Ammunition Industrial Base Modernization Brief

for the

NDIA

Munitions Executive Summit

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Ammunition Industrial Base Overview

**Historical Background**

- **Army Ammo Organic Facilities over time**

**Post 05 BRAC Industrial Base**

- **Commercial Suppliers: Principal Source of Ammunition:**
  - 180+ Key Commercial Sources
- **Supply Chain State:**
  - 34 Critical Single Point Failures
    - 16 Mitigated
- **Army Ammunition Facilities:**
  - 6 AAPs (Radford, Lake City, Holston, Iowa, Milan, Scranton)
  - 1 Facility @ Rock Island Arsenal (Riverbank AAP BRAC Capability)
- **GOGO Ammunition Installations**
  - 3 Army Multi-Mission Installations (Production and Logistics)
    - (Crane, McAlester, Pine Bluff)
- **5 Logistics/Depots** (Tooele, Hawthorne (GOCO), Blue Grass, Anniston Munitions Center (MC), Letterkenny MC)

**Desert Storm**

**Cyclical Modernization Funding**

**OIF**

**Typical Annual Funding Distribution**

- **FY09:** $4.1B
  - Industry (75%)
  - GOCO (20%)
  - GOGO (5%)
Current Organic Production Facilities

**Iowa AAP**
- Missile Warheads
- Load, Assemble and Pack
- 120mm Tank, 105/155 Artillery

**Holston AAP**
- Explosives RDX/HMX

**Radford AAP**
- Solventless Propellants
- Nitrocellulose

**Scranton AAP**
- Projectile Metal Parts
- 155mm shells & 120 mm mortar

**Lake City AAP**
- Small Caliber
- 5.56, 7.62 & 20mm, .50 cal

**Rock Island Arsenal**
- Future Large Cal Ctg Case Line

**Mississippi AAP**
- ARMS Tenants

**Lone Star AAP**
- Load, Assemble and Pack
- Relays/delays/detonators Artillery

**McAlester AAP**
- 500,1000 & 2000 lb Bombs
- Intelligent Munitions
- Supply Depot Operations
- Defense Ammunition Center
- Explosive Safety / Engineering
- Demil R&D Technology
- Training / Career Mgmt

**Kansas AAP**
- Sensor Fuzed Weapon

**Riverbank AAP**
- Processing Metal Parts
- Steel Cartridge Cases
- 5 in. Navy gun & Stryker

**Crane Army Ammunition Activity**
- 5"/54 & .76mm Load, Assemble & Pack
- Illum candles, Pyro, Flares
- Supply Depot Operations

**Pine Bluff Arsenal**
- White/Red Phosphorus
- Smoke/Obscurants
- Supply Depot Operations

**Lone Star AAP**
- Load, Assemble and Pack
- Relays/delays/detonators
- Artillery

**Pine Bluff Arsenal**
- ARMS Tenants

**LEGEND**
- AAP = Army Ammunition Plant
- RDX = Research Dept Explosive
- HMX = High Melt Explosive
- BRAC = Base Realignment and Closure
- GOCO = Government Owned Contractor Operated
- GOGO = Government Owned Government Operated
SMCA Ind Base Strategic Plan: 2015

A World Class Conventional Ammo Industrial Base
Meets Joint Warfighter’s Requirements
(Right Time – Right Place – Right Cost – Right Quality)

Business Tenets

- Joint Warfighter Perspective
- Finance & Resource Planning Perspective
- Process Perspective
- Communication, Innovation & Workforce Perspective

BSC Perspectives

Vision
Mission

Goals
- Optimize Production Base Readiness
- Optimize Depot Logistics Readiness
- Reduce Life Cycle Costs
- Initiate Innovative Acquisition Strategies
- Modernize Industrial Base Capabilities
- Improve Munitions Supply Chain Responsiveness
- Recruit, Train, Retain The Best Workforce
- Promote Collabor’n, Commo throughout the IB Community

Supporting Objectives and Strategies

January 2009

Public Law 105-261, Section 806: Statistics

Link to request Section 806 “Watch List”

https://www.fbo.gov/?s=opportunity&mode=form&id=f44f2858a9ab34d1baa498b6df20d380&tab=core&cview=0
GOCO AAP Modernization Approach

- Implement SMCA Industrial Base Strategic Plan, Jan 2009, Goal 5: “Modernize Industrial Base Capabilities”
  - **Objectives:**
    - Increase Manufacturing Readiness to Meet Current and Future Requirements
    - Reduce AAP Operating Costs & Footprint
    - Effectively and Efficiently Meet POM Requirements
  - **Key Modernization Strategies:**
    - Identify, consolidate and prioritize production & infrastructure deficiencies, aligning with Joint Warfighter needs
    - Target:
      - Post-BRAC AAPs: Radford, Lake City, Holston, Scranton, Iowa, Milan
      - Capabilities/Capacities Not Available or Insufficient in Commercial Sector
  - Emphasize “Critical” Modernization Requirements
    - **Critical:** Investment Necessary to Avoid Significant Supply Disruptions or to Provide an Immediate and Essential Improvement to Operating Efficiencies. Includes Projects to Meet Specific Environmental Compliance Regulations and Safety/Security Standards.
    - Examples:
      - Power Plant EPA Compliance
      - New 5.56mm SCAMP Lines
      - New NC production
      - New Waster Water Treatment Plant
      - High Tonnage Press Rebuild
      - New Plant-wide Electrical Power System
  - **Total Requirement:** Includes Projects that are Necessary to Minimize Operating Costs, Reduce Operating Footprint, and Improve Operating Efficiencies.
GOCCO AAP Industrial Facilities (IF) Funding
(Procurement of Ammunition, Army (PAA), EP 1200)

$M


- Base
- Cong Add
- Supp
- FY03 State

Key Goal=“Steady State”

PBR 10-15, Critical Reqmts Funded

AAE/AMC CG AAP Mod Plan
SMCA Strategic Plan
SASC AAP Mod Plan
Sec Army Strat Plan/RF

~220 Industrial Facilities Projects

Source: 10-15POM Aug 08

HQDA G8 Providing Tremendous Support
# GOCO AAP Capability and Modernization Funding

<table>
<thead>
<tr>
<th>GOCO Facility</th>
<th>Core Processes</th>
<th>FY03-09 Funding Totals</th>
<th>FY10-15 Critical Reqmts ($M)</th>
<th>FY10-15 Total Required ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radford (VA)</td>
<td>Propellant Manufacturing (Rocket, Artillery, Tank, Med Cal; NC for all Propellants)</td>
<td>440.065</td>
<td>315.8</td>
<td>338.0</td>
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<tr>
<td>Lake City (MO)</td>
<td>Small Caliber</td>
<td>246.960</td>
<td>77.9</td>
<td>93.5</td>
</tr>
<tr>
<td>Holston (TN)</td>
<td>Explosives - HMX, RDX</td>
<td>200.390</td>
<td>300.4</td>
<td>300.4</td>
</tr>
<tr>
<td>Scranton (PA)</td>
<td>Large Caliber Metal Parts- Artillery/Mortars</td>
<td>51.441</td>
<td>40.7</td>
<td>44.2</td>
</tr>
<tr>
<td>Iowa (IA)</td>
<td>Load, Assemble &amp; Pack (LAP) - Tank/Artillery, FASCAM</td>
<td>67.640</td>
<td>47.2</td>
<td>67.9</td>
</tr>
<tr>
<td>Milan (TN)</td>
<td>LAP - Mortars, 40mm Cartridges; C-4 Extrusion</td>
<td>20.362</td>
<td>3.0</td>
<td>3.0</td>
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<tr>
<td>Engr Support</td>
<td>Engineering Support/ATEC</td>
<td>21.547</td>
<td>43.3</td>
<td>43.3</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1,048.405</strong></td>
<td><strong>828.3</strong></td>
<td><strong>890.3</strong></td>
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**FY10-$159M**

All FY10-15 Critical Requirements are fully funded

Notes:
1. FY03-09 and FY10 data based on actual funding received
2. FY11 Data based on FY11 Press Bud as of 1 Feb 2010
3. FY12-15 Data based on projected requirements

70 New Start Projects in FY09 Alone*
Holston AAP Relocation of Area A to Area B

Project Description:
• Relocate Area A acid operation to Area B, eliminating a 7 mile pipeline.

Performance Objectives/Benefits:
• reduce overall infrastructure footprint
• enhance operational safety and security
• reduce risk of production interruption
• save capital investment to modernize the Area A facilities

Contract Type: FFP

Cost  Schedule

Original Baseline  $ 141.60M  60mo (Mar 09 – Mar 14)
Current (EAC)  $ 139.20M  60mo (Mar 09 – Mar 14)

Accomplishments
• Completed Project Integrated Master Plan & Schedule (Jun 2009)
• Completed Pre-Design phase (Dec 2009)
• D&F approved by OSD(AT&L) (Oct 2010)
• 30% Engineering Design Contract awarded (Completion Apr 2011)

Funding Profile

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<th>FY 09</th>
<th>FY10</th>
<th>FY11</th>
<th>Total</th>
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<tbody>
<tr>
<td>POM</td>
<td>$12.00M</td>
<td>$64.16M</td>
<td>$65.44M</td>
<td>$141.60M</td>
</tr>
</tbody>
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Issues: None
Purpose: Construct a new state-of-the-art Nitric Acid Concentration/ Sulfuric Acid Concentration (NAC/SAC) Facility

- The current system:
  ✓ Exceeds 20 year design life
  ✓ Oversized by a factor of 2 and energy inefficient

Cost & Schedule:

<table>
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<tr>
<th>Original Baseline</th>
<th>$80.50M</th>
<th>48 months (Apr 06 – Mar 10)</th>
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<tr>
<td>Rev 1 (Jul 08)</td>
<td>$118.78M</td>
<td>52 months (Apr 06 – Jul 10)</td>
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<tr>
<td>Current EAC</td>
<td>$118.78M</td>
<td>52 months (Apr 06 – Jul 10)</td>
</tr>
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Status/Milestones:

- Contract awarded to SNC-Lavalin-Plinke by ATK (Oct 08)
- Air Permit: VA Department of Environmental Quality – Dec 08
- Building construction completed – Aug 09
- Process equipment completed for 2nd thru 7th floors – Dec 09
- Glass-lined steel piping underway – to be completed Mar 10
- Commissioning: Apr-July 2010
Key Ammo Industrial Base Challenges

- **AAP Modernization**
  - Modernizing While Avoiding Supply Disruption
  - Right-sizing

- **Cost of GOCO AAP Ownership**
  - High Overhead Costs
  - Balancing Safety, Security and Production Sustainment Requirements w/ AAP Competitiveness

- **“Soft Landing” Requirements & Resource Planning**
  - Avoiding Abrupt and Large Reduction in Requirements
  - Sustaining commercial sub-tier supply chain

- **Single Point Failure & “No NTIB Source of Supply” Risk Mitigation**
  - E.g., TATB, Lead Azide, Calcium Silicide

- **Factoring Industrial Base Considerations into the Acquisition Process**
  - Manage Impacts to Critical NTIB Core Competencies, Capabilities & Capacities
BACK UP
SMCA Industrial Base Strategic Plan: 2015

Army Campaign Plan Imperatives
Sustain, Prepare, Reset & Transform

JM&L LCMC Strategic Priority #1
Achieve Optimal Ammo Industrial Base Readiness

Single Manager for Conventional Ammunition (SMCA)
Industrial Base Strategic Plan: 2015

“Super Seven” Business Tenets

1. Acquisitions and investments will be synchronized to ensure that required manufacturing and logistics competencies and capabilities remain available and viable.

2. Industrial base considerations will be factored into the acquisition process. Product will bear organic base operation and maintenance cost, to maximum extent practicable.

3. The industrial base infrastructure will be sized to maximize operating efficiencies and to reflect strategic guidance and economic realities.

4. Private industry, as the principal ammunition supplier, will be provided incentives for investing in and sustaining the production base.

5. Systems acquisition will be utilized to the maximum extent practicable.

6. Opportunities will be identified and implemented for greater joint Service activities.

7. The culture of continuous improvement will influence all SMCA and industrial base related strategies and subsequent activities.