



MARINE CORPS SYSTEMS COMMAND
UNITED STATES MARINE CORPS

Advanced Planning Briefing to Industry 2006

Infantry Weapons Systems

Product Group 13

Overview

Colonel Michael J. Mulligan, Product Group Director



Principal agent for equipping and sustaining Marine Corps Operating Forces with the infantry weapons and systems to accomplish Infantry, Anti-armor/material, Amphibious Raids and Reconnaissance missions.

- ✓ **Portfolio: includes sustaining legacy equipment, current procurement activities, and development of:**
 - ✓ **Individual and crew-served weapons ranging up to 40mm Grenade Machine Guns**
 - ✓ **Optical equipment including Image Intensification, Thermal, and Magnified Optics**
 - ✓ **Small craft, dive and parachute equipment**
 - ✓ **Anti-armor missile and rocket systems**
 - ✓ **Non-lethal systems**
 - ✓ **We are in the process of incorporating the armor and load bearing portion of individual combat equipment into IWS to provide a single nexus for all infantry weapon systems and related equipment needed by the Marine infantryman in combat."**



- ✓ **Our planning horizon ranges from rapid responses to fill urgent needs of the operating forces to classic long-term development programs. Most of our current activities are focused on COTS or near-COTS items.**
- ✓ **We need industry's help in focused IR&D, and S&T partnerships that will mature technologies to lighten the load and increase the lethality of the individual Marine. COTS products that are developed with that focus in mind will be attractive.**



Product Group Principals:

✓ **PG Director:** Colonel Michael Mulligan 703-432-3688

PM Anti-Armor Systems: *Mr. Axel Fait* 703-432-3744

PM Infantry Weapons: *LtCol Rick Adams* 703-432-4641

PM Marine Expeditionary Rifle Squad: *Mr. Dave Hansen* 703-432-3744

PM Optics and Non-Lethal Systems: *Ms. Jean Beal* 703-432-3564

PM Amphibious Raids and Reconnaissance: *Mr. Bill Barnebee* 703-432-3638

✓ **Strategic Business Team (SBT)**

Business Manager: *Mr. Robert Forrester* 703-432-3670

Contracts Manager: *Mr. Dave Marr* 703-432-3724

Lead Financial Manager: *Ms. Barbara Fielding* 703-432-3733

Lead Engineer: *Mr. Vince Ellis* 703-432-3694

Lead Logistician: *Mr. Vincent Ellis*

Operations Manager: *Mr. Tim Ferris* 703-432-3682



Product Group Total Funding:

Appropriations (\$000)	FY 06 (Includes Bridge Supplemental)	Estimated FY 06 Full Supplemental	FY 07
RDT&E	\$30,236	\$1,300	\$9,444
O&MMC	\$7,266	0	\$10,385
PMC	\$210,376	\$582,091	\$47,093



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**Infantry Weapons Systems
Director
COL Michael Mulligan**

PG Operations/Admin

Strategic Business Team

**Marine Expeditionary
Rifle Squad
Program Manager
Mr. Dave Hansen**

**Anti-Armor
Systems
Program Manager
Mr. Axel Fait**

**Recon &
Amphibious Raids
Program Manager
Mr. Bill Barnebee**

**Infantry
Weapons
Program Manager
LtCol Rick Adams**

**Optics and
Non-Lethal
Systems
Program Manager
Ms. Jean Beal**

Squad Integration

Tech. Insertion

MEP

DisOps
Equipping

Javelin

AAWS-H/TOW

FOTS/SMAW

Parachute and
Special Purpose
Equipment

Boat/Dive
Equipments

Individual Wpns

Crew-served

Special Purpose
Weapons

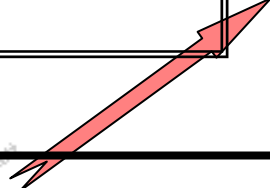
Optics

I² and Laser

Thermal/Fusion

Tech. Development

Non - Lethal





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Anti-Armor Systems

Mr. Axel G. Fait, Program Manager



Description:

- Responsible for development, procurement, fielding and life cycle management of Infantry anti-armor, anti-structure, and assault weapon systems
- Portfolio includes:
 - TOW Missile System
 - Advanced Anti-Armor Weapon System - Heavy
 - Javelin Missile System
 - Shoulder-Launched Multipurpose Assault Weapon
 - Follow On to Shoulder-Launched Multipurpose Assault Weapon



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PM Anti-Armor Systems Mr. Fait

Appropriations (\$000)	FY 06 (Includes Bridge Supplemental)	Estimated FY 06 Full Supplemental	FY 07
RDT&E	\$1,793	0	\$503
O&MMC	\$3,121	0	\$4,440
PMC	\$1,000	\$245,758	\$3,282



Near-Term Program Initiatives

- *Advanced Anti-Armor Weapon System Heavy*
 - 3Q/06 – Procure initial quantities of Improved Target Acquisition System (ITAS) with integrated Far Target Locator via U. S. Army contract
 - 3Q/06 – Procure TOW-Bunker Buster missiles via U. S. Army contract
 - FY06-07 – Contractor Logistics Support
- *Javelin Anti-Armor Weapon System Medium*
 - FY06-07 – Contractor Logistics Support
- *Fuze Design*
 - FY06-07 – Develop software to assess warhead/target interaction for use in multi-mode fuze development



Future Program Initiatives

- *R&D Investment*
 - FY08-11 – Qualification of the Follow On to Shoulder-Launched Multipurpose Assault Weapon (FOTS) with subsequent production
- *PMC Investment*
 - FY08-11 - Procure remaining quantities of Improved Target Acquisition System (ITAS) with integrated Far Target Locator via U. S. Army contract
 - FY08-11 – Procure TOW-2B Aero missiles via U. S. Army contract
- *O&MMC Investment*
 - FY08-11 – Contractor Logistics Support



Discussion Topics

- Lightweight, man-portable, shoulder-fired assault weapon system with Fire-From-Enclosure capability and performance equal to or greater than current Shoulder-Launched Multipurpose Assault Weapon (SMAW)
- Rocket motors meeting insensitive munitions requirements
- Multi-mode warheads effectively engaging both anti-tank and anti-structure target sets



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PM Anti-Armor Systems Mr. Fait

Introduce the next Program Manager
LtCol Rick Adams, PM Infantry Weapons



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PM Infantry Weapons, LtCol Rick Adams

Infantry Weapon Systems

Product Group 13

Infantry Weapons

LtCol. Rick Adams, Program Manager



Description: PM Infantry Weapons is responsible for R&D, procurement and lifecycle management for all infantry weaponry employed by the warfighter.

- Crew Served Weapons
 - Machine Guns and Mortars
- Individual Weapons
 - Pistols
 - Rifles to include sniper weapons
- Industry can help as we look to improve the technologies of weapons
 - Ammunition: lighter, increased incapacitation
 - Weapons: reduced weight, improved reliability, reduced maintenance



PM Infantry Weapons, LtCol Rick Adams

PM IW Total Funding: Appropriations (\$K) Spending
Breakout:

Appropriations (\$000)	FY 06 (includes Bridge Supplemental)	Estimated FY 06 Full Supplemental	FY 07
RDT&E	\$4,023	0	\$2,382
O&MMC	\$335	0	\$367
PMC	\$114,528	\$52,693	\$12,047



Near-Term Program Initiatives

- ***Infantry Automatic Rifle (IAR)***- The IAR is a light weight, magazine fed, 5.56mm, individual weapon. The IAR enhances the automatic rifleman's maneuverability and displacement speed, while providing the ability to suppress or destroy not only area targets, but point targets as well. The IAR will replace the M249 SAW within each infantry battalion.
- ***Joint Combat Pistol (JCP)***- Along with SOCOM the USMC is looking for a COTS Caliber 45 Pistol That Will Replace MEUSOC .45. The selected pistol will be reliable, accurate and will be ergonomically optimized.
 - Leverages Advancements In Technology (Weapon/Ammo/Accessories)
 - Increased Capability/Versatility
 - Leverages Existing Accessory Programs
 - Laser Aiming Module
 - Family Of Suppressors
 - Pre-Planned Product Improvement Efforts



Future Program Initiatives

R&D Investments

- ***Service Rifle Replacement-*** Looking to the future of weapons technology. Rifles with flexible configurations to adapt to changing missions.
- ***Digital Fire Control-*** The development of the digital fire control system for company and battalion mortars that will provide better accuracy and timeliness of fire response to a fire mission. This may eliminate the need for sights and aiming stakes.
- ***Shot Count Capability-*** In order to better sustain weapons determining the round count on the weapon makes it easier for the maintainers planning and is more cost effective deciding fix or replace criteria.
- ***Long Range Sniper Rifle-*** The Marine Corps has an interest in a long range (1100-1500m), medium caliber sniper capability to replace our M40 sniper rifle fleet in the outyears.

O&MMC Investments

- ***Enhanced .50 Cal-*** Looking to enhance current M2 including a Quick Change Barrel System and Flash Hider.



Discussion Topics

- ***Caliber Agility-*** We are conducting a preliminary screening to evaluate possible replacement of the current service round, or inclusion as a capability enhancer.
- ***Guidable Mortar Munitions/Caseless Ammunition-*** Working with Government S&T activities and JSSAP to increase first round hit capability and reduce the Marine's load, respectively.



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Marine Expeditionary Rifle Squad Product Group 13

Mr. Dave Hansen, Program Manager



Description: Marine Expeditionary Rifle Squad will meet future requirements for a fully integrated combat system to improve the lethality, mobility, survivability, sustainability, training and education, and C2 capabilities for Marine infantry.

- Integration Program (System of Systems)
- All arms and equipment -- initially for Marine rifle squads, then all infantry units. Treat Marine rifle squad as a system of systems.
- MCSC Distributed Operations Coordinator
- Need help from industry in lightening combat load through multipurpose, fully integrated systems.



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PM Marine Expeditionary Rifle Squad Mr. Dave Hansen

Appropriations (\$000)	FY 06 (Includes Bridge Supplemental)	Estimated FY 06 Full Supplemental	FY 07
RDT&E	\$14,279	0	\$2,583
O&MMC	0	0	0
PMC	\$3,624	0	\$5,251



Near-Term Program Initiatives

- *Distributed Operations Implementation Capability Sets*
- *Enhanced Outer Tactical Vest*
- *Squad Operating Concept*
- *Marine Enhancement Program*
- *Integrated Process Team for Distributed Operations Materiel Fielding*
- *Assisting MCCDC on Analysis of Materiel Alternatives & ICD for MERS*
- *Assisting the Warfighting Lab on the Infantry Battalion Enhancement Period Program*



Future Program Initiatives

- *R&D Investment*
 - Integrated Lethality suite
 - Integrated Communications-Navigation suite
- *PMC Investment*
 - PMC is resident within other programs of record and not MERS
- *O&MMC Investment*
 - Possibly the Distributed Operations Implementation Capability Sets



Discussion Topics

- *Lethality*
- *Mobility*
- *Survivability*
- *Sustainability*
- *Command and Control*
- *Training and Education*



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Optics and Non-Lethal Systems

Ms. Jean Beal, Program Manager



Description:

- Responsible for development, procurement, fielding and life cycle management of non-lethal ordnance and equipment and ground-based optics, electro-optics and lasers for the individual Marine and small arms weapons.

- Portfolio includes the following:

- AN/PVS-14 Monocular Night Vision Device
- AN/PVS-17 B/C Miniature Night Sight
- AN/PEQ-2A Infrared Illuminator
- AN/PSQ-18 Grenade Launcher Day/Night Sight
- AN/PVQ-31A/B Rifle Combat Optic
- Scout Sniper Day Scope
- AN/PAS-13B/D Thermal Weapon Sight
- Tactical Range Thermal Imager
- Long Range Thermal Imager



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PM Optics and Non-Lethal Systems Ms. Jean Beal

Appropriations (\$000)	FY 06 (Includes Bridge Supplemental)	Estimated FY 06 Full Supplemental	FY 07
RDT&E	\$3,385	0	\$3,296
O&MMC	\$2,615	0	\$2,849
PMC	\$75,721	\$271,540	\$15,241



Near-Term Program Initiatives

- *Scout Sniper Observation Telescope*
 - 3Q/06 – Procure replacement for the M49 Spotting Scope
- *Scout Sniper Medium Range Night Sight*
 - 4Q/06 – Procure night vision device for use on all Marine Corps precision weapons
- *Scout Sniper Observer Night Observation Device*
 - 4Q/06 – Procure night vision device for the Scout Sniper Observation Telescope
- *Weapons Tactical Light*
 - 4Q/06 – Procure a weapons tactical light for the Marine Corps Service Rifle



Future Program Initiatives

- *R&D Investment*
 - FY08-11 – Drive development of next generation of optics (day/night, digitally fused systems that integrate multiple capabilities into a small, light, low-powered package)
- *PMC Investment*
 - FY08-11 - Procure next generation of optics and field to the operating forces starting with infantry units
- *O&MMC Investment*
 - FY08-11 – Provide support for the development, procurement, fielding and life cycle management of the next generation of optics



Open Discussion Topics

- ***Technologies of Interest:***
 - Digital Sensor Fusion, Short-wave Infrared (SWIR), electronic image intensifiers, miniature low power laser range finder, active range-gated imaging, real-time image processing, wireless image sharing, miniature eyepiece displays, thermal sensors, human factors, power supplies, lightweight materials.
- ***Future Requirements:***
 - Marine Handheld / Head Mounted Optic (MHHMO)
 - Individual Marine Infantry Weapon Sight (IMIWS)
 - Marine Crew Served Weapon Sight (MCSWS)
 - Scout Sniper Capability Set (SSCS)



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Reconnaissance and Amphibious Raids

Mr. Bill Barnebee, Program Manager



PM Reconnaissance and Amphibious Raids: Mr. Barnebee

Description: Specialized equipment for use by reconnaissance and other selected USMC units across the range of military operations.

- Oversee the acquisition of small craft, and equipment for explosive breaching, individual assault, combatant diving, and parachuting.
- Constant process of R&D for new initiatives based upon the evolving nature of warfare and life cycle management/sustainment/modification of currently fielded systems
- PM acquisitions can be short notice on COTS/NDI programs to long term R&D initiatives for cutting edge technologies.
- We are looking for technology that can assist in providing enhanced capabilities.



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PM Reconnaissance and Amphibious Raids: Mr. Barnebee

Appropriations (\$000)	FY 06 (includes Bridge Supplemental)	Estimated FY 06 Full Supplemental	FY 07
RDT&E	\$6,756	0	\$680
O&MMC	\$1,195	0	\$2,729
PMC	\$15,503	\$12,100	\$11,272



Near-Term Program Initiatives

- *Multi-Mission Parachute System (MMPS)*
- *Parachutist High Altitude Oxygen System (PHAOS)*
- *Assault Breacher Kit*
- *Combatant Divers Display Mask (CDDM)*
- *Underwater Locator Beacon (ULB)*
- *Expeditionary Hyperbaric Chamber System (EHCS)*
- *Forward Deployable Dive Locker (FDDL)*
- *Safety Boats*
- *Multi-Fuel Engine (MFE)*



PM Reconnaissance and Amphibious Raids: Mr. Barnebee

Future Program Initiatives

- *R&D Investment*

- MAGTF Small Craft
- Enhanced Underwater Breathing Apparatus (EUBA)

PMC Investment

- 2Q/08 - Tactical Hydrographic Survey Equipment (THSE)
- 2Q/08 - Joint Precision Aerial Delivery System (JPADS)
- 2Q/08 - High Altitude High Opening Navigation (HAHO Nav)
- 3Q/08 – Multi-Fuel Engine (MFE)

- *O&MMC Investment*

- Life-cycle sustainment for combatant diving and parachute equipment



Open Discussion Topics

- **Low cost production of accurate underwater navigation and parachute navigation equipment**
- **Textiles that provide environmental and fire retardant protection while ensuring adequate wicking under body armor**
 - **Full body armor integration with load bearing equipment and the uniform of the operator - a system of systems approach**
- **Low cost **disposable** precision parachute canopy**
- **Small craft with increased survivability**



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Panel Questions and Answer Period