



# Ammunition Industrial Base Modernization Brief

for the  
*NDIA*

*Munitions Executive Summit*  
*8-10 Feb 2010*

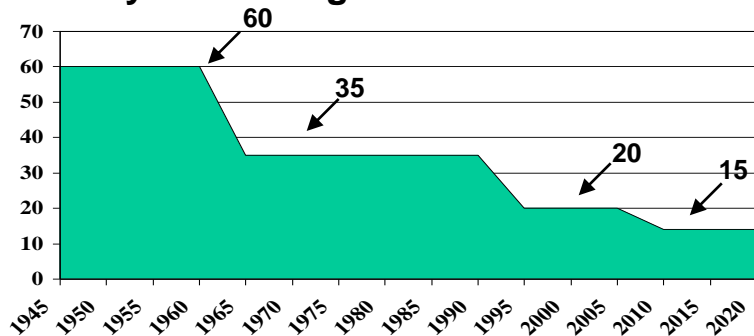
**Matt Zimmerman**  
**Deputy PM Joint Services**  
**U.S. Army PEO Ammunition**  
**Picatinny Arsenal, NJ 07806-5000**  
**973-724-7626**  
**[Matthew.zimmerman1@us.army.mil](mailto:Matthew.zimmerman1@us.army.mil)**



# Ammunition Industrial Base Overview

## Historical Background

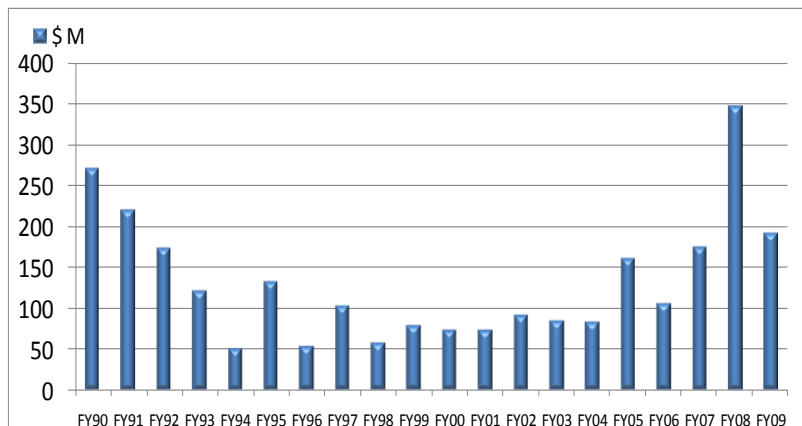
Army Ammo Organic Facilities over time



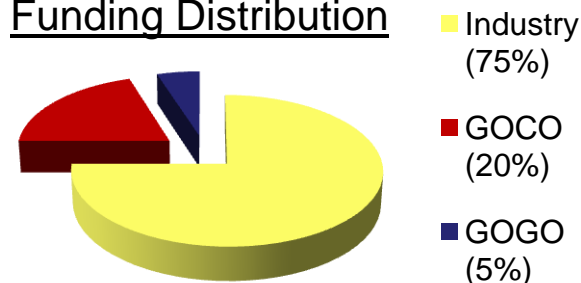
## Post 05 BRAC Industrial Base

- **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



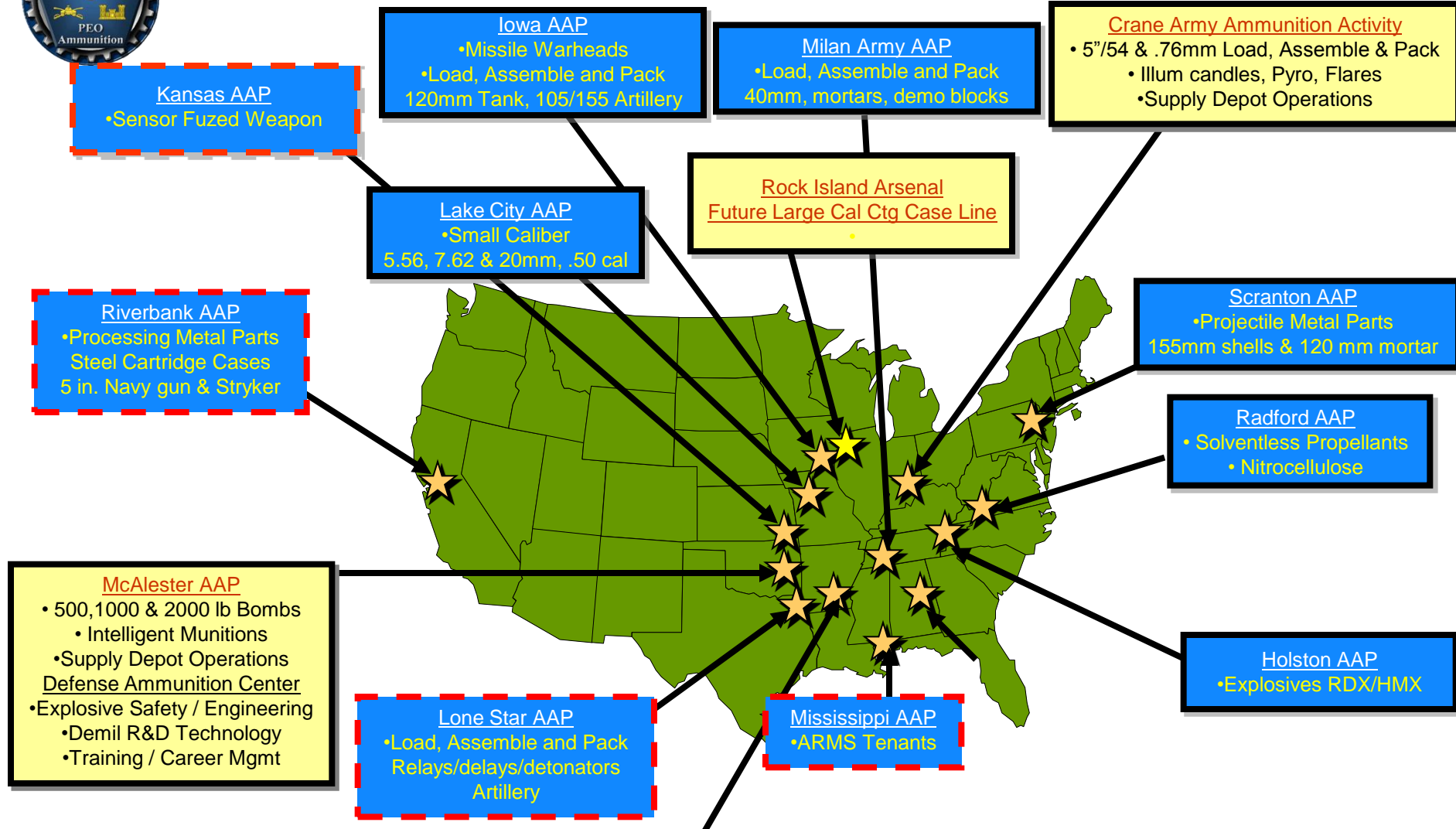
## Typical Annual Funding Distribution



**FY09:  
\$4.1B**



# Current Organic Production Facilities



## LEGEND

- = Government Owned Government Operated (GOGO)
- = Government Owned Contractor Operated (GOCO)
- = BRAC sites
- AAP = Army Ammunition Plant
- RDX = Research Dept Explosive
- HMX = High Melt Explosive



# SMCA Ind Base Strategic Plan: 2015

January 2009

Vision



Mission

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



BSC Perspectives

Business Tenets

Joint Warfighter Perspective

Finance & Resource Planning Perspective

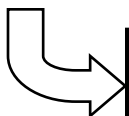
Process Perspective

Communication, Innovation & Workforce Perspective



Goals

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

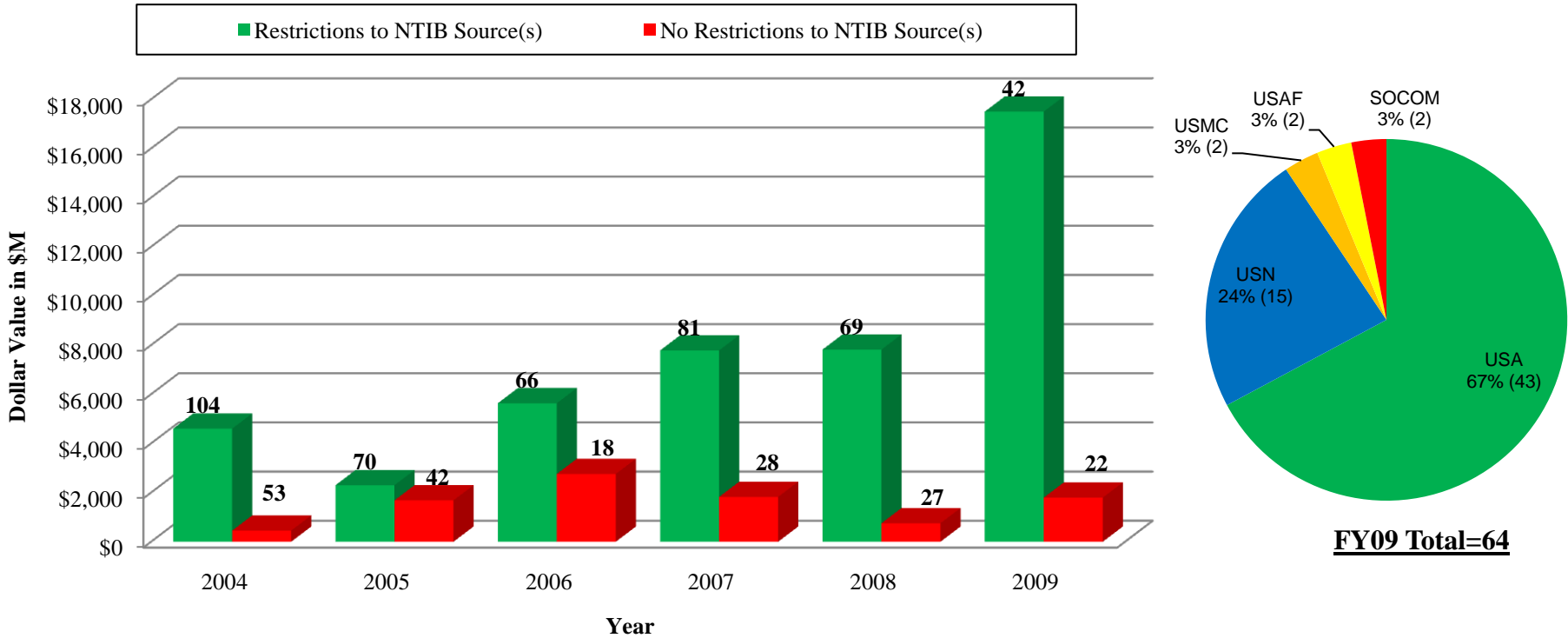


Supporting Objectives and Strategies

<https://peoammo.army.mil/PMJointServices/Home.aspx>



# 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](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

## SMCA DODI 5160.68

“Manage and Invest.....  
To Ensure Adequate  
Production Base that  
Supports SMCA  
Assigned Products”



## ➤ 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:

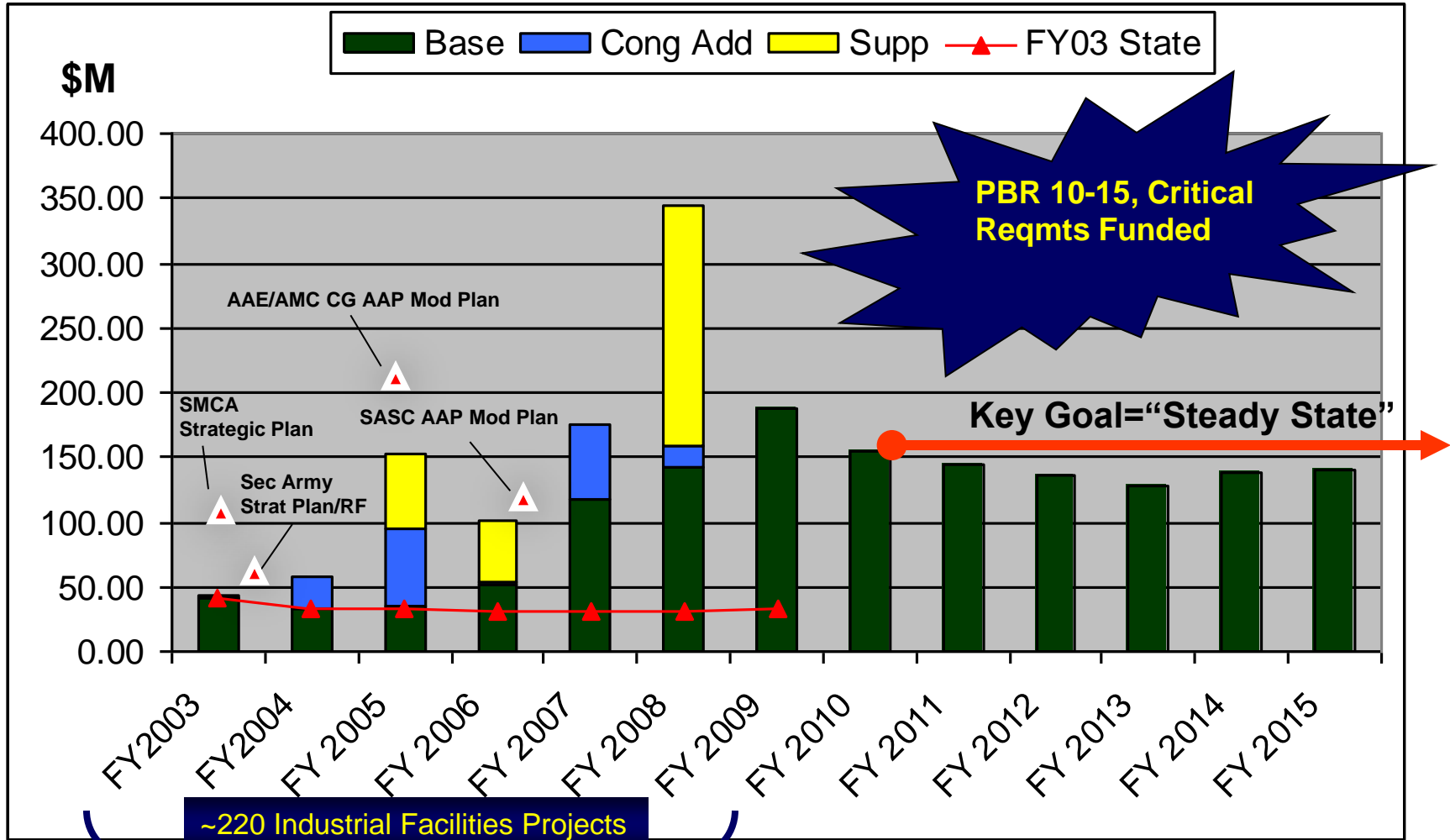
- Power Plant EPA Compliance
- New 5.56mm SCAMP Lines
- New NC production
- New Waster Water Treatment Plant
- High Tonnage Press Rebuild
- New Plant-wide Electrical Power System

✓ **Total Requirement:** Includes Projects that are Necessary to Minimize Operating Costs, Reduce Operating Footprint, and Improve Operating Efficiencies.



# GOCO AAP Industrial Facilities (IF) Funding

(Procurement of Ammunition, Army (PAA), EP 1200)



Source: 10-15POM Aug 08

**HQDA G8 Providing Tremendous Support**

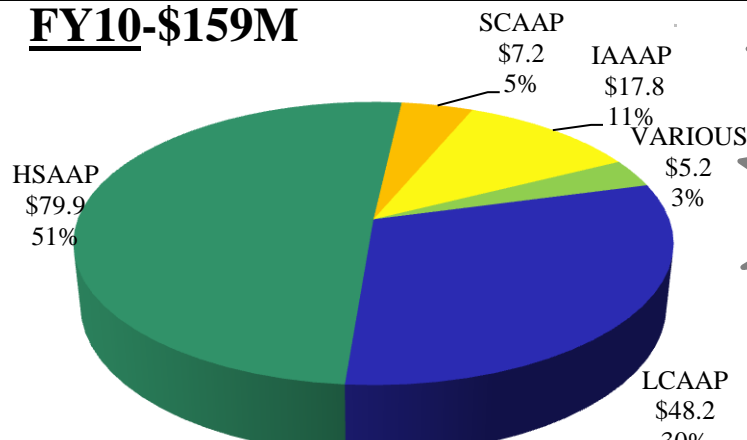


# GOCO AAP Capability and Modernization Funding

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

**All FY10-15 Critical Requirements are fully funded**

## FY10-\$159M



**70 New Start Projects in FY09 Alone\***

- 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





# Holston AAP Relocation of Area A to Area B



Area A buildings

## 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)

## Funding Profile

	FY 09	FY10	FY11	Total
POM	\$12.00M	\$64.16M	\$65.44M	\$141.60M

## 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)

Issues: None



# Nitric Acid Concentrator/ Sulfuric Acid Concentrator (NAC/SAC) for Radford AAP

❑ **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

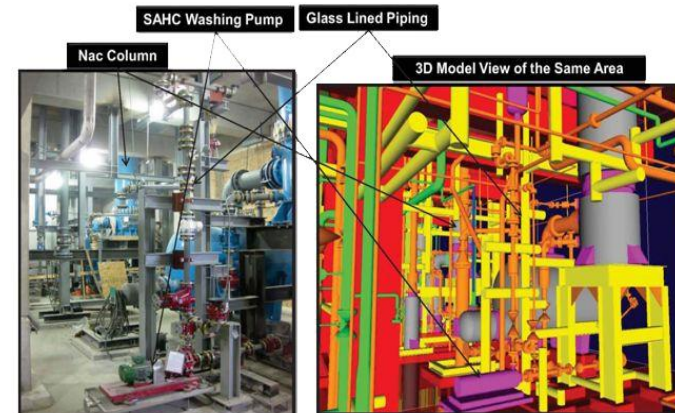
❑ **Cost & Schedule:**

<b>Original Baseline</b>	<b>\$80.50M</b>	<b>48 months (Apr 06 – Mar 10)</b>
Rev 1 (Jul 08)	\$118.78M	52 months (Apr 06 – Jul 10)
Current EAC	\$118.78M	52 months (Apr 06 – Jul 10)
SPI		
CPI		



❑ **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 2<sup>nd</sup> thru 7<sup>th</sup> 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.