Providing America Advanced Armaments for Peace and War

TACOM-ARDEC Fuze Perspective

47th Annual Fuze Conference

9 April 2003

COL Michael G. Padgett
Commander, Close Combat Armaments Center

Tank-automotive & Armaments COMmand
TACOM-ARDEC Vision - Providing America
Advanced Armaments for Peace and War

Artillery & Mortar Systems
Smart Munitions
Combat Vehicle Armaments & Fire Control

Advanced Fuze Technologies
Special Operations Weapons & Demolitions
Advanced Explosives & Warhead Development
Non-Lethal Technologies
Future Small Arms

R&D
TOTAL LIFE CYCLE
FIELD SUPPORT
DEMIL
PROD

Providing over 90% of the Army’s lethality...
World Class Facilities

Armament Technology Facility

Army Propellant Surveillance Laboratory

Davidson Advanced Warhead Development Facility

Acoustics Technology Laboratory

Non Destructive Evaluation Facility

Electromagnetic Environmental Effects Facility
Core Capabilities

“We Integrate Complex Armament Technologies into Guns, Ammunition, and Fire Control Systems through Research, Development, Acquisition & Sustainment”

- Smart Munitions (Tank, Artillery, Mortars, Mines)
- Fuzes
- Fire Control
- Combat Vehicle Armament & Ammo
- Artillery Projectiles & Platforms
- Mortars
- Small Arms & Other Soldier Weapons
- Mines, Countermines & Demolitions
- Less-Than-Lethal Systems
- Ammunition Logistics
Picatinny Arsenal

U.S. Army Tank Automotive & Armaments Command (TACOM) Armaments Research Development & Engineering Center

Program Executive Officer Ground Combat Systems

Program Executive Officer for Ammunition

..And Other Tenants Including PM-Soldier Weapons
Organizational Structure

Department of the Army

Army Materiel Command

Tank-Automotive and Armaments Command

Armament Research, Development & Engineering Center

FSAC

CCAC

WECAC

Base Ops

Fuze

Heavy Armament

Light Armament

JSSAP

Benet Labs

AFMO

COL Michael G. Padgett
Commander
Close Combat Armaments Center

U.S. Army TACOM-ARDEC
Production Programs

- M782 Multi Option Fuze for Artillery
- M762A1 / 767A1 Artillery Time Fuze
- M734A1 Multi Option Fuze for Mortars
- M783 Point Detonating Fuze for Mortars
- FMU 160/B Prox Fuze for High Frag 105mm (AC130 Gunship)
- M234/XM235 Self Destruct Fuze
Development Programs

- XM784/785 ET Mortar Fuze
- XM984 Extended Range Mortar
- PGMM
- Course Correcting Fuze (CCF)
- EPIAFS (6.3)
- Medium Caliber Bursting Munitions
- Navalized MOFA
- Submunition Proximity Self Destruct Fuze
- Self Destruct Fuze (pyro) risk mitigators for M864 RECAP
Fuze Technology Programs

- Multi-point Electronic Safe & Arming Device (ESAD) for FCS
- MEMS Safe & Arm Device (S&A)
- Power Sources (ARL/TACOM-ARDEC Effort)
- Fuze Technology Integration (FTI) Program
Fuze Technology Integration Program

- **Second Source Development**
  - Develop second source supplier for critical sole source fuze components
  - Fuzes Affected: M762A1/ M767A1 Electronic Time (ET) Fuze, M782 Multi Option Fuze Artillery (MOFA), M234/ XM235 Self Destruct Fuze (SDF), M734A1 Multi Option Fuze Mortars (MOFM)

- **Block Upgrades For Artillery**
  - Improve performance of artillery fuzes with new technology upgrades
  - Fuzes Affected: M762A1/ M767A1 ET, M782 MOFA, Course Correcting Fuze (CCF)

- **Block Upgrades For Mortars**
  - Improve performance and safety of mortar fuzes with new technology upgrades
  - Fuzes Affected: M734A1 MOFM, M783 PD, XM784/ 785 Electronic Time Fuze Mortar (ETFM)

- **Legacy Fuze Risk Reduction**
  - Prolong life of fuze stockpile and reduce duds
  - Fuzes Affected: M762A1/ M767A1 ET, M782 MOFA, M918 Target Practice, M230 submunition fuze
Fuze Technology Contracting Vehicle

- Fuze R&D Contracts through DAAE30-01-BAA-0500
  (Broad Agency Announcement)
- 3 year duration FY01 - FY04
- Evaluations are conducted quarterly

- 5 Topic Areas
  - ESA Component Development
  - MEMS Fabrication
  - 2nd Environment Sensors for Non-spinning rounds
  - Inductive Setting with GPS Concepts
  - Proximity Fuze Design Support

- FY02 Technology Awards
  - Integrated Planar Switch (topic area 1)
  - Giant Magneto-resistive Sensor (topic area 3)
  - M74 Proximity Fuze Upgrade (topic area 5)

- FY03 Planned Awards
  - Mod to FY02 Award (topic area 1)
  - Digital Proximity Fuze (topic area 5)
  - 2nd Environment Sensor (topic area 3)

- Use DOTC as contracting vehicle for future Fuze Technology contracts
Fuze Technology Funding

Dollars (K)

Fiscal Years

FY03 FY04 FY05 FY06 FY07

Fiscal Years

Multipoint ESAD-Funded
Multipoint ESAD-Unfunded
Fuze Tech Integration (6.6) -Funded
MEMS S&A- Funded
Common Modular Fuzing -Unfunded
Where is Fuzing Technology Going?

- Smaller
- Smarter
- Common/modular components
- Commercial off the shelf components
- Power sources still a problem
- Meets joint Requirements