Munitions Executive Summit

OSD Perspective

February 7, 2007

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Deputy Director, Portfolio Systems Acquisition,
Land Warfare and Munitions
Discussion Topics

– OSD / AT&L Organization

– DoD Business Processes
  – AT&L Goals and Initiatives

– Budget Trends

– Munitions Interest Areas
  – DOTC and Joint Munitions Program
  – Modeling & Simulation
  – Insensitive Munitions
  – Low Collateral Damage
  – Emerging Contaminants
  – Standardization
Office of the Secretary of Defense

Secretary of Defense
Deputy Secretary of Defense

USD (Policy)
USD (Comptroller)
USD (Personnel & Readiness)
USD (Intelligence)
USD (Operational Test & Evaluation)
USD (Acquisition, Technology & Logistics)

ASD (International Security Affairs)
ASD (International Security Policy)
ASD (Reserve Affairs)
ASD (Health Affairs)

ATSD (Intelligence Oversight)
Inspector General
General Counsel
ASD (Legislative Affairs)
ASD (Public Affairs)
ASD (Networks & Information Integration)

Director Administration and Management
Director Force Transformation
Director Net Assessment
Director Program Analysis and Evaluation

Chart reflects PAS officials and those reporting directly to the Secretary and Deputy Secretary of Defense.
DoD Business Processes
Joint Capabilities Integration & Development System (JCIDS)

VCJCS/Service Chief Oversight

Defense Acquisition System
Milestone Decision Authority (MDA) Oversight

Planning, Programming, Budgeting & Execution Process (PPBE)

DEPSECDEF Oversight

MID 913 PPBS to PPBE 22 May 03

DoD 5000 Series 12 May 03 Revision

CJCS 3170.01E 11 May 05
USD (AT&L) Goals

**Goal 1** - High Performing, Agile, and Ethical Workforce

**Goal 2** - Strategic and Tactical Acquisition Excellence

**Goal 3** - Focused Technology to Meet Warfighting Needs

**Goal 4** - Cost-effective Joint Logistics Support for the Warfighter

**Goal 5** - Reliable and Cost-effective Industrial Capabilities Sufficient to Meet Strategic Objectives

**Goal 6** - Improved Governance and Decision Processes

**Goal 7** – Capable, Efficient, and Cost-Effective Installations

http://www.acq.osd.mil/goals/
Goal 2: Strategic and Tactical Acquisition Excellence

2.1 Acquisition agenda aligned with the Department's core values, policy objectives, joint capability needs, and available resources to attain best value solutions.

Success:

- We establish and institutionalize a concept decision/time defined acquisition process which brings together the requirements, acquisition, and programming/budgeting communities. This ensures we start affordable programs, at the right time, for the right capability with predictable performance.

- We establish an operating tempo that synchronizes AT&L's acquisition decision and oversight processes with the defense enterprise. This ensures the Department is providing consistent and coherent tactical and strategic direction.

2.2 Risk, outcomes, schedule, and cost balanced when planning and adjusting portfolios, programs, and procurements.

Success:

- We establish and institutionalize the EOA process. This ensures a proper balance of cost, schedule, performance, risk and technological maturity is established for identified capability solutions to guide the CD/TA processes.

- We establish and institutionalize Small Business Program Initiatives that are cross cutting to the Department. This improves program and procurement alignment with Department policy objectives, joint capability and balanced portfolios.

- We establish and institutionalize IBR process to adjust portfolios, programs and procurements to align with the Department's policy objectives, joint capability needs and available resources. This supports the work of the Joint Capability Portfolio Managers.
Goal 2: Strategic and Tactical Acquisition Excellence

2.3 Acquisition execution improved across the total life cycle through the use of sound business and technical practices.

Success:

- We have revitalized DoD Systems Engineering, Software Engineering, and Developmental Test and Evaluation competencies, by establishing these processes as core competencies within DoD.
- We have implemented a department-wide Risk Based Source Selection methodology that properly quantifies risk, and ensures a comprehensive risk assessment in preparation for the source selection process.
- We have restructured and institutionalized the DAES process to better provide value-added oversight of selected programs. This enables the surfacing of program execution problems as soon as possible, thus allowing early and effective resolution.
- We have restructured and institutionalized the DAB process to better provide value-added oversight and coherent strategic direction in an effective, efficient, and timely manner.
- We have ensured the appropriate and policy-compliant use of award/incentive fees, better motivating industry to execute contractually compliant programs and services.
- We have established funding stability via the use of capital accounts.

2.4 Customer demands and warfighter Joint Urgent Operational Needs (JUON) promptly and efficiently fulfilled.

Success:

- We have refined the Tri-Chair gatekeeper function to ensure the most appropriate acquisition path and processes based on urgency of need, technological maturity, requirements stability and affordability are consistent with life cycle support initiatives.
- We have created a Strategic Sourcing for acquisition policy, allowing effective and economic use of DoD’s significant leverage as an “enterprise buyer” of services.

2.5 Capability fielded to meet warfighter needs.

Success:

- We have established leading indicators for Acquisition Program Baselines (APBs), ensuring programs delivered to the warfighter provide predictable performance.
Goal 3: Focused Technology to Meet Warfighting Needs

3.1 Investments deliver innovative, product-ready technology.
Success:
- We have driven the DoD research and engineering investment to reduce risk in programs, and to take advantage of technology opportunities, to affordably and rapidly add military capability and address warfighting gaps.

3.2 Joint and Interoperable is the way of doing business.
Success:
- We constantly review investments of taxpayer dollars to ensure that the driving imperative is to deliver value for the DoD enterprise and the Combat Commander who must synchronize military might.

3.3 Vibrant S&T program which delivers results and attracts highly capable people.
Success:
- We ensure the future of this nation through an active and aggressive research and engineering portfolio which attracts the best and brightest in America—scientists, engineers, students.

3.4 S&T processes deliver maximum value for the tax dollar.
Success:
- We take personal responsibility for boundary-less coordination of research and engineering investments and ruthlessly refine our processes to eliminate any action that does not support producing technology that provides warfighting advantage.
**Goal 5: Reliable and Cost-Effective Industrial Capabilities Sufficient to Meet Strategic Objectives**

5.1 Effects of DoD policy and program decisions on the industrial base, and the extent to which industry decisions limit or expand DoD options, understood.

Success:
- We established baseline criteria from which to evaluate and define desirable attributes for the Defense industrial base, and develop methodology to assess industry progress towards desirable attributes.

5.2 DoD research and development, acquisition, and logistics decisions expand and sustain the industrial base to encourage competition and innovation for essential industrial and technological capabilities.

Success:
- We have identified and implemented policies to prevent DoD contractors from inappropriately favoring in-house capabilities.
- We have engaged with industry for targeted improvement in the DoD industrial base workforce.
- We have encouraged participation of non-traditional suppliers, including small business, in DoD procurement.
- We have maintained a competitive environment within industry segments supporting DoD acquisition of services.

5.3 Statutory processes and decisions leveraged to enable a capable, competitive, and reliable industrial base.

Success:
- We have ensured that DPAS decisions provide materials to the most important users, first.
- We have leveraged the benefits of globalization to increase competition and enhance access to global markets.

5.4 Contract finance and profit policies drive desired results.

Success:
- We have promoted DoD industry industrial/technological capability improvements.
- We have improved results of contract profit and award/incentive fee policies.
# Initiatives For Strategic and Tactical Acquisition Excellence

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<th>STRATEGIC “Big A”</th>
<th>OBJECTIVES</th>
<th>INITIATIVES</th>
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| Making Decisions that Balance the Trade-Space | • Affordable, Feasible Investments | • Portfolio Management  
• Tri-Chair Concept Decision / Time-Defined Acquisition  
• Evaluation of Alternatives  
• Synchronize Existing Processes  
• Tri-Chair Investment Balance Reviews |
| Starting Programs Right | • Improved, Up-Front Planning  
• Awareness of Risk / Improved Source Selection  
• More Responsive Acquisition Solutions | • Risk-Based Source Selection  
• Small Business Innovative Research  
• Acquisition of Services Policy  
• Systems Engineering Excellence  
• Award Fee and Incentives |
| Process efficiency | • Tailored, agile, transparent | • DAB / OIPT Process Optimization  
• Common Data / DAMIR  
• Restructured DAES |
| Program Stability | • No Downstream Surprises  
• Issue Awareness | • Program Baseline Assurance  
• Capital Accounts |

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**“Little A” TACTICAL**

*Improving the Full Range of Acquisition Execution*
Budget Trends
Planning, Programming, Budgeting, and Execution

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**FY 07-11**
- Program
- Budget Review

**Review and Refinement**
- Off-year SPG
- PCP/BCP
- QDR Prep

**FY 08-13**
- Program
- Budget Review

**Formalizing the Agenda**
- On-year SPG
- POM/BES

**FY 09-13**
- Program
- Budget Review

**Execution of Guidance**
- Off-year SPG
- PCP/BCP

**FY 10-15**
- Program
- Budget Review

**Ensuring the Legacy**
- On-year SPG
- POM/BES

**Election**

4 Administration Years with 2-year PPBE Cycle
Past and Projected Resources for Defense

(Billions of 2007 dollars)

Source: Congressional Budget Office.
Note: FYDP = Future Years Defense Program; OMB = Office of Management and Budget.
Past and Projected Resources for Investment
(Billions of 2007 dollars)

Source: Congressional Budget Office.

Note: FYDP = Future Years Defense Program; C4ISR = command, control, communications, computers, intelligence, surveillance, and reconnaissance.
Smart Munitions vs. Other Munitions
Procurement Trend

 FX07 $M CONSTANT

Smart Munitions
Other Munitions

FISCAL YEAR

05 06 07 08 09 10 11
## FY 2008 President’s Budget

### Munitions Appropriations

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<th>2007</th>
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<th>2010</th>
<th>2011</th>
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<td>Ammo (A)</td>
<td>1,903</td>
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<td>2,405</td>
<td>2,414</td>
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<td>Ammo (N)</td>
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<td>Missiles (A)</td>
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<td>1,560</td>
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<td>Missiles (AF)</td>
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Munitions Interest Areas
DoD Ordnance Technology Consortium

DoD Ordnance Laboratory Center

Section 845 Other Transaction

Task Order Sub Agreements
CRADAs
DEAs
Contracts
Test Service Agreements

National Warheads and Energetics Consortium

- Small Businesses
- Defense Contractors
- Academic Institutions
- Non-Profit Organizations
- Not-for-Profits Organizations

- OUSD (AT&L) DS/LW&M
- Department of The Army
- Department of the Navy
- Department of the Air Force
- Special Operations Command
- Defense Advanced Research Project Agency
- Defense Threat Reduction Agency
- Department of Energy
- Other Agencies and Departments

DoD and NWEC... Partnering to Leverage Capabilities and Investment
An integration of Government, Industry, and Academia into a single enterprise executing co-funded initiatives, sharing and developing goals and objectives, resources and assets, and utilizing existing personnel, facilities and equipment.
Number of DOTC Joint Projects

- 2000: 1
- 2001: 2
- 2002: 4
- 2003: 6
- 2004: 9
- 2005: 13
- 2006: 26
DOTC Resources

[Bar chart showing DOTC Resources from 2000 to 2006 with values ranging from $0 to $70,000,000]
Joint DoD/DOE Munitions Program

**Scope**
- Approx. 50 projects at DOE NW labs in 10 Technology Coordinating Groups encompassing 5 focus areas:
  - **Modeling & Simulation**
  - **Energetic Materials**
  - **Initiation, Fuzing, & Sensors**
  - **Warhead Tech**
  - **Munitions Lifecycle**
- FY07 total funding ~$45M – DoD & DOE combined

**Recent Accomplishments**
- AFRL is transitioning multiphase blast explosive and composite case to Focused Lethality Munition JCTD
- Mini-SAR prototype with 5x reduction in size/cost successfully flown in UAV; technology is transitioning to industry
- Stockpile data analysis tool used by MC for TOW annual assessment
- Robotic demil system proven at DAC for Aerial Denial Artillery Munitions
- New IHE (LLM-105) transitioning to NSWC-Indian Head for production

DOTC is Transition Vehicle
Predictive Modeling and Simulation (M&S)

**Purpose**
- Establish DoD M&S capability focused on munitions safety and performance
- Enable system level, physics/chemistry-based design

**Approach**
- Build initial capability to support IM
  - Address violence of response of large rocket motors to IM insults
  - Start with bullet/fragment impact then address cook-off
  - Tools applicable to all munitions
- Address multiphase blast munitions for urban terrain
- Build Users Group

**Structure**
- M&S Initiative comprised of three elements
  - Joint DoD/DOE Munitions Technology Program
  - Multiphase flow, target interaction portfolio (DoD HPCMO)
  - IM Hazards Project Arrangement with UK

DOTC is Transition Vehicle
Insensitive Munitions (IM) Update

• IM Strategic Planning
  – Allows the PEOs and PMs to manage their IM investments on a portfolio basis while informing OSD and the JROC on the IM posture of the Department’s entire munitions portfolio
  – After two submissions, improvement has been noted (Small Diameter Bomb and M829A3 are IM compliant); however, over 80% of FY07 procurements remain non-compliant. Lack of technology is the primary roadblock to achieving compliance.
  – Plan submission moving to a two-year cycle beginning in FY08

• Joint Insensitive Munitions Technology Program
  – A robust 6.2/6.3 S&T program focused on putting demonstrated IM technology into the hands of PEOs and PMs,
  – Total FY08-13 Funding is $202M
  – Program is focused on developing and demonstrating enabling technologies in 5 munition areas – High Performance Rocket Propulsion, Minimum Smoke Rocket Propulsion, Blast/Fragmentation Warheads, Anti-Armor Warheads, Large Caliber Gun Propulsion

DOTC is Mechanism for Engaging Industry
Focused Lethality Munition (FLM)
Joint Capability Technology Demonstration

- Technical Approach
  - Composite warhead case filled w/Multiphase Blast Explosive (MBX)
  - Modeling and simulation being used to characterize design in environments
- SDB I Low Collateral Damage Variant
  - Integrated w/ SDB I common airframe components
  - Limited far-field lethality (no warhead case frags)
  - For prosecution of urban targets
- Joint Capability Technology Demonstration (JCTD) Initiated in FY06
  - Contract awarded to Boeing on 31 Aug 06
  - JCTD hinges on AFRL technology development
  - Prototypes being tested at AFRL/Eglin AFB

New Technology from Joint DoD/DOE Munitions Program
- Composite Case Warhead
- Multiphase Blast Explosive
Emerging Contaminants

- Emerging contaminants (ECs) are chemicals or materials that are characterized by:
  - A perceived or real threat to human health or environment
  - A lack of published health standards or a standard that is evolving or being reevaluated
  - A contaminant may also be “emerging” because of the discovery of a new source, a new pathway to humans, or a new detection method or technology
- DoD is putting in place a process to constantly identify and assess the impacts of ECs on people, the environment, and on the DoD mission.
- Risk management options will be developed for those ECs with significant potential impacts on people or the DoD mission.

DoD Lead is ODUSD(Installations & Environment)
DoD Emerging Contaminants Action List

- Materials that have been assessed and judged to have a significant potential impact on people or the DoD mission
  - Perchlorate
  - Trichloroethylene
  - RDX
  - Naphthalene
  - Hexavalent chromium

- “Watch List” includes tungsten, nanomaterials

More information at: www.dodmeritinfo.net
Standardization

ASSIST Online

• A robust, comprehensive web site providing access to current information associated with military and federal specifications and standards in the management of the Defense Standardization Program.

• Provides public access to standardization documents over the Internet.

Register at:  http://assist.daps.dla.mil/online/start
Questions?
Back-Up Charts
DoD Fuze IPT

• Fuze Technology
  – Sponsored an OSD Fuze Technology Investment Issue for PR07 & POM 08
  – Failed on both attempts
• Fuze Acquisition Assessment
  – Completed an assessment of the projected health of the NTIB
  – Developed a Fuze Acquisition Database and Analysis Tool
  – Significant Trends noted:
    • Consolidation expected, some financial risk expected, some sustained by
      single program, competing for legacy work, few contractors capable of
      developing and producing wide range of advanced fuzes.
• Industrial Base
  – Completed DCMA study of 12 sub-tier suppliers
  – Observations Noted:
    • Majority are sole source suppliers, no critical single point failures, several
      outsourcing assembly, fuze components account for <10% of their business
      base, diminished R&D funding
• Briefing to the DUSD (Industrial Policy)
• Hard Target Fuzing
  – Joint Hard Target Penetration Fuzing Technology Exchange (November
    2006)
  – Secured $1.9M Joint Quick Reaction Funding (QRF) Proposal for FMU-152
    Characterization Testing against harder targets