Our Army at War…Relevant and Ready

April 2004

Robin Gullifer
Associate Program Executive Officer, Ammunition – Program Management
PM Combat Ammunition Systems
- Artillery Ammunition
  - RDTE $184,067
  - WTCV $10,027
  - OPA $39,224
  - Ammo $339,633
- Artillery Fuze
- Mortar

PM Maneuver Ammunition Systems
- Large Caliber
- Medium Caliber
- Small Caliber

PM Close Combat Systems
- Mines, Countermines & Demolition

PM Joint Services
- Industrial Base
- Demil

PEO Ammo
- RDTE $31,595
- Ammo $25,446

Source: FY05 PB

Total: $1,799.6M
FY04 PEO Ammo Funding ($M)

PEO Ammo Total=$1,799.6M

RDTE ($406.7M)

Procurement 1,392.9M

Industrial Base Total=$131.22M

RDTE $22.22

IF $32.35

WP MOD (plus-up) $24.30

IF (Plus Up) $25.31

MIF $5.8

LIF $9.7

ARMS $4.57

ARMS (Plus Up) $7.00

PAA Total= $109M

Source: FY05 PB

Production Base Support Program

IF=Industrial Facilities
MIF= Maintenance of Industrial Facilities
LIF= Layaway of Industrial Facilities
ARMS= Armament Retooling & Manufacturing Support (ARMS)
WP MOD= White Phosphorous Modernization
# FY2004/FY2005 Ammunition Amended Budget

<table>
<thead>
<tr>
<th></th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hardware</strong></td>
<td>1778.5</td>
<td>1196.2</td>
<td>1409.0</td>
</tr>
<tr>
<td><strong>Prod Base</strong></td>
<td>142.7</td>
<td>182.2</td>
<td>147.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1921.2</td>
<td>1378.4</td>
<td>1556.9</td>
</tr>
</tbody>
</table>

## Funds:
- Training Ammo at low C-2 Level of Readiness (82% of the executable rqmt)
- 17 Modern Munitions (Armor Piercing 5.56MM, 7.62mm and .50 CAL; Mortars - M934, XM983, M929A1; Tank M829E3, XM1028; 105MM HEP-T, XM1040 AP, XM982 Excaliber, 155mm M864, MACS, MOFA, NSD-APL, LVOSS, & BDM)
- Procurement of Hydra 70 Rockets in the Amended Budget
- Conventional Ammo Demil
- Limited Ammo Prod Base

## Does Not Fund:
- Restock War Reserve
- Build-up of Modern Munitions
**Detailed Funding Breakout Procurement**

<table>
<thead>
<tr>
<th>Procurement ($M)</th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>1778.5</td>
<td>1196.2</td>
<td>1409.0</td>
</tr>
<tr>
<td>Training</td>
<td>(1521.9)</td>
<td>(984.2)</td>
<td>(1142.9)</td>
</tr>
<tr>
<td>War Reserves</td>
<td>(197.1)</td>
<td>(179.0)</td>
<td>(239.1)</td>
</tr>
<tr>
<td>Non-Hardware/Miscellaneous</td>
<td>(59.5)</td>
<td>(33.0)</td>
<td>(27.0)</td>
</tr>
<tr>
<td><strong>Total Funding</strong></td>
<td>1921.2</td>
<td>1378.4</td>
<td>1556.9</td>
</tr>
</tbody>
</table>
Army Ammunition Management

ONE GENERIC PILE – “AMMUNITION.”

WARFIGHT
Procure mainly thru Supplementals

TRAINING
Procure annually

WAR RESERVE
APPROX 42 ITEMS
(DU tank rds, DPICM & ext- ended range rds.)

DUAL-USE
APPROX 126 ITEMS
(155mm HE, smoke, Illum, Mortars, Sm Cal, Pyro, demo)

TRAINING UNIQUE
APPROX 227 ITEMS
(Simulators, Sub-caliber, Blanks, Tank ammo)

150-DAY PIPELINE

ARMY MUST BUY WAR RESERVE AND TRAINING AMMUNITION

RESOURCING
• Buy minimal WR.
• Priority to dual-use
  • Flexible
  • Affordable, but…
  • Leads to TNG & WR shortfalls.
• Guarantees “come-as-you-are” warfight.
• Zero-sum resourcing.
Ammunition Procurement Projection by Categories

FY00-FY05 Amended Budget

$0
$500,000
$1,000,000
$1,500,000
$2,000,000
$2,500,000

FY00 FY01 FY02 FY03 FY04 FY05

Supplemental Funding Included

Prod Base
Other/Misc
Rockets
Mines
Arty Fuzes
Arty Ammo
Tank
Mortars
Small/Med
PAA - Funding Profile

PAA Historical Trend ($M)

Congressional Plus-ups FY03

Legacy to Future Path

Procurement as a Percentage of Army’s FY04/FY05 Budget

<table>
<thead>
<tr>
<th>Appropriation</th>
<th>FY04</th>
<th>FY05</th>
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<tbody>
<tr>
<td>FAMILY HOUSING</td>
<td>1,309</td>
<td>1,565</td>
</tr>
<tr>
<td>MIL PERSONNEL</td>
<td>41,116</td>
<td>29,723</td>
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<tr>
<td>RESERVE COMP</td>
<td>15,491</td>
<td>16,535</td>
</tr>
<tr>
<td>RDTE</td>
<td>10,203</td>
<td>10,435</td>
</tr>
<tr>
<td>MCA</td>
<td>1,610</td>
<td>1,771</td>
</tr>
<tr>
<td>OMA</td>
<td>49,718</td>
<td>26,076</td>
</tr>
<tr>
<td><strong>Procurement</strong></td>
<td><strong>12,850</strong></td>
<td><strong>11,485</strong></td>
</tr>
<tr>
<td>ERA</td>
<td>394</td>
<td>401</td>
</tr>
<tr>
<td>BRAC</td>
<td>67</td>
<td>100</td>
</tr>
<tr>
<td>CHEM DEMIL</td>
<td>1,500</td>
<td>1,372</td>
</tr>
<tr>
<td>AWCF</td>
<td>219</td>
<td>184</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>134,477</strong></td>
<td><strong>98,526</strong></td>
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</table>

* Includes FY04 Supplemental

Procurement Appropriation ($ in Millions)

<table>
<thead>
<tr>
<th>Appropriation</th>
<th>FY04</th>
<th>FY05</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIRCRAFT</td>
<td>2,137</td>
<td>2,658</td>
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<tr>
<td>MISSILES</td>
<td>1,494</td>
<td>1,398</td>
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<tr>
<td>WTCV</td>
<td>1,945</td>
<td>1,640</td>
</tr>
<tr>
<td><strong>Ammunition</strong></td>
<td><strong>1,378</strong></td>
<td><strong>1,557</strong></td>
</tr>
<tr>
<td>OTHER PROCUREMENT</td>
<td>5,896</td>
<td>4,231</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12,850</strong></td>
<td><strong>11,485</strong></td>
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</table>

Ammunition as a Percentage of The Army’s FY04/FY05 Procurement Budget

As of 02/05/03
Army – High-priority program designed to provide sufficient training ammunition to train all Army units and support training base

Mission - Support Army readiness by resourcing 100% of training ammunition requirement

Training Ammunition Acquisition Strategy -
- Fund training at C-2 level of readiness
- Support all Army Components and Reserves
- Does not fund other critical unprogrammed requirements (e.g., RC MOB TNG, mission rehearsals and other CONOPs-related TNG)

Critical Training Shortfalls --
- Small caliber (5.56mm, 7.62mm, .50-cal, 40mm). Particular impact on:
  - Individual weapons qualifications
  - Special skills TNG (night firing, National Training Center (NTC) firing)
  - TRADOC “Schoolhouse” TNG (e.g., currently sourcing INF tactical TNG and all others, i.e., basic training)
  - Grenades. Currently sourcing only TRADOC Schoolhouse TNG.

Simulators and Signals – Impacts collective TNG at all levels
Requirements

Training

- Army Training Requirement
  - Total training requirement is funded at $1.3B annually
  - Training standard is set by Standards in Training Commission (STRAC) and by TRADOC Programs of Instruction (POI) for schools
  - FY03 STRAC revision aligned TNG strategies with Army doctrine, resulting in major changes in requirements (e.g., 40mm). Also includes SBCT training strategies (large small-caliber requirements)
  - Revised STRAC resulted in $243M annual increase in TNG ammunition costs

- Budget program developed based on highest year of execution during a three-year period
  - Army does not buy 100% of STRAC RQMT and, therefore, could not execute 100% STRAC RQMT if it suddenly decided to do so
  - Training ammunition shortfalls give false impression of under-execution – soldiers cannot fire bullets they do not have in the first place
Since 9/11, RQMTs have grown to pre-draw down levels.
- Stockpile depleted.
- Numerous cost drivers.

**Training Ammunition Requirements / Funding Trends**

- Complete FY03 expenditure data not available.

### MAJOR COST DRIVERS:
- Modernization
- Force structure changes
- STRAC / POI changes

<table>
<thead>
<tr>
<th>Year</th>
<th>TNG RQMT</th>
<th>TNG Funding for Year of Execution</th>
<th>AMMUNITION Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY88</td>
<td>$1.3B</td>
<td>$1.3B</td>
<td>$1.088B</td>
</tr>
<tr>
<td>FY90</td>
<td>$1.0B</td>
<td>$1.29B</td>
<td>$2.245B</td>
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<tr>
<td>FY95</td>
<td>$1.0B</td>
<td>$2.245B</td>
<td>$2.471B</td>
</tr>
<tr>
<td>FY00</td>
<td>$1.0B</td>
<td>$2.245B</td>
<td>$2.245B</td>
</tr>
<tr>
<td>FY05</td>
<td>$2B</td>
<td>$2B</td>
<td>$2B</td>
</tr>
<tr>
<td>FY10</td>
<td>$2B</td>
<td>$2B</td>
<td>$2B</td>
</tr>
</tbody>
</table>
Training Ammunition Funding

1990s: SUPPORTED FROM THE STOCKPILE ($2.8B). POM FUNDING AVERAGED $600M / YEAR.

9/11 – FY03: UNPROGRAMMED CONOPS-RELATED TRAINING TOTALLING $355M. ESTIMATE ADDITIONAL $105M IN FY04.

FY03 SUPPLEMENTAL: $719.2 ($447.5M + $271.7M).
• $225M used for TNG; all other for WR.
• Buys back training pipeline and replenishes WR.
• Initial stocks available in mid- to late-FY04 – FY06.

FY04: $1.032B funded (82.4%) / $1.252B RQMT.
• First year of funding for munitions to support FY05 STRAC.
• SEP 03 – OSD Withdrew $36M (40mm). Adjusted funding: $996M (79.5%).

FY05: $1.038B PB (81.7%) / $1.299B PF 1.0 RQMT for RE01.

FY05 Amended Budget of $1142.5 includes $127M for Hydra 70 Rockets
**Description**

**War Reserve**

- **Army** -- high priority program to modernize ammunition available to existing warfighting platforms
- **Mission** -- provide forces with modernized highly capable munitions to support new and existing weapon systems
- **System** -- includes Army direct & indirect fire weapon systems that maintain overmatch capability
  - Small Arms Armor Piercing 5.56mm, 7.62mm and .50 Caliber – Used to defeat light armor vehicles
  - 120mm Mortar M934A1 HEMO, M983 IR Illum, M929A1 WP – Supports requirements for the 120mm mortar in the Stryker Brigade Combat Teams (SBCT)
  - 120mm Tank M829E3 – 4th generation kinetic energy cartridge
  - 120mm XM1028 – Anti-personnel canister for the United State Forces Korea
  - 105mm M393A2 HEP-T – Replacement for the aged stockpile of M393 tank rounds
  - 105mm XM1040 Anti-Personnel-Tracer (APERS-T) Used to defeat infantry squads in the open
  - 155mm Extended Range XM982 – Cannon-delivered precision engagement extended range of indirect fire artillery projectiles
  - 155mm Dual-Purpose Improved Conventional Munition (Re-capitalization) – Funds the remanufacture and retrofit of this extended range artillery projectile with a self-destruct capability
  - Modular Artillery Charge Systems (MACS) – Replace older canvas bag charges and provide enhanced firing and logistics capability improvements to the Army’s inventory of 155mm cannon artillery
  - Multi-Option Fuze Artillery M782 – Will replace five current fuzes in 155mm weapon system
  - Light Vehicle Obscuration Smoke System (LVOSS) – Provides obscuration for tactical vehicles
  - Non-Self Destruct (NSD) Anti-Personnel Landmine (APL) - This anti-personnel landmine system will replace the M14 and M16 alternative for Korea by 2006
  - Bunker Defeating Munition (Tactical) – Used by infantry forces in attacking bunkers and enemy troops in urban areas

**LEGEND:**

Underscored: In FY2005
Amended Pres Bud
Requirements
War Reserve

- Army War Reserve Modernization Requirement
  - Army objective - maintain balanced approach to modernization
  - Support Army Transformation while maintaining combat capability
  - Requirements Documents That Identify the Army’s Munitions Requirement
  - Quantitative War Reserve Requirements for Munitions (QWARRM) 11
## FY04 Congressional Action

### Training

<table>
<thead>
<tr>
<th>ITEM</th>
<th>+/- $</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>.50 Cal SLAP</td>
<td>+$1.0M</td>
<td>Support War Reserve Rqmts</td>
</tr>
<tr>
<td>25mm M919</td>
<td>+10.0M</td>
<td>Maintain Warm Base f/ Steel Ctg Case</td>
</tr>
<tr>
<td>30mm HEDP</td>
<td>1.0M</td>
<td>Support Revised Training Strategy</td>
</tr>
<tr>
<td>60mm M768, M769</td>
<td>-18.5M</td>
<td>Reduced based on Rqmts</td>
</tr>
<tr>
<td>81mm Mortar</td>
<td>+1.0M</td>
<td>Support Revised Training Strategy</td>
</tr>
<tr>
<td>120mm Mortar</td>
<td>+$30.3M</td>
<td>White Phosphorous Facility Equip/Spt WR and Trng</td>
</tr>
<tr>
<td>120mm Tank</td>
<td>-5.5M</td>
<td>Reduced Requirements</td>
</tr>
<tr>
<td>155mm M864</td>
<td>-18.0 M</td>
<td>Reduce Program Delay</td>
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<tr>
<td>155mm M485 Illum</td>
<td>+1.0M</td>
<td>Support Revised Training Strategy</td>
</tr>
<tr>
<td>MACS</td>
<td>+1.0 m</td>
<td>Support War R RQMTS</td>
</tr>
<tr>
<td>HYDRA ROCKET</td>
<td>+20M</td>
<td>Supports Training and War Reserve</td>
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<tr>
<td>DEMO MUNITONS</td>
<td>7.0M</td>
<td>Supports War Build- Up of APOBS/MDI</td>
</tr>
<tr>
<td>PBS</td>
<td>40.1M</td>
<td>Increase to PIF, Demil and ARMS</td>
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</table>

### War Reserve

<table>
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<tr>
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<tr>
<td>– PBS</td>
<td>40.1M</td>
<td>Increase to PIF, Demil and ARMS</td>
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### Congressional Action FY04 ($ in Millions)

<table>
<thead>
<tr>
<th>REQUEST</th>
<th>HASC</th>
<th>SASC</th>
<th>AUTH</th>
<th>HAC</th>
<th>SAC</th>
<th>APPN</th>
<th>DELTA</th>
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<tbody>
<tr>
<td>1309.9</td>
<td>1428.9</td>
<td>1363.3</td>
<td>1413.3</td>
<td>1355.4</td>
<td>1419.8</td>
<td>1387.7</td>
<td>+77.8</td>
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</table>

### President’s Budget FY02 FY03 FY04 FY05

<table>
<thead>
<tr>
<th>Training</th>
<th>FY02</th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>(876)</td>
<td>(956)</td>
<td>(984.2)</td>
<td>(1142.9)</td>
</tr>
</tbody>
</table>
Fuze Base Concerns

- Concerns:
  - Lack of funding across the board
  - Financial viability of Fuze Base
  - Maintaining critical core competencies

- What PEO Ammo is observing:
  - Communication is improving, people are starting to listen
  - Collaboration between all Services, Government and Industry will facilitate success
  - Fuzing as part of systems contracting will increase
## Organic Production Base Capabilities

### 11 GOCOs

<table>
<thead>
<tr>
<th>Location</th>
<th>Company</th>
<th>Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holston (TN)</td>
<td>Ordnance Systems Inc., BAE</td>
<td>Load, Assemble &amp; Pack (LAP) - Tank/Artillery, FASCAM Energetics - HMX, RDX</td>
</tr>
<tr>
<td>Iowa (IA)</td>
<td>American Ordnance</td>
<td>Load, Assemble &amp; Pack (LAP) - Tank/Artillery, FASCAM</td>
</tr>
<tr>
<td>Lake City (MO)</td>
<td>Alliant Techsystems</td>
<td>Small Arms Manufacturing</td>
</tr>
<tr>
<td>Lone Star (TX)</td>
<td>Day &amp; Zimmerman</td>
<td>Load, Assemble &amp; Pack (LAP) - Grenades, Initiators, Detonators, Mines, Cargo Munitions</td>
</tr>
<tr>
<td>Milan (TN)</td>
<td>American Ordnance</td>
<td>Load, Assemble &amp; Pack (LAP) - Mortars, 40mm Cartridges; C-4 Extrusion</td>
</tr>
<tr>
<td>radford (VA)</td>
<td>Alliant Techsystems</td>
<td>Propellant Manufacturing (Rocket, Artillery, Tank, Med Cal; NC for Small Cal)</td>
</tr>
<tr>
<td>Scranton (PA)</td>
<td>Chamberlain Manufacturing</td>
<td>Large Caliber - Artiller/Mortar Metal Parts</td>
</tr>
<tr>
<td>Riverbank (CA)</td>
<td>Norris, Inc.</td>
<td>Steel/Brass Cartridge Cases, Grenade Metal Parts</td>
</tr>
<tr>
<td>Kansas (KS)</td>
<td>Day &amp; Zimmerman</td>
<td>Load, Assemble &amp; Pack (LAP) - Sensor fuzed weapon; Mortar/Artillery</td>
</tr>
<tr>
<td>Mississippi (MS)</td>
<td>Day &amp; Zimmerman</td>
<td>Semi Active - Cargo Metal Parts</td>
</tr>
<tr>
<td>Louisiana (LA)</td>
<td>Valentec</td>
<td>Semi Active - Large Caliber Metal Parts</td>
</tr>
</tbody>
</table>

### 3 Active GOGOs

<table>
<thead>
<tr>
<th>Location</th>
<th>Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crane (IN)</td>
<td>Load, Assemble &amp; Pack (LAP) - Pressed/Cold Cast Navy Gun, Illum Candles</td>
</tr>
<tr>
<td>McAlester (OK)</td>
<td>Load, Assemble &amp; Pack (LAP) - Cold Cast Bomb</td>
</tr>
<tr>
<td>Pine Bluff (AR)</td>
<td>Load, Assemble &amp; Pack (LAP) - Smoke Artillery/Mortar</td>
</tr>
</tbody>
</table>

### Current Production Base PAA $s

- 25% Directly to GOCO’s
- 5% Directly to GOGO’s
- 70% Directly to Commercial
FY90-FY04 PAA
Production Base Funding
Industrial Base Strategic Plan

7 Overarching Strategies

30 Tactical Strategies

Strategic Goals:
1. Transform to Meet Current and Future Requirements
2. Modernize Utilized Manufacturing Capacity
3. Balance Industrial Base & Acquisition Management Risk
4. Operate Efficiently and Effectively
5. Incentivize Industry to Reinvest in Capital Equipment and Processes

Sample Overarching Strategies:
1. Acquisitions Will Determine and Posture the Production Base.
2. Acquisitions and Investments Will be Synchronized to Assure Required Manufacturing Capabilities Remain Available.
3. Opportunities for Greater Joint Service Activity Will be Identified and Implemented.

Outlines Goals and Tactics to Shape the Industrial Base
**Principal Strategy:**

1. Align Facility Use Contracts w/ BRAC05
2. Pursue Feasibility and Overall Business Case for Sell, Long Term Lease, and/or Capability Consolidation (Pending BRAC Outcome)
Conclusions

- Near term procurements relatively stable
- DoD IPT making good progress
- Fuze Industrial Base and critical core competencies receiving increased focus
- Working hard on developing a good acquisition business model with industry input
Back-ups