The Panel

- Mr. Steve Dart President of MECAR USA
- Ms. Patti Felth Deputy Project Manager Close Combat Systems
- Mr. James Flaherty VP and General Manager GD-OTS (Scranton Operations)
- Mr. Kevin Knotts Principal, CSC, Federal Consulting Practice (Defense Logistics)
- Mr. Jerry LaCamera Jr. Technical Operations Manager, NSWC Indian Head Division
- Mr. Thomas Rockne VP Mission Assurance ATK
- Mr. Rob Shenton VP and Chief Operating Officer, Aerojet
- Mr. Andrew Wilson VP Marketing and R&D, BAE Systems, Ordnance Systems
Panel’s Objective

- Highlight some of the key Industrial Base (IB) drivers for change
- Address how requirements/needs impact a robust and modern manufacturing base
- Identify the goals & responsibilities of the Government and industry
- Discuss options on achieving a balance as we transition from traditional/legacy to emerging munitions
- Answer questions resulting from this briefing
Manufacturing Technology – Meeting the Evolving Needs of the U.S. Armed Forces

War Fighter’s Needs & Theoretical R&D

Ammunition Requirements

Networked, Precision, New and Old Ammunition
  e.g. IM, Thermobaric, Excalibur, Intelligent Munitions System

Applied R&D & New Manufacturing Requirements
  e.g. Melt Pour, Press, Electronics, MS 1916, Flexible Manufacturing

Suppliers of the Ammunition Requirements
  COCO, GOCO, GOGO

Acquisition Strategies

Systematic . . .
Drivers for Change

**Military/USG:**
- Changing face of the enemy
- Worldwide trend toward lighter more mobile forces
- Maintenance of the NTIB

**Political:**
- Buy American Act
- Elections
- Defense expenditures
- Export license approval
- Local Congressional support, plus-ups, ear marks etc

**Economic:**
- Consolidation of defense contractors
- Industry Shakeups - Reduction in competitors
- Reduction in suppliers
- BRAC

**Technical:**
- Insensitive munitions
- Thermobaric
- High strength materials
- Performance propellants
- Non-lethal
- Higher more stringent quality requirements
- Precision Guidance
- Critical Materials

**Social:**
- Security/Terrorist threat
- Local Skills/Jobs

**Environment:**
- Green munitions
- Eventual demil (life cycle management)
- Security requirements in view of terrorist threats

NTIB = Commercial & Government = COCO, GOCO, GOGO
Maintaining a Balance; While Executing a Transition

Traditional to Emerging

Component break-out contracts
Single-use production lines
Government owns tools of production
Production capacity influences product
High-quantity conventional munitions
Oversized capacity (peacetime / surge)

Systems contracts
Multiple/flexible-use production lines
Government owns product; industry owns tools
Product drives production process
Low quantity smart munitions
Focused but reconfigurable capacity
Goals of Government and Manufacturers/Industry

- **Goal of Government – Sustain Industrial Readiness**
  - Timely, high quality products to the Warfighters
  - Innovative products & rapid technology insertion
  - Continuous product and process improvement
  - Healthy, modern, responsive industrial base, capable of meeting wartime and peacetime demands – (Surge based on the 2nd shift)

- **Goal of Manufacturers/Industry**
  - Ability to compete; to provide quality munitions at a reasonable cost
  - Long term investments need reasonable assurance investments are recovered
  - Support the Warfighter and the National Defense of our Country
  - Bottom line
    - Must satisfy the stakeholders
    - Must survive the peaks and troughs
Government’s Responsibilities

Customer/Government should:

- Pursue best value acquisition strategies that reward/encourage
  - Improving production process, quality, technical & technical insertion over price
  - Providing for innovation and rapid technology insertion
  - Maintain needed capability and capacity
- Structure long term contracts with resources for modernization
- Effectively manage change through:
  - Providing current, production proven Technical Data Packages (TDPs)
  - Expediting and funding the qualification process
  - Accommodating the manufacturers recommendations for technology insertion
- Leverage WW technology insertion through smart NTIB procurement restrictions
- Invest in basic (6.1) and Advanced (6.2) RDT&E and transition technology into:
  - Legacy product developments
  - Emerging products
  - Manufacturing processes
- Maintain the capability and capacity (Surge based on the 2nd shift)
Manufacturers Responsibilities

Manufacturers should:

- Maintain awareness of product/process and technological advances worldwide
- Propose technological insertion to the customer
- Maintain customer awareness of supply chain and facility vulnerabilities
- Provide quality, munitions on time and at a reasonable cost
- Conduct Applied R&D
- Maintain flexibility and responsiveness
Challenges We Face –
Merging the Drivers, Goals, and Responsibilities

- How do we incentivize & fund modernization of IB capabilities?
  - Facilities
  - Equipment
  - Processes

- What key capabilities need to be retained and where should they be?

- How do you strike the right “Capability” and “Capacity” balance that is flexible to dynamic changes in needs – Peacetime and Wartime?

- What are the right Acquisition Policies/Strategies to promote a “Right-sized” Industrial Base (IB)?

- What key ingredients/materials, technologies, and capabilities are critical to sustaining IB readiness?
  - TNT, Nitroguanidine, Binders
  - High Energy Nitramines
  - Nano-energetics
  - Melt-Pour, Cast Cure, TSE Continuous Processing
  - Chemical Scale up

How do we ensure continuity of supply and industrial base viability?
Selected Topics for Discussion

- Roles and responsibilities of Government Acquisition Managers
  - How to Integrate acquisition approaches with industrial base management
  - How acquisition strategies can promote modernization
- Roles and Responsibilities of Ammunition Producers
  - Ammunition manufacturing
  - Modernization
- Flexible Manufacturing
  - Metal Parts
  - LAP – Melt Pour and Cast Cure
  - Energetics
- Research and Development
  - Energetics
  - LAP
-Insensitive Munitions