2012 Munitions Executive Summit

OSD Perspective

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Honorable Ashton B. Carter

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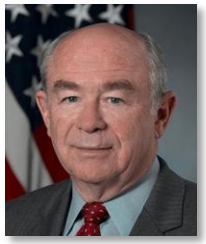
RESEARCH & ENGINEERING
Honorable Zachary J.Lemnios



DEPUTY ASSISTANT
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STRATEGIC & TACTICAL
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Mr. David Ahern

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Mr. Alan Shaffer

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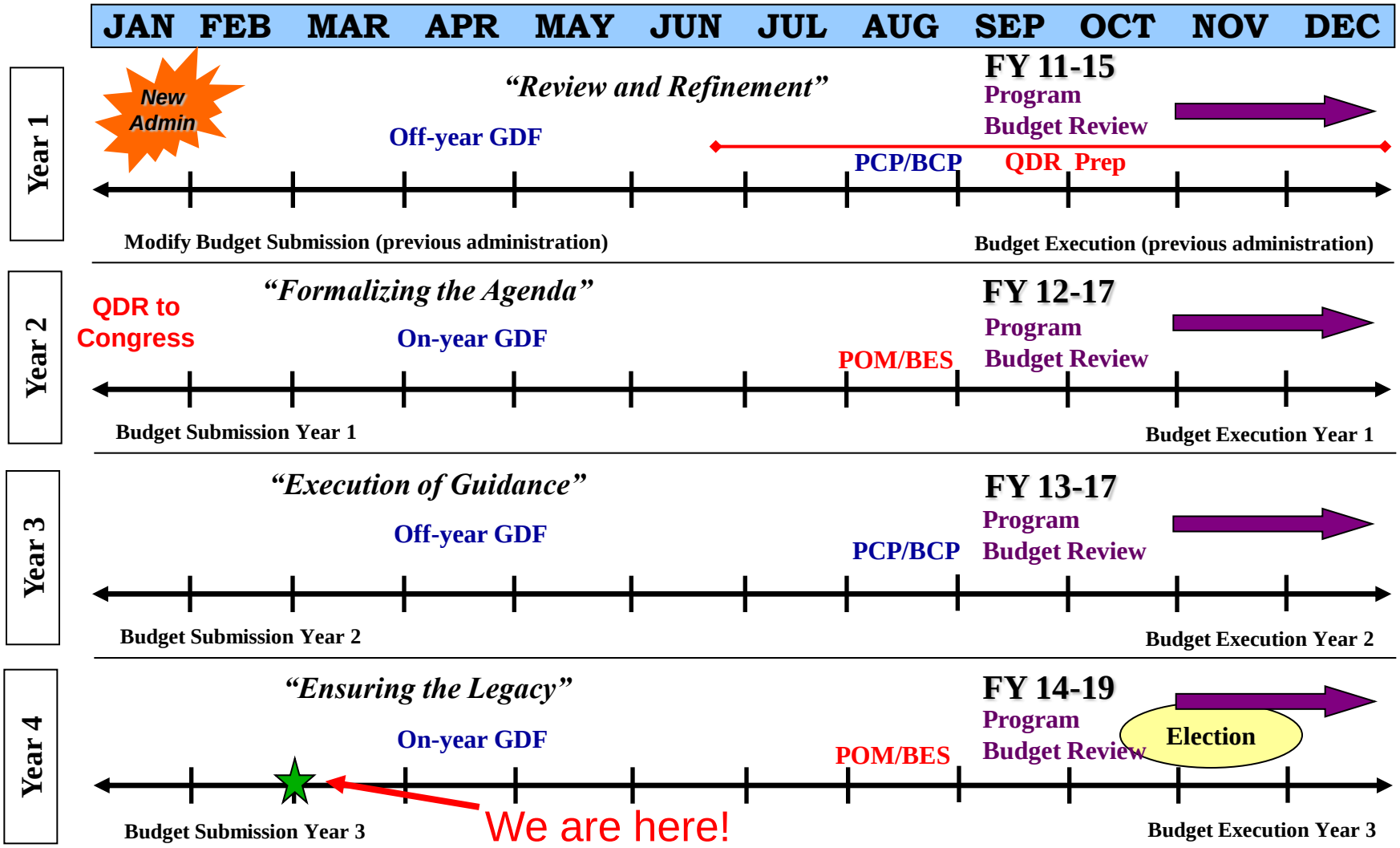
MUNITIONS
Mr. Jose Gonzalez

Discussion Topics

- Budget Trends
- Munitions Interest Areas
  - Joint DoD/DOE Munitions Program
  - Joint Fuze Technology Program
  - Joint Insensitive Munitions Technology Program
  - Insensitive Munitions Strategic Planning
  - Critical Energetics Materials Initiative
  - TATB Status
  - DoD Ordnance Technology Consortium (DOTC)

Budget Trends

Planning, Programming, Budgeting, and Execution

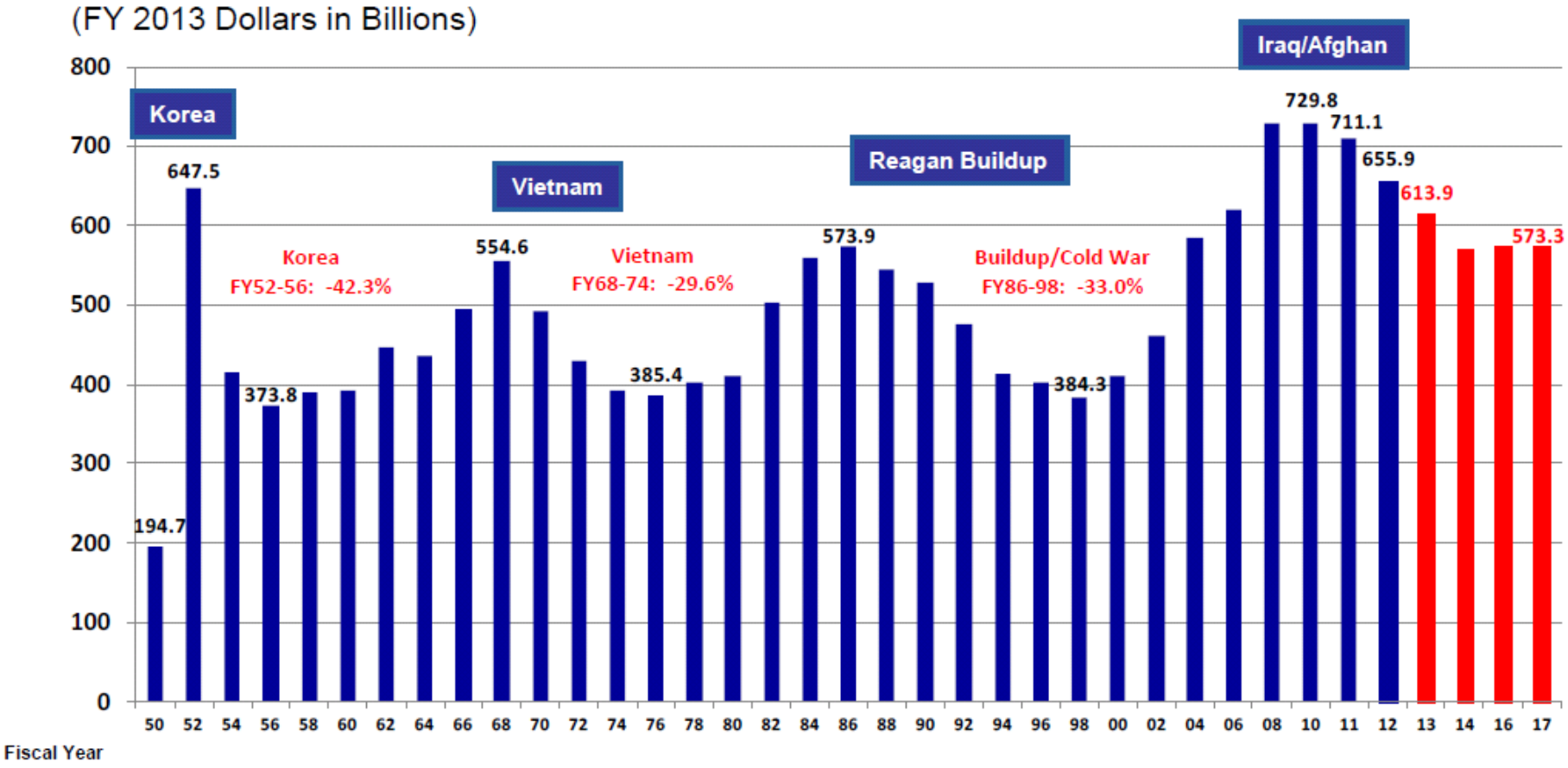


4 Administration Years with 2-year PPBE Cycle

Total Budget Trends

(Including supplemental and OCO funding)

FY10 – 17:
-21%/-$156B



*Projections **(red bars)** assume FYDP plus $44.2 billion annual placeholders for OCO in years beyond FY 2013*

Summary of Major Program Terminations and Restructuring

(Consistent with strategy and good management)

- Terminations (*Save $9.6 billion over FYDP*)
  - Global Hawk Block 30
  - C-27J Joint Cargo Aircraft
  - HMMWV recapitalization
  - Defense Weather Satellite System (DWSS)
  - C-130 Avionics Modernization Program (AMP)
  - Medium Range Maritime UAS
- Major restructurings (*Save $41.8 billion over FYDP*)
  - Joint Strike Fighter
  - Shipbuilding
  - Ground Combat Vehicle (GCV) Program
  - Family of Medium Tactical Vehicles (FMTV)
  - Ohio Class Replacement-SSBN(X)
  - Joint Air-to-Ground Missile (JAGM)
  - Rephased Aircraft Procurement
    - MV-22 Osprey
    - P-8A Poseidon
    - E-2D Advanced Hawkeye

Munitions Interest Areas

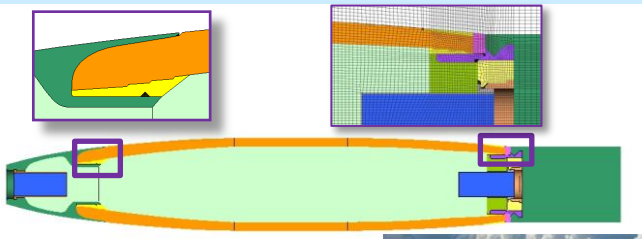
Joint DoD/DOE Munitions Program (JMP)

27 Years of Interagency Cooperation to Develop Advanced Munitions Technology

OBJECTIVES

- Effect major improvements in munitions performance, safety, and affordability by using and adapting specialized DOE/NNSA skills, facilities, and tools
- All work is performed at the three NNSA Laboratories
  - Lawrence Livermore National Laboratory
  - Los Alamos National Laboratory
  - Sandia National Laboratories

PICTURE



TECHNICAL THRUSTS

- Modeling & Simulation (M&S)
- Energetic Materials (EM)
- Initiation, Fuzing & Sensors (IFS)
- Warheads & Penetrators (W&P)
- Munitions Lifecycle (ML)

FUNDING

FY12	FY13	FY14	FY15	FY16
19.651	20.032	19.965	20.971	20.631
Funding in Millions				

Joint Fuze Technology Program (JFTP)

OBJECTIVES

- Develop and further fuzing technologies that will address strategic priorities of the DoD
- Advance and maintain a healthy US Government and Industry fuze technology base
- Collaborative effort involving:
  - DoD Labs
  - DOE Labs
  - Industry

PICTURE

Fuze Expelled from Fuzewell in High G Characterization Tests

TECHNICAL THRUSTS

- Hard Target Survivable Fuzing
- Tailorable Effects Weapon Fuzing
- High Reliability Fuzing
- Enabling Technologies and Common Architecture

FUNDING

TYPE	FY12	FY13	FY14	FY15	FY16
6.2	5.8	6.4	6.4	7.1	7.2
6.3	1.1	4.8	6.5	8.0	8.2
Total	6.9	11.2	12.9	15.1	15.4
	Funding in Millions				

Joint Insensitive Munitions Technology Program (JIMTP)

OBJECTIVES

- DoD 6.2/6.3 program that develops and matures technologies for improving munition response to combat and accident hazards
- Successes and transitions are occurring
  - Insensitive High Performance Reduced Smoke Propellant for AMRAAM
  - DAAF Booster Explosive
  - PBXC-135 Main Fill Explosive for Hellfire/Javelin

PICTURE

Composite Case Fragment Impact Result

TECHNICAL THRUSTS

- High Performance Rocket Propulsion
- Minimum Signature Rocket Propulsion
- Blast and Fragmentation Warheads
- Anti-Armor Warheads
- Large Caliber Gun Propulsion

FUNDING

TYPE	FY12	FY13	FY14	FY15	FY16
6.2	14.5	14.2	14.4	14.9	15.3
6.3	14.5	20.8	20.8	22.5	23.1
Total	29.0	35.0	35.2	37.3	38.4

Funding in Millions

Insensitive Munition Strategic Planning

- Insensitive Munition Strategic Plans submitted to OUSD (AT&L) and Joint Staff on Feb 15
- IMSPs approved by Joint Requirements Oversight Council (JROC)
- Submission Includes Plans from 11 DoD Components

- PEO Weapons	- PEO Ammunition	- PEO GCS
- PEO M&S	- USMC	- MDA
- SOCOM	- PEO SUB	- PEO IWS
- PEO LCS	- PEO NAVAIR	

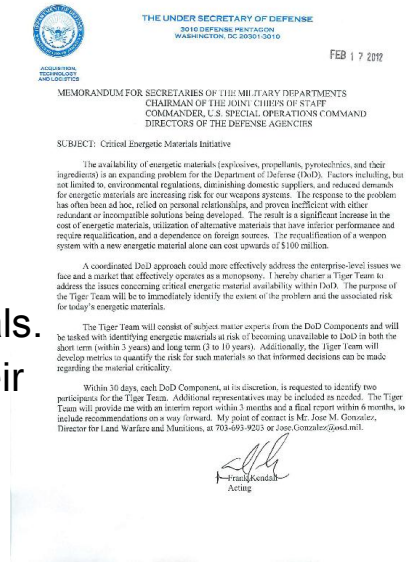
- Joint Service Insensitive Munition Technical Panel (JSIMTP) review currently underway
  - Tentative Schedule
    - Protection Working Group — mid-May
    - Protection – Functional Capabilities Board — mid-June
    - Joint Capabilities Board — TBD
    - JROC — TBD
- Implemented updated “Business Rules” for IMSPs

Critical Energetic Materials Initiative

- Tiger Team chartered by USD (AT&L) 17 Feb 2012
- Initiative is to identify and quantify enterprise issues concerning critical energetic (explosives, propellants, pyrotechnics, and their ingredients) material availability within the DoD.

Threats:
- Obsolescence
- Environmental restrictions
- Market forces
- US supply vs. foreign
- New requirements

- Status
  - Staffing of Tiger Team is underway and will be completed Mar 2012
  - Tiger Team will consists of subject-matter-experts from the Services, appropriate Defense Agencies, and invited participants to determine energetic materials of concern and quantify the risk for such materials.



THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

ACQUISITION, TECHNOLOGY AND LOGISTICS

FEB 17 2012

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
COMMANDER, U.S. SPECIAL OPERATIONS COMMAND
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Critical Energetic Materials Initiative

The availability of energetic materials [explosives, propellants, pyrotechnics, and their ingredients] is an expanding problem for the Department of Defense (DoD). Factors including, but not limited to, environmental regulations, diminishing domestic suppliers, and reduced demands for energetic materials are increasing risk for our weapons systems. The response to the problem has often been ad hoc, relied on personal relationships, and proven inefficient with either redundant or incompatible solutions being developed. The result is a significant increase in the cost of energetic materials, utilization of alternative materials that have inferior performance and require requalification, and a dependence on foreign sources. The requalification of a weapon system with a new energetic material alone can cost upwards of $100 million.

A coordinated DoD approach could more effectively address the enterprise-level issues we face and a market that effectively operates as a monopsony. I hereby charter a Tiger Team to address the issues concerning critical energetic material availability within DoD. The purpose of the Tiger Team will be to immediately identify the extent of the problem and the associated risk for today's energetic materials.

The Tiger Team will consist of subject matter experts from the DoD Components and will be tasked with identifying energetic materials at risk of becoming unavailable to DoD in both the short term (within 3 years) and long term (3 to 10 years). Additionally, the Tiger Team will develop metrics to quantify the risk for such materials so that informed decisions can be made regarding the material criticality.

Within 30 days, each DoD Component, at its discretion, is requested to identify two participants for the Tiger Team. Additional representatives may be included as needed. The Tiger Team will provide me with an interim report within 3 months and a final report within 6 months, to include recommendations on a way forward. My point of contact is Mr. Jose M. Gonzalez, Director for Land Warfare and Munitions, at 703-693-9203 or Jose.Gonzalez@osd.mil.

Frank Kendall
Acting

- Expected Outcome
  - A six month effort to produce a risk matrix of “critical” energetic materials.
  - Develop/exploit a process to determine the energetic materials and their ingredients at risk of becoming unavailable to the Department of Defense in the short term (within 3 years) and long term(3-10 years).
  - Establish criteria to determine materials that are “critical” to the department and quantify the risk for such materials.

Move away from who we know to what we know and must do to ensure our warfighters needs are met

Triaminotrinitrobenzene (TATB) Status

A Good News Story

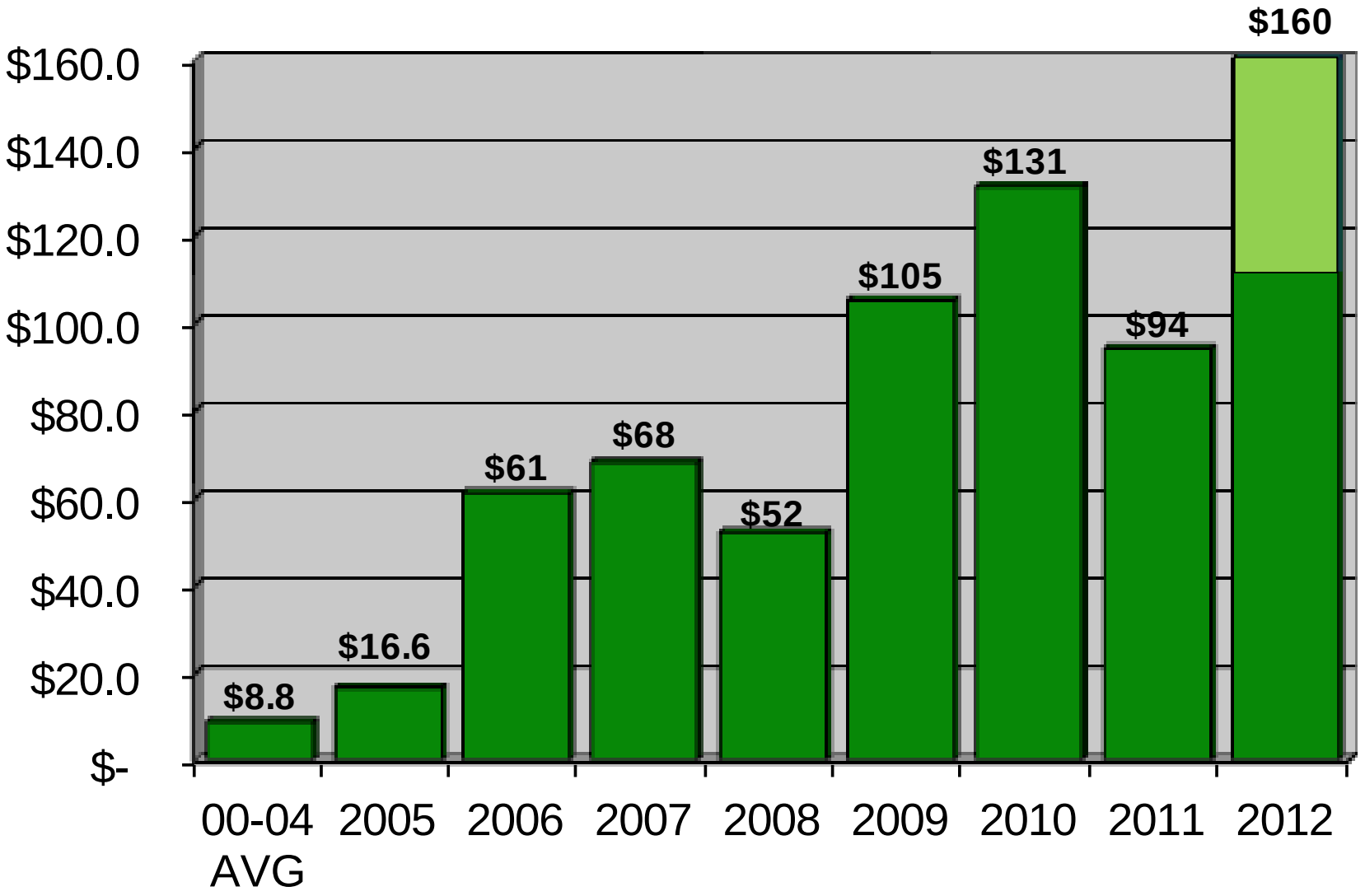
- Joint DOD/DOE & Industry Collaborative Program
- Feb – Oct 12, Facilitizing Holston AAP for TATB Production utilizing the Benziger Synthesis Route
  - BAE Ordnance Systems will Complete Production Prove-out by 1QFY13 and DOD will have qualified PBXN-7 & PBXW-14 by 3QFY13
- April 12, BAE Ordnance Systems at Holston AAP will also reclaim TATB from 17,200 lbs DOE supplied PBX-9502 and LX-17 explosive machine cuttings
  - Reclaimed TATB will be formulated into PBXN-7 and PBXW-14 for evaluation
  - Expect Formal DOD explosive qualification complete by 4QFY13
    - Developed an economically attractive alternative process and lower cost product (33-50%) available for consideration by PM's and end item managers

OTA Between DoD and NWEC

A Premier Government, Industry & Academic Partnership

FEATURES	BENEFITS
Streamlined Acquisition	Existing contract and annual business processes reduce duplicative FAR-based upfront contract processes, thus reducing overall development and fielding time for prototype materiel solutions.
Collaborative and Competitive Environment	Enables Government and Consortium members to collaborate in an upfront technology planning process. Consortium members (or teams of members) then compete in response to government Request for Ordnance Technology Initiatives in anticipation of technology development funding against the tech development plan. The Government solicits, evaluates, selects and awards.
Targeted Research Investment	Provides Consortium members early insight into technology requirements which in turn allows them to focus their Independent Research and Development (IRAD) resources on items that matter to the Government.
Small Business and Non-traditional Participation	Encourages participation by small and non-traditional defense contractors that can bring innovative technologies and solutions to both the Government and the Consortium member organizations.
Resource Leveraging	Allows Government and Consortium members to leverage their financial resources and employ each others' facilities, technology and human capital investments to achieve critical mass.
No Protests Allowed	Prohibits formal protests against the government's project selections and awards.
DoD / Industry, Academia Partnering	Minimizes ordnance technology development duplication across Services, Agencies and Industrial/Academic enterprise components.

Total Funding ($M/FY)



Munitions Community…

- **Precision munitions emerge**
  - **In a little over a decade warfare has moved from unguided munitions to one dominated by precision. From dumb bombs, rockets, artillery, and mortars to JDAM, GMLRS, EXCALIBUR, and APMI**
- **Low collateral damage bombs developed to prevent undesired effects (Focused Lethality Munition, Precision Lethality Mk 82)**
- **Lake City AAP ramps up production to support war**
  - **In the immediate aftermath of 9/11, LCAAP production expanded from 230 million to 1.4 billion rounds annually in support of emergent requirements - a surge capability that had not been exercised since the Vietnam War**
- **IM compliant 60mm mortar rounds survive IED attack on an MRAP and soldiers' lives saved**
- **CONUS TATB production, both reclaimed and new, now underway**
- **Many more examples…**

…a Responsive and Resilient Enterprise

Questions?