2017 NDIA
Armament Systems Forum Firing
Demonstrations (Session III)

COL M. Gutierrez, Project Manager,
Maneuver Ammunition Systems

1-4 MAY 2017
Armament Systems Platform Integration

AS OF 4APR17

SOLDIER WEAPONS
- M110 (7.62mm)
- M240
- M4A1
- 9MM
- 12 GUAGE SHOTGUN
  - Shotshell Study @ MCoE
  - .50 Cal Ammo CDD Initiated AROC

GROUND
- MK19
- XM1158 7.62mm ADVAP
  - MS B – DEC 16
  - XM1161 7.62mm OWL
  - MDD – DEC 16
  - XM1154 7.62mm RRA

NAVI
- PHALANX C-RAM
- M2
- BROWNING (.50 CAL)
  - .50 Cal Ammo CDD Initiated AROC

AIR
- AC-130
- A10
- AMP:
  - EMID PHASE 1 EFFORTS COMPLETE-ON SCHED.- WITHIN COST
  - PHASE 2 DOWNSSELECT – ON SCHED. - JAN 17

ROTARY
- M134 MINIGUN
- LW30 AB/30x113mm Proximity Dev.
- BLACKHAWK
  - 30x173mm AB for Stryker Lethality

MOUNTED
- Abrams
- Stryker MGS
- M724A2
  - TC-STD APPROVED
  - AWARDED FIRST PROD. ORDER

MPF
- AROC Approved AoA Ongoing
Priorities & Focus

Future Capabilities to Defeat Threats in Lethal, Contested Complex Environment

- Airburst Munitions for Mounted & Dismounted Fight - Autonomous/Programmable
- Extended Range Munitions - across the portfolio
- Increased Precision/Guided

Current Development Programs

<table>
<thead>
<tr>
<th>munition</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.62mm One Way Luminescence (OWL)</td>
<td>40mm Day/Night/Thermal Training (DNT)</td>
</tr>
<tr>
<td>7.62mm Lightweight Small Caliber Ammo</td>
<td>120mm Advanced Multi-Purpose (AMP)</td>
</tr>
<tr>
<td>7.62mm Reduced Range Ammunition (RRA)</td>
<td>Stryker ONS 30 x 173mm</td>
</tr>
</tbody>
</table>

Emerging Needs

<table>
<thead>
<tr>
<th>category</th>
<th>requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.56, 7.62 &amp; .50 Cal</td>
<td>OWL, LW Ammo, Reduced Range Training</td>
</tr>
<tr>
<td>40mm Grenades</td>
<td>HE Airburst, Door Breach</td>
</tr>
<tr>
<td>30mm Cannon</td>
<td>HE Airburst</td>
</tr>
<tr>
<td>105mm Multi-Purpose</td>
<td></td>
</tr>
<tr>
<td>120mm Extended Range</td>
<td></td>
</tr>
</tbody>
</table>

Potential for Increased Production to Support the Joint Warfighter

- FY17 DoD budget with Congress - potential for significant increases in ammo buys
- PM MAS now buying all Non-Standard Ammo for CENTCOM
- FY17 projections - 950M rounds Standard/91M Non-Standard

Change in Character of War
PM-MAS
PB17 Budget Outlook
(FY17-FY21)

Spending Forecast:
- Increasing
- Consistent
- Decreasing

ARMY RDTE
$372M
FY17-FY21

RELIABLE - PRECISE - LETHAL
### Scenario—Threat Based Posture

- Multi-Caliber approach to Overmatch threat capabilities
- Focus R&D Investments in that direction
- Maintain Industrial Base capacity & surge

#### Small Caliber

<table>
<thead>
<tr>
<th>CURRENT CAPABILITY</th>
<th>FUTURE CAPABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legacy AP (Threat)</td>
<td>XM1158 (Lethality)</td>
</tr>
<tr>
<td>Brass Case (Weight)</td>
<td>LSC (Maneuverability)</td>
</tr>
<tr>
<td>Legacy Tracer (Vulnerability)</td>
<td>XM1161 OWL Tracer (Survivability)</td>
</tr>
<tr>
<td>Legacy Precision (System Advancement)</td>
<td>APTC/RR (Flexibility)</td>
</tr>
<tr>
<td>EPR</td>
<td>Improved Precision (Lethality)</td>
</tr>
</tbody>
</table>

#### Medium Caliber

<table>
<thead>
<tr>
<th>CURRENT CAPABILITY</th>
<th>FUTURE CAPABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP, HEI, PI</td>
<td>Multi-Mode Fuze</td>
</tr>
<tr>
<td>Point Detonation</td>
<td>IRAP</td>
</tr>
<tr>
<td>Airburst</td>
<td></td>
</tr>
<tr>
<td>Stryker-None</td>
<td>30 x 173mm – PABM</td>
</tr>
<tr>
<td>JLTV-None</td>
<td>30 x 113mm – Prox</td>
</tr>
</tbody>
</table>

#### Large Caliber

<table>
<thead>
<tr>
<th>CURRENT CAPABILITY</th>
<th>FUTURE CAPABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aging 105 Fleet</td>
<td>Multi-Purpose 105mm Round</td>
</tr>
<tr>
<td>M1028 Canister</td>
<td>120mm AMP</td>
</tr>
<tr>
<td>M829A3/A4 SABOT</td>
<td>Current and Future MBT defeat</td>
</tr>
<tr>
<td>M830A1 - MPAT</td>
<td>Multi-Mode Fuze</td>
</tr>
<tr>
<td></td>
<td>ADL Equipped Rounds</td>
</tr>
</tbody>
</table>

### ABILITY TO SURGE

- LOW
- MED
- HIGH

**MFMS / CVMS**
# Industrial Base Posture
## Key Trends

### SMALL CALIBER AMMUNITION
(5.56mm, 7.62mm, .50 CAL, Misc)
- Small Caliber ammunition products in relatively good position
  - Potential for Lake City AAP competition in FY18-FY19
  - Maintaining Second Source for high demand products
- Boutique Items – Close Combat Mission Capability Kit (CCMCK), Short Range Training Ammunition (SRTA) etc. more dependent on other service buys

### MEDIUM CANNON CALIBER
(20mm, 25mm, 30mm)
- 30x173mm Ammunition for Stryker ICV ONS
  - Short-term Urgent Materiel Release (UMR) of Ammo
- Potential 30x173mm Program of Record
  - Full Materiel Release for Army
  - Programmable Airburst Development
- New emerging requirements could increase outyear demand
  - Increased lethality for JLTV
  - 30mm AB

### MEDIUM CALIBER AMMUNITION
(40mm Grenades)
- Requirements could increase outyear demand
  - Low Velocity High Explosive Airburst Development
  - Potential Adoption of 40mm Door Breaching Ctg.
  - Potential High Velocity Anti-Personnel Capability on MK19
- TP-DNT production starting late FY17
- High FMS demand for M430A1
# PM MAS FY17/ FY18
## Competitive Opportunities

<table>
<thead>
<tr>
<th>Program/ Item/ Description</th>
<th>Projected RFP Release</th>
<th>Projected Award Date</th>
<th>Total Potential Contract Value</th>
<th>Contract Strategy*</th>
<th>Contract Type**</th>
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</thead>
<tbody>
<tr>
<td>7.62mm Bottleneose Blank</td>
<td>AUG 16</td>
<td>MAR 17</td>
<td>$6.25M</td>
<td>C</td>
<td>IDIQ</td>
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<tr>
<td>Shotshell</td>
<td>AUG 16</td>
<td>MAR 17</td>
<td>$20.1M</td>
<td>C</td>
<td>IDIQ</td>
</tr>
<tr>
<td>120mm Tank Training</td>
<td>JUL 16</td>
<td>MAR 17</td>
<td>$671.1M</td>
<td>LC</td>
<td>FFP</td>
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<tr>
<td>Small Cal Non Recurring Engineering</td>
<td>JUL 16</td>
<td>APR 17</td>
<td>$65M</td>
<td>C</td>
<td>IDIQ</td>
</tr>
<tr>
<td>5.56mm Frangible</td>
<td>DEC 16</td>
<td>AUG 17</td>
<td>$52.8M</td>
<td>C</td>
<td>REQ</td>
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<tr>
<td>NSA IDIQ (CONUS)</td>
<td>JAN 17</td>
<td>AUG 17</td>
<td>$500M</td>
<td>C</td>
<td>IDIQ</td>
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<tr>
<td>40mm Systems</td>
<td>FEB 17</td>
<td>SEP 17</td>
<td>$483M</td>
<td>C</td>
<td>FFP</td>
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<tr>
<td><strong>FY18</strong></td>
<td></td>
<td></td>
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<tr>
<td>Medium Caliber Family</td>
<td>DEC 17</td>
<td>JUL 18</td>
<td>$2B</td>
<td>LC</td>
<td>IDIQ</td>
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<tr>
<td>40mm IRAP</td>
<td>NOV 17</td>
<td>MAY 18</td>
<td>$28.9M</td>
<td>C</td>
<td>FFP</td>
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<tr>
<td>PM MAS Support</td>
<td>DEC 17</td>
<td>MAY 18</td>
<td>$10M</td>
<td>C</td>
<td>IDIQ</td>
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</tbody>
</table>

*Competitive (C), Small Bus Set-Aside (SBSA), National Tech. & Industrial Base (NTIB), Sole Source (SS), Limited Competition (LC)

**Firm Fixed Price (FFP), Indefinite Delivery/ Indefinite Qty. (IDIQ), Requirements Contract (REQ)

AWARDED
PM-MAS Request for Industry Input

- PM-MAS has R&D Funds to execute EMD Programs for validated requirements (Most cases) – IRAD – Strategy should support Govt. vision
  - Identify/Minimize potential sole source situations at all levels of suppliers

- Industry input will be considered in developing acquisition strategy
Message to Industry

- Contested complex near peer adversaries create potential to be outsourced, out ranged, out protected and out of balance

- Overall Direct Fire Ammunition Production rising next few years
  • Near Peer scenarios will put upward pressure on War Reserve requirements

- Overall increase in R&D across Portfolio with focus on speed to field

- Consolidation for Non NATO Munitions
  • Requirements not going away anytime soon
  • CENTCOM / Big Army / SOCOM consolidation