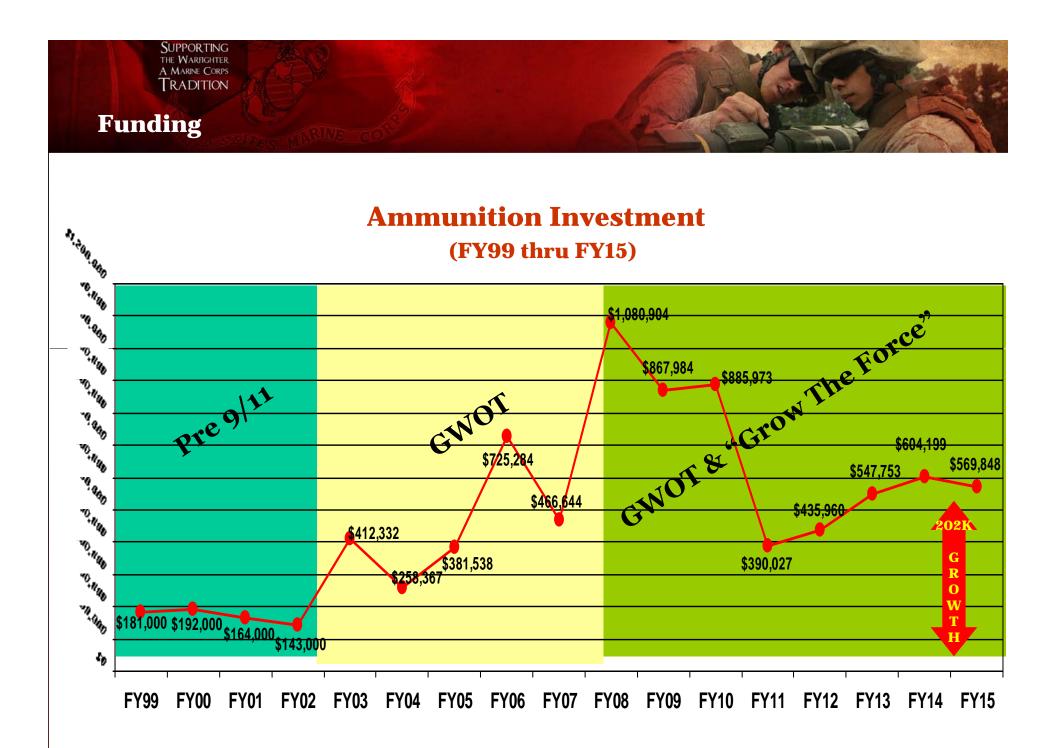
• <u>TTA</u> (Technology Transition Agreement (ONR)

• Linear Demo Charge Insensitive Munitions Effort; Supports ABV Survivability

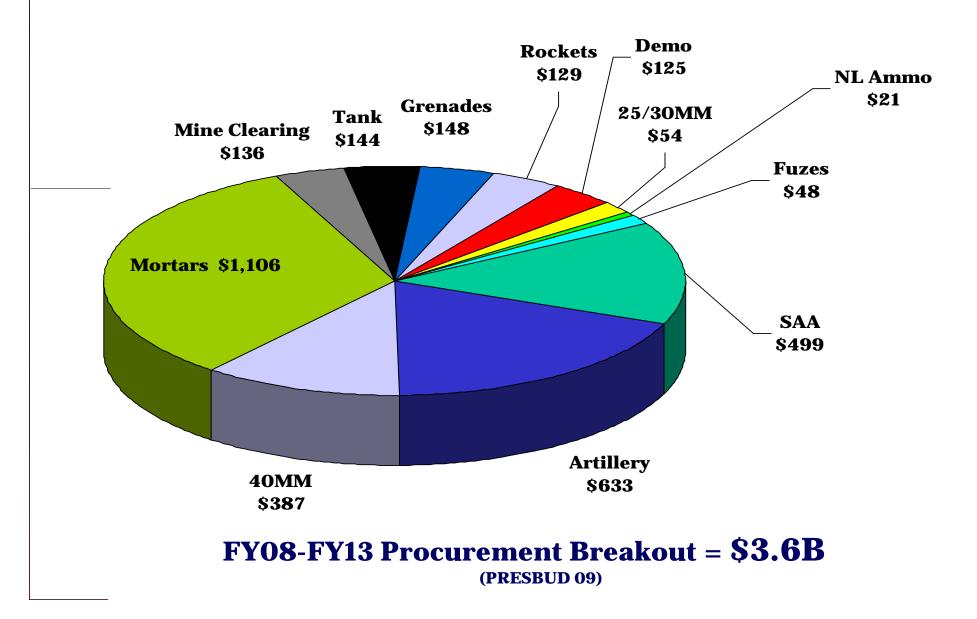
• TITLE III - Polymer Cased Small Arms Ammunition

- Two component design: Polymer Caselet & Brass Base
- Benefits (all calibers)
 - Weight savings: 23-25% demonstrated
 - 28-35% indicated (design goal)
 - Same or lower cost in full production
- Calibers in development: 5.56mm, 7.62mm and .50cal



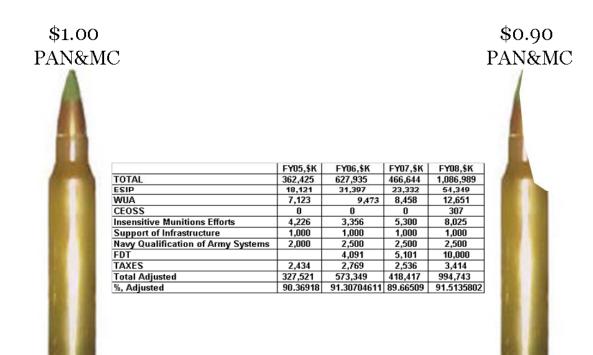


Supporting the Warnighter A MARNE Corps TRADITION Funding

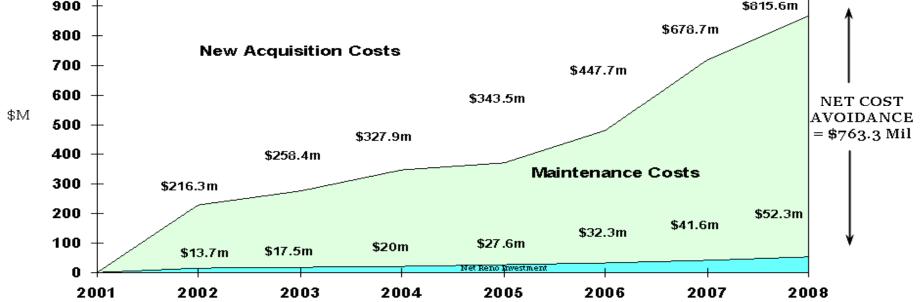




- Unstable, erratic profiles, bill payer, unknowns
- Product Cost
- Non-Product Cost of doing business; FY10-FY15 = (-\$300M)







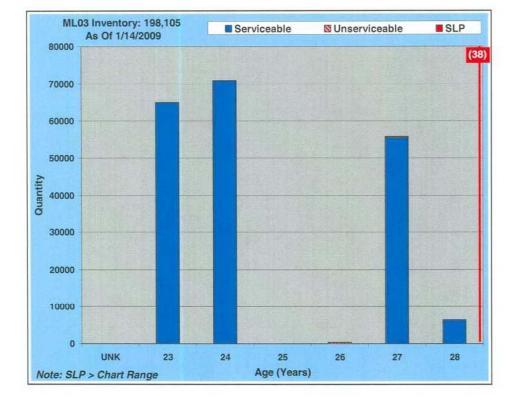
SUPPORTING THE WARRIGHTER A MARINE CORPS TRADITION

Quality & Reliability

Quality Assurance

"Continuous assessment of the Quality & Reliability of a multi-billion dollar stockpile"

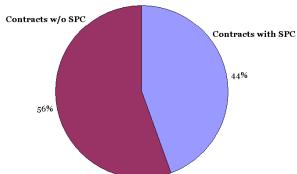
 Service Life Accelerated **Aging Test program (SLAAT)** provides a process framework allowing the selection of an appropriate test method linked with an analytical technique to support service life prediction. SLAAT provides stockpile assessment data necessary to make informed management decisions concerning the state of the **Marine Corps Ground Conventional Ammunition Stockpile**.



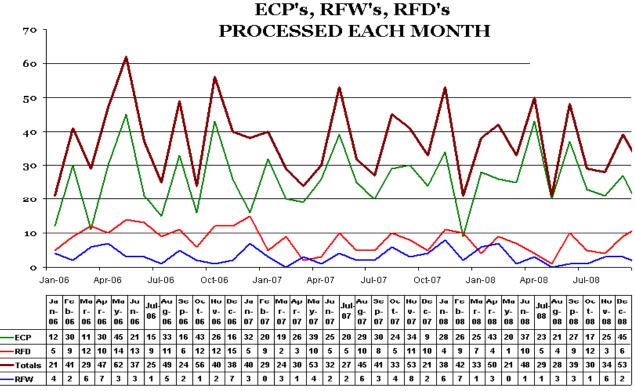
SUPPORTING THE WARFIGHTER A MARINE CORPS TRADITION **Quality & Reliability** "Continuous assessment of the **Quality Assurance Quality & Reliability of a** multi-billion dollar stockpile" **40mm Audit Findings** BA12 **B**535 **B542 B546 B**584 **B**519 BA08 # of Findings Mai 95 Mn 95 Maj 96 Min 96 Maj 97 Min 97 Maj 98 Vin 98 Maj 99 Min 99 Mn 80 **BA08** Maj Q Min O1 Maj 02 Maj 02 Maj 03 -Min 03 -Maj 04 -Min 04 -B584 B542 DODIC Min 06 [–] BA 12 Year Maj 07 Min 07 Min 08 Maj Min Maj Min Maj Maj Maj Min 97 97 01 01 02 02 07 07 95 95 96 96 98 98 99 99 00 00 03 03 04 04 05 05 06 06 08 08 **BA12** B535 з з B542 B546 з B584 B519

Quality & Reliability

Continuous and Sustained Improvement



PERCENTAGE OF CONTRACTS WITH SPC



SUPPORTING THE WARRIGHTER A MARINE CORPS TRADITION

Precision

FY08 1st Buy Excalibur



FY10 1st Buy PGK

FY?? 120MM Precision Extended Range Munition





The GWOT Environment

- Annual Live-Fire Training growth
 - Pre 9/11: Average approx. \$220M annual
 - Post 9/11: Average approx. \$320M+ annual
 - Change in TTP and new Pre-deployment Training Packages (PTP)
- Combat Expenditures
- UUNS
- USMC Special Operations Command (MARSOC) 2,400 Marines
- Investment:
 - \$2,468,000,000 Baseline Corps Investment FY03-FY10
 - \$2,484,000,000 Supplemental Funds thru FY03-FY10

• Undefined GWOT Duration, End-Strength Growth, Live-fire Training, War Reserve Stockpile - Risk, Fluid Fiscal Environment, Production Lead-Times, Production Turbulence, PP&O Prioritization, MARCENT focus, new capabilities, Urgent Needs, Special Allowances, etc., etc., etc.,.... Summary

WARFIGHTER ARINE CORPS

The wide range of responsibilities under one Program Manager is unique in that,

it provides the Marine Corps with a single point of visibility to assess the quality, quantity, and the positioning of ammunition, and the ability as the occupational field sponsor, to effect supply of that ammunition to Marine Forces.

Summary

PM Ammo Strategic Plan:

SUPPORTING the Warfighter A Marine Corps TRADITION

"There are many classes of supply and ours, inherently unique by nature, is the last in terms of use by our Corps. That does not mean last in importance, priority, or criticality to the combat arm of this institution we support. Rather, despite any other commodity, the vehicles, weapons systems, the clothing and equipment, the deliberate planning; despite the mass movement of our Marines, the P-O-L, communication equipment, spare parts, subsistence, etc, ammunition IS the last stage in the war fight. It is that which directly destroys the enemy combatant. Thus it represents the finality of all the preceding events leading up to its use. "

Ammunition...that which makes the tip of the spear, pointy and lethal"

QUESTIONS?