Mission:
Equip Warfighters By Acquiring and Supporting War-Winning Capabilities

Vision:
Deliver Affordable World-Dominant Armament Capabilities…On Time, On Target

NDIA Fuze Conference
AFPEO for Weapons Perspective
10 May 2017

“Celebrating 60 Years of Fuzing Excellence”

Dr. Yvette Weber
Deputy AFPEO for Weapons
DELIVERING AFFORDABLE WORLD-DOMINANT ARMAMENT CAPABILITIES...ON TIME, ON TARGET

Armament at a Glance

Weapons Portfolio
- RDT&E: $668M
- Procurement: $8610M
- O&M: $3M
- CAM: $208M
- FMS: $9550M

$19.0B Total Active Year

Directorate Manpower
- Officer: 135
- Enlisted: 60
- Civilian: 992
- CME: 476

1663 Total Manpower

$72B Armament Directorate Portfolio
- WML – 95
- AML – 31
- ACAT I – 9
- ACAT II – 3
- ACAT III – 19
- FMS Cases - 264

Integrity ★ Service ★ Excellence
AFPEO Weapons Priorities

NOW (CAPACITY)
- Must address current inventory challenges (legacy programs)
- UONs…rapidly field critical capability (APKWS)

TOMORROW (CAPABILITY)
- Improve legacy weapons (M-code, CryptoMod)
- Field next generation weapons (SDB II, A2K, A5K)

THE DAY AFTER TOMORROW
- Third Off-Set…identify, partner, accelerate and field game-changing technologies
AFPEO (W) Acquisition Portfolio

DELIVERING AFFORDABLE WORLD-DOMINANT ARMAMENT CAPABILITIES...ON TIME, ON TARGET
AFPEO Weapons
In Today’s Fight

DELIVERING AFFORDABLE WORLD-DOMINANT ARMAMENT CAPABILITIES...ON TIME, ON TARGET

400,000+ weapons expended by US in current Overseas Contingency Operations

Production expected to exceed 65,000 units FY17

314 active FMS cases supporting 55 countries

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Direct Attack Division Portfolio

Delivering affordable world-dominant armament capabilities...on time, on target

**Direct Attack**

- Hard Targets
- Area Targets
- Fixed Targets
- Mobile Targets

**Enterprise Competencies**

- Warhead Design
- Energetics
- Mod & Sim
- Guidance & Control
- Aircraft Integration
- Weapon Planning
- Fuzes & Sensors
- Future Competencies
- MMHE


**Critical Infrastructure:** Facilities – IT

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60 Years of Bomb Fuzing Excellence

Delivering affordable world-dominant armament capabilities...on time, on target.

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FUZE/SENSOR KEY:
- Time: Devel, Prod
- Impact/Delay: Devel, Prod
- Proximity: Devel, Prod
- Void: Devel, Prod

DISTRIBUTION A. Approved for public release.
**USAF Fuze and Sensor Roadmap**

**DELIVERING AFFORDABLE WORLD-DOMINANT ARMAMENT CAPABILITIES...ON TIME, ON TARGET**

<table>
<thead>
<tr>
<th>Fuze Model</th>
<th>Description</th>
<th>Contractor</th>
<th>Production</th>
<th>O&amp;S (Year)</th>
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<tr>
<td>FMU-152A/B</td>
<td>Joint Programmable Fuze</td>
<td>KPPI</td>
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<td>O&amp;S (2041)</td>
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<td>FMU-139A/B &amp; C/B</td>
<td>Hard Target Void Sensing Fuze</td>
<td>ATK</td>
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<td>O&amp;S (2036)</td>
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<td>FMU-139D/B</td>
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<td>ATK</td>
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<td>O&amp;S (2043)</td>
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<td>FMU-143 (All Versions)</td>
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<td>ATK</td>
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<td>O&amp;S (2036)</td>
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<tr>
<td>FMU-167</td>
<td>Hard Target Void Sensing Fuze</td>
<td>ATK</td>
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<td>O&amp;S (2042)</td>
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"'0' Inventory" based on current expenditures and expirations.
USAF Fuze and Sensor Roadmap

DELIVERING AFFORDABLE WORLD-DOMINANT ARMAMENT CAPABILITIES...ON TIME, ON TARGET

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**DSU-33 B/B & C/B**
Contractor: ATK

- O&S (2020)

**DSU-33D/B**
Contractor: ATK

- Production
- O&S (2032)

**C-HOBS**
Cockpit-Selectable Height of Burst Sensor
Contractor: TBD

- ASP
- RFP RELEASE
- CONTRACT AWARD
- CDR
- Production
- O&S (2045)

"0' Inventory" based on current expenditures and expirations

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Historically, Fuze quantity buys have been low
- Production automation has been limited
- Skilled workforces essential
- Procurement quantities have varied

Challenging workload for engineers has varied
- It takes approximately 10 years to grow a fuze engineer
- Requires steady stream of challenging efforts

Working with HAF, SAF and DOD Fuze IPT
- Address Intellectual Property concerns to support challenging development work
- Balance quantity levels over time
USG Owned Technical Data Packages

USG Owned TDPs have historically been difficult to build to because

- TDPs not updated as parts go obsolete
- Modernization efforts not sufficient to stay ahead of obsolescence
- Production know how not available -- proprietary to the previous contractor
- Production tooling not always available

Working with DOD Fuze IPT to

- Improve guidance on TDPs - assist program offices to improve TDP quality and maintenance
- Clarify intellectual property guidance to ensure that the USG owns data required to efficiently transition production
- Determine when the USG owning the TDP is essential vice when it is not
Inventory levels must be replenished in the next few years to support continuing ops

Budgets expected to rise

We need your help to:
- Increase production capacity to support additional buys
- Modernize equipment to support increased capacity

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The Future of Fuzing

General Purpose
- New schemes for power, safety, and arming environments needed to support weapons that cannot have FZU holes
- Cockpit Selectivity in Height of Burst Sensors will become key to solving the weapons void left by the enactment of the Cluster Munitions Policy

Penetrating Fuzes
- Fuzes must be designed as a system in conjunction with the warhead to ensure survivability
- Embedded fuzing is an option to provide increased fuze survivability in extreme hard target environments

Advanced Concept Ordnance for Reliable iNitiation (ACORN), 2012
Advanced Low Density Modular Ordnance for Novel Detonation (ALMOND), 2015
Precise Initiation for Next-generation Engagements (PINE), 2015
Electronic Safe & Arm Module (ESAM)
Proximity ESAM (PESAM)

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Key Take Aways

- Increased Ops tempo has resulted in lower than expected inventory levels
- We need industry’s help to
  - Fill the inventory
  - Develop the next generation of fuze technologies to bring to the fight
- With ever changing target scenarios, new technologies will be the key to defeating increasingly hardened targets and fill the void left by the Cluster Munitions ban
- With your help, the US Air Force, US Navy, and our Allies can continue to “Bring the HURT!!”
Questions?

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