"I think that the proper size of the organic base is zero – nothing…I can see no argument for why we need an organic base.”
“The health of the defense industrial base is key to the Army’s ability to continue to provide innovative technology and technologically excellent systems…”
Claude Bolton, ASA for Acquisition

“America under funds its military. Strategically, our country's industry base is not geared to support Army's requirements…Active engagement with Congress to resource - Congress is open and willing.”
GEN Schoomaker, CSA
Demand for a Modernized Industrial Base

Precision Guided Mortar Munition (PGMM)

- Tail Fin
- Propellant, Increments, & Ignition Cartridge
- Body Metal Parts
- Obturator
- Warhead & LAP
- S&A
- Electronics
- Fuze
- Controls
- Seeker
- Inertial Sensors
- Container

Block I - Ballistic
Block II - Rocket-Assist Ballistic

Component from Current Ammunition Industrial Base
Component From Outside Current Ammunition Base
Preserving Critical Production Capabilities

• Number of remaining GOCO facilities with critical capabilities

• Recommended profit necessary to sustain and modernize critical capabilities

• Minimum number of years necessary to attract investment and achieve ROI
If You Do The Math. . .

• Profitability and Investment are linked

• A fine wine needs time and so does “Return on Investment” (ROI)

• The “Rule of Ten” is a good guideline
Evolution of the Munitions Industrial Base

- 1939 survey – 112 plants planned
- WW II – 84 plants operated
- Korea – 37 plants operated
- Viet Nam – 25 plants operated
- Present – 11 plants operated

What’s next?
Critical Manufacturing Capabilities Must Be Preserved

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>GOCCO FACILITY</th>
<th>AVAILABLE COMMERCIAL CAPACITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detonators, delays, primers</td>
<td><em>Lone Star AAP</em></td>
<td>US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>HE melt pour - mortar</td>
<td><em>Milan AAP, Kansas AAP</em></td>
<td>US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>Pressed warheads</td>
<td><em>Iowa AAP</em></td>
<td>US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>Cargo grenade metal parts</td>
<td><em>Riverbank AAP, Mississippi AAP</em></td>
<td>US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>Propellant, MCA LAP, TNT</td>
<td><em>Radford AAP</em></td>
<td>Insufficient US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>SCA LAP</td>
<td><em>Lake City AAP</em></td>
<td>Insufficient US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>40mm LAP, C4 extrusion</td>
<td>Milan AAP</td>
<td>Insufficient US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>ICM LAP</td>
<td>Lone Star AAP, Kansas AAP</td>
<td>Insufficient US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>HE melt pour - artillery</td>
<td>Milan AAP, Iowa AAP</td>
<td>Insufficient US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>Projectile metal parts</td>
<td><em>Scranton AAP, Louisiana AAP</em></td>
<td>Insufficient US/Canada COCO peacetime capacity</td>
</tr>
<tr>
<td>Tank ammo LAP</td>
<td>Iowa AAP</td>
<td>No US/Canada COCO peacetime capability</td>
</tr>
<tr>
<td>Explosives</td>
<td><em>Holston AAP</em></td>
<td>No US/Canada COCO peacetime capability</td>
</tr>
<tr>
<td>Steel cartridge cases</td>
<td>Riverbank AAP</td>
<td>No US/Canada COCO peacetime capability</td>
</tr>
<tr>
<td>Pressed LAP</td>
<td>Kansas AAP, Lone Star AAP</td>
<td>No US/Canada COCO peacetime capability</td>
</tr>
</tbody>
</table>

Critical but lack modernization funding to meet transformation needs
Lake City Army Ammunition Plant
~$32M Investment over 4 Years to Improve Infrastructure & Productivity
- 5.56mm Manufacturing Improvements (Case & Bullet)
- .50 cal Case Cell & 7.62mm Priming Improvements
- Ammunition Packaging & Inspection Equipment
- Small & Medium Caliber Links and Feed Systems
- Package Boilers & Steam System Upgrade

ATK committed to invest $34M
- $23.5M in production modernization
- $10.5M in infrastructure and environmental
- $6M in link manufacturing

Breakout of Capital Investment to Date
- Modernization 65%
- Business Growth 16%
- Maintenance /Sustainment 13%
- Energy 4%
- Safety and Environmental 2%
• Army and ATK have rebuilt and restored the U.S. link production capability

*Link deliveries no longer pace ammo production*
Radford Army Ammunition Plant
>$46M Equipment Investment over 10 Years to Expand Capabilities & Improve Efficiency
• Commercial Propellants
• Nitrocellulose Line Modernization
• Medium Caliber LAP
• TNT Flexible Nitration Process

TNT Flexible Nitration Facility
• Leverage’s ATK Energetics Expertise
• Mechanism for facility transformation
• Investment in state-of-the-art equipment
• Low cost, low risk, and environmentally sound manufacturing capability

Right Team, Right Facility, Right Solution!
The Three Amigos
C³ For Success!

Customers

Congress

Contractors
Investment In Plant Infrastructure and Equipment – ABL

Army is ABL’s Largest Customer!
- Tank Ammo metal parts
- Javelin
- Maverick
- Hellfire
- TOW

Allegany Ballistics Laboratory (ABL)
>$35M Equipment Investment over 8 Years to Expand Capabilities & Improve Efficiency
- Energetic Operations Consolidation
- High Rate Composite Structures
- Ammunition Metal Parts
- Large Caliber Ammunition LAP

C³ In Action
We need a capabilities-based strategic plan
The Right Strategic Plan – One size does not fit all…

…flexibility is required!
The Path Forward – An Industry Perspective

• USG support of *facility specific* modernization and transformation objectives
  • Target facilities that offer greatest opportunity for cost reduction and modernization of core capabilities (e.g. RFAAP Cost Reduction and Modernization)
• USG must link industrial base and program acquisition strategies
  • Process and facility modernization investments should be incorporated
  • New products will require new process technology
  • Industry should invest in modernization and be allowed ROI through pricing
    • Source selection should allow under best value competition
    • Address single point failures across the base
  • Long-term production contracts and predictable production base
    • Promotes business vitality and reinvestment with reasonable ROI
• Industry incentives to reinvest in capital equipment and processes
  • Cost of capital forecasted to be higher than other capital investments
• Increased use of ARMS revenue to reduce cost of ammunition
  • Industry should seek business relocation opportunities on modernized GOCO facilities
• Reset stockpile inventory to appropriate levels as buffer to surge requirements
  • Use DERF to ramp up operations when needed