



MARINE CORPS SYSTEMS COMMAND  
UNITED STATES MARINE CORPS

Advanced Planning Briefing to Industry 2006



# MAGTF C2 Weapons and Sensors Development and Integration Product Group 11



Ms. Katrina Wahl, Product Group Director



*Why are we soliciting help from industry:*

**To help us provide quality MAGTF Command & Control Weapons & Sensors Development & Integration (MC2I) systems and equipment to the operating forces by expertly acquiring and managing MC2I systems and equipment during their entire life cycles.**



## Product Group Principals:

PM Radar Systems:	<i>Mr. John McGough</i>
PM OPFAC:	<i>Mr. Kevin Holt</i>
PM ADWS:	<i>LtCol. Lew Wood</i>
PM MC2S:	<i>Col. Steven Elkins</i>
PM US:	<i>Col(Sel) Frank Kelley</i>

### Strategic Business Team (SBT)

- Business Manager: *Mr. John Cocowitch*
- Contracts Manager: *Mrs. Valarie Mosqueira*
- Lead Financial Manager: *Mr. Steve Costa*
- Lead Engineer: *Mr. Mike Ferraro*
- Lead Logistician: *Mr. Barry Myers*
- Technical Director: *LtCol. Steve Jones*



Product Group Total Funding: \$241,377.3K FY06

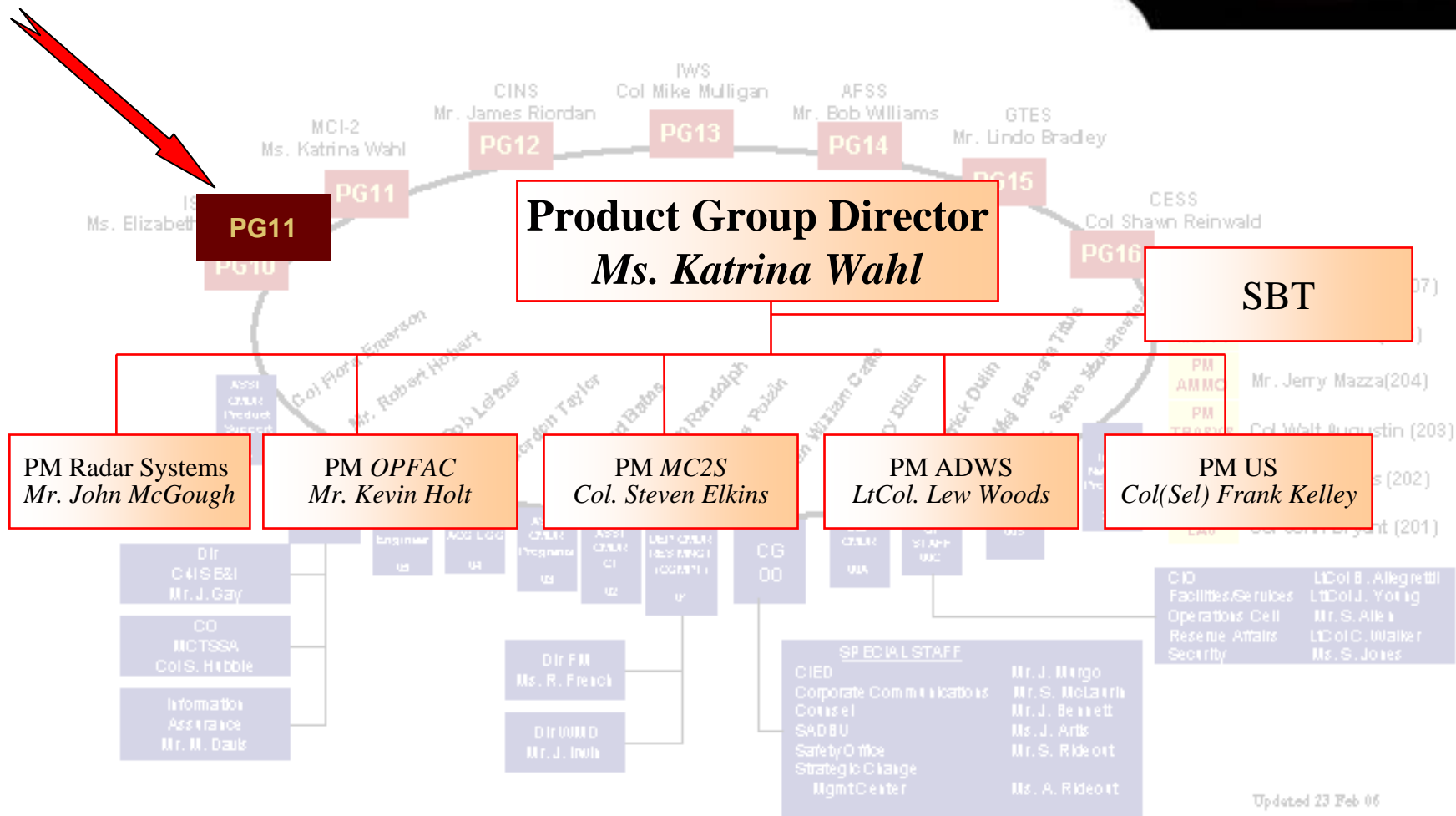
Appropriations Spending Breakout: \$268,243K FY07

Appropriations	FY 06	FY 06 Supplemental	FY 07
RDT&E	\$136,873.8K	\$0.0	\$124,605K
O&MMC	\$22,600.1K	\$0.0	\$42,371K
PMC	\$51,087.4K	\$51,156K	\$101,267K



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Updated 23 Feb 06



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Col Steven Elkins, Program Manager MAGTF Command & Control  
Systems.





# Marine Air Ground Task Force Command and Control Systems (MAGTF C2 Systems)

*Program Office: PM MC2S*

*Program Manager: Col S. Elkins*

*Requirements Officer(s): LtCol D. Beutel*

*Advocate/ Representative: Col R. McFarland*

MAGTF C2 SNAPSHOT



- **MAGTF C2 Systems Strategy:**
  - Methodology to deliver an end to end, fully integrated, cross-functional set of MAGTF C2 capabilities
  - Delivered across 5 echelons of Combat Operation Centers through a Common MAGTF C2 Software Baseline.





- MAGTF C2 Systems will be handled as an investment portfolio of 20 MAGTF C2 Systems & Applications
  - MAGTF C2 Software Development mirrors US Army Software Blocking strategy
    - 2 year S/W development cycles (Spirals)
- ***The challenge: C2 Synchronization*** across the MAGTF



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PM MAGTF C2 Systems Col Elkins

(\$ Millions)

Appropriations	FY 06	FY 06 Supplemental	FY 07
RDT&E, N	\$61.3	NONE	\$36.2
OMMC/R	\$5.5	NONE	\$8.8
PMC	\$14.1	\$1.5	\$50.0



## Near-Term Program Initiatives

- MAGTF C2 Spiral 0 – Marine Requirements Oversight Council directed immediate improvements (FY08)
- Joint Requirements Oversight Council Memorandum – 161- 03; Mandates Marine Corps and Army Ground C2 Convergence
  - Brigade and Above – USMC lead service
  - Brigade and Below – USA lead service



## Future Program Initiatives

- R&D Investment
  - 4Qtr/07 – MAGTF C2 Systems Spiral 1 – RFP release date
- PMC Investment
  - 4Qtr/07 – Common Aviation Command & Control System production – projected RFP release date



## Open Discussion Topics

- How DoD (NECC) and US Army C2 Systems Modernization strategies impact on, or align with, USMC MAGTF C2 development.



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PM MAGTF C2 Systems Col Elkins

Mr. Kevin Holt,  
Program Manager Operations Facilities.

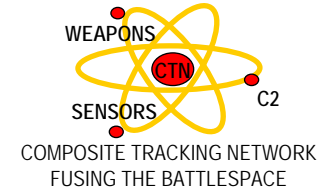




# MAGTF C2 Weapons and Sensors Development and Integration



## Product Group 11



### Operational Facilities (OPFAC)



Mr. Kevin Holt Program Manager



PM OPFAC is responsible for the Command and Control hardware material solution. Hosts USMC or other Service software. Designed to support MEF, Division/Wing, Regiment, Battalion, and Company/Unit.

Active industry participation in PM OPFAC should be focused on addressing the disadvantage user, reducing the footprint on the solutions, and long term sustainment of systems. Standardization across the Marine Corps is an objective.



PM OPFAC Mr. Kevin Holt Mounted (M-DACT)/Dismounted (D-DACT)

## Mission:

The Data Automated Communications Terminal (DACT) is the Marine Corps Blue Force Tracking Program of Record. The DACT is a tactical input/output battlefield situational awareness (SA) system and communication terminal acquired to provide Marine Air-Ground Task Force Command, Control, Communications, Computers, and Intelligence (MAGTF C4I) digitized Position Location Information (PLI) capability below the battalion level.



MROC approved AAO M-DACT (1050)/ D-DACT (2485)

## Capabilities:

- Situational Awareness
- Digital Messaging
- Mapping
- Overlays
- Route Planning
- Navigation
- Data Storage and Transfer



**Mission:**

The BFT is a digital command and control system that provides on the move, near real time, situational awareness to the vehicle mounted platform level. The systems share Position Location Information, text messages, and other information with other BFT equipped units across the battlefield. The BFT network provides commanders the ability to digitally control and monitor their subordinate units status and position.

**Capabilities:**

Satellite-based tracking and communication system.

USMC has procured two variants.

- “Backpack” variant designed for installation in a HMMWV & for use in the Combat Operations Centers.
- The V-4, it is the militarized FBCB2 computer system

Both systems utilize the same FBCB2 software.





PM OPFAC Mr. Kevin Holt Battlefield Target Identification Device (BTID)

**Mission**

Enable crews of ground platforms to accurately & rapidly discriminate between friendly & potentially hostile vehicles at ranges in excess of 6 km. Provides for the capability to identify themselves as friendly to other platforms equipped with comparable systems. Provides an alternative means of tactical data exchange that enhances situational awareness, and an alternative means of digital communications between comparably equipped platforms.



**Capabilities**

- Probability of Correct Identification (PID): 95% (T)/99% (O)
- Engagement Time: Less than 1 second
- Range: 1.5 x maximum effective range approximately 6.5 km
- Performance: Not degraded by fog, rain, smoke or vegetation
- Interoperability: Interoperable with joint & coalition systems







## Mission



Joint Combat Identification Marking Systems are inexpensive, simple-to-use beacons & IR/thermal marking devices that provide a capability to positively identify friendly entities in the battle space.

## Capabilities

- Standard markings across all Services
- Provides for quick recognition of friendly entities.
- Improves combat effectiveness & reduces fratricide







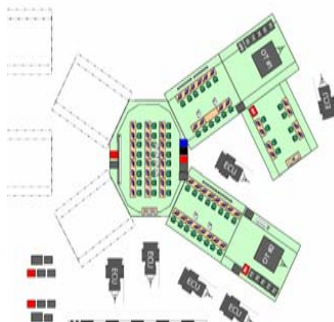
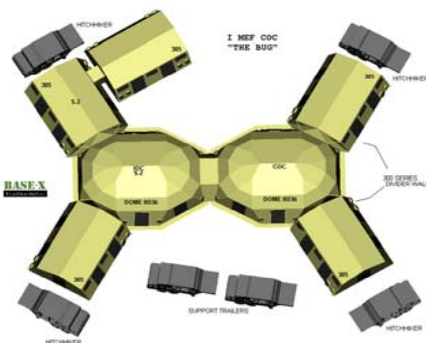
### Mission:

COC is a vehicular-transportable system, will provide a centralized facility to host Command & Control functionality for the MAGTF. A systems-engineered, integrated hardware solution using existing radio, Tactical Data Systems & prime movers providing mobility, modularity, & scalability. Built for MEF, Division, Regiment, & Battalion.

May 06 – MROC approved AAO (355)

### Capabilities:

- Enable interaction & flow of information in a collaborative environment.
- Provide better situational awareness
- Provide commonality/standardization among Marine systems.





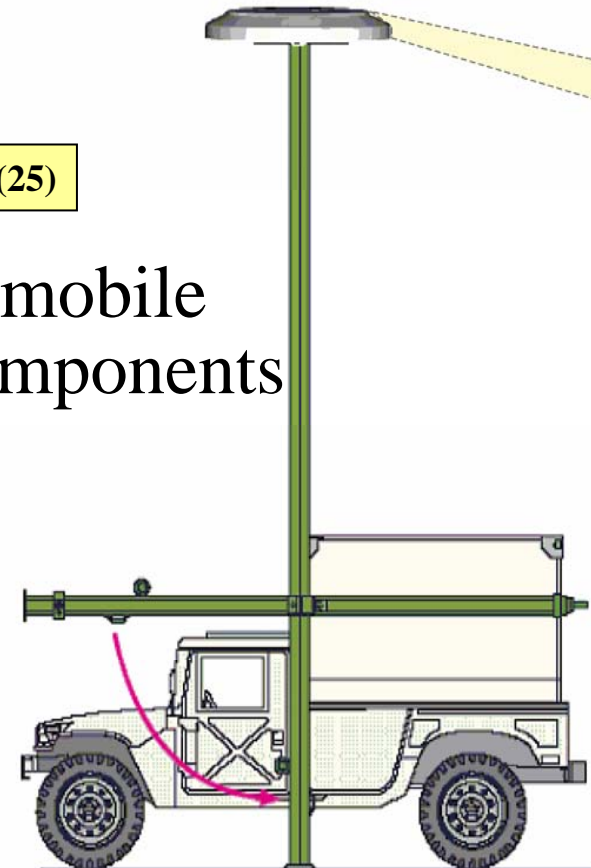
## Mission:

Provide the MAGTF Commander a cooperative targeting, Joint integrated firing solution.

## Capabilities:

Feb 02 – MROC approved AAO (25)

The Marine Corps CTN system is a land mobile version of the Navy CEC system. The components will be housed in a standard 788 lightweight, multipurpose shelter on an M10972-A Heavy HMMWV.





### Mission:

MACCS consists of various air command and control agencies and systems within the Marine Air Control Group (MACG) designed to provide the ACE Commander with the ability to monitor, supervise and influence the application of Marine aviation's six functions.

### Capabilities:

- **Tactical Air Command Center (TACC):**

Provides the facilities for the ACE commander and the battlestaff to command, supervise, and direct Marine Air Ground Task Force (MAGTF) air operations.

- **Tactical Air Operations Center (TAOC):**

Principle air defense agency and is responsible for airspace control and management functions.

- **Direct Air Support Center (DASC):**

Principle air control agency responsible for the direction of air operations in direct support of ground forces.







**Mission:**

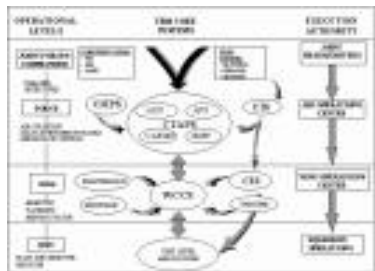
Joint Chiefs of Staff mandated air war planning tool for the generation, dissemination and execution of the Air Tasking Order (ATO) and Airspace Control Order (ACO).



**Capabilities:**

MROC approved AAO (10)

- Commercial Off-the-Shelf hardware, rehosting tactical GOTS software.
- Employed by the Tactical Air Command Center for development of the USMC Direct Support ATO & associated airspace & intelligence products. Direct Support ATO is merged with other component ATO's by the Joint lead for the joint/integrated ATO .
- Remotes provide dynamic updates to the TACC, that are automatically forwarded to the Joint lead for dynamic execution of the ATO/ACO.





- Networking: NSA approved wireless IP based architecture. Devices in the architecture need to be small, lightweight, operate with low power draw, and incorporate a dynamic routing capability.
- Hardware: COTS-based, highly reliable, little to no required user maintenance, rugged as required. Consider multi-functional capability.



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PM OPFAC Mr. Kevin Holt

Mr. John McGough,  
Program Manager Radar Systems.





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# **MAGTF C2, Weapons and Sensors Development and Integration Product Group 11 Radar Systems**

**Mr. John McGough, Program Manager**



PM Radar Systems Mr. McGough

- The Program Manager for MC2I Radar Systems is responsible for total life cycle management of all USMC Air and Ground Radar Systems, excluding Air Traffic Control Systems.
  - ✓ AN/TPS-59
  - ✓ AN/TPS-63
  - ✓ AN/TPQ-46
  - ✓ AN/PPN-19
  - ✓ AN/PPS-15
  - ✓ AN/UPS-3
  - ✓ AN/MPQ-64
  - ✓ G/ATOR
  - ✓ HELRASR
- The USMC plans to migrate all air and ground radar systems towards the capabilities of two future systems, the *Ground/Air Task Oriented Radar* (G/ATOR) and the *Highly Expeditionary Long Range Air Surveillance Radar* (HELRASR), through technology development, risk mitigation and the phase-out of all legacy systems by 2018.
- Active Industry participation in PM Radar Industry events to ensure the life-cycle sustainment of fielded systems until phased out and the early-on exchange of ideas towards the development of future capabilities.



PM Radar Systems Mr. McGough

Appropriations *	FY 06	FY 06 Supplemental	FY 07
RDT&E	\$32.7	\$11.0	\$55.7
O&MMC	\$3.3	unk	\$4.4
PMC	\$11.5	\$44.8	\$14.8

(Note\*: x \$M)



## Near-Term Program Initiatives

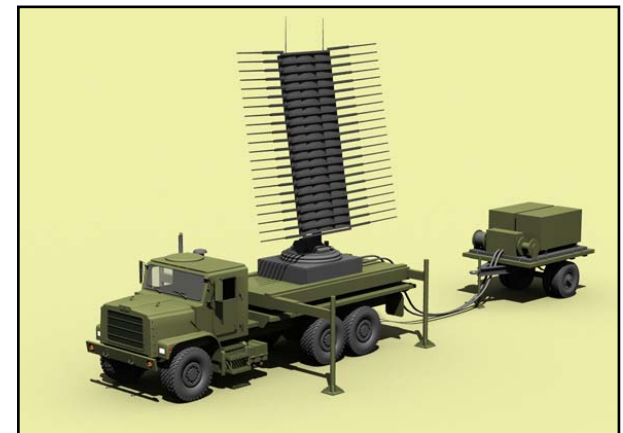
- *G/ATOR System Development and Demonstration Contract Award*
  - 3Q/FY06 Contract Award planned
- *JROC approval of HELRASR CDD*
  - 3Q/FY06 CDD entered into KMDS with USAF
- *AN/TPS-59 Radar Environmental Simulator*
  - 3Q/FY06 Second Generation System Test
- *AN/TPQ-46A Radar Processor Upgrade*
  - 4Q/FY06 Yuma Proving Grounds system testing
- *Phase-out AN/UPS-3 and AN/PPS-15*
  - Seeking Foreign Military Sales interest





## Future Program Initiatives

- *R&D Investment*
  - System Development and Demonstration
    - G/ATOR Increment II (Ground Weapons Location)
    - HELRASR
- *PMC Investment*
  - G/ATOR Increment I LRIP
  - AN/TPQ-46 Radar Processor
- *O&MMC Investment*
  - AN/TPS-59 CETS





## Open Discussion Topics

- Innovative technology and advanced capabilities for program insertion.
- Teaming with the Multi-Commodity Maintenance Center in Barstow, CA to rebuild AN/TPS-59, AN/TPS-63, and AN/TPQ-46 radar systems.

*MC2I PM Radar Systems will field revolutionary, network centric, expeditionary capabilities the Warfighter will deploy in all MAGTF environments.*



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**PM Radar Systems Mr. McGough**

LtCol Lew Wood,  
Program Manager MC2I Air Defense Weapons Systems.





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# **Air Defense Weapons Systems Product Group 11**

**Lieutenant Colonel Lewis E. Wood**  
**Program Manager**



Description: PM manages development, procurement, and life cycle support of all USMC ground-based air defense systems. Two Programs of Record:

- Complementary Low Altitude Weapon System (CLAWS)

- HMMWV launched AMRAAM
- Fielding in July, 2006
- Pre-Planned Product Improvements being pursued in a partnership with the US Army's SLAMRAAM Program Office

-Ground-Based Air Defense (Legacy Stinger Missiles Systems)

- USMC replacing all Avenger Weapon Systems and existing Man-Portable Air Defense Systems (MANPADS) with "Advanced MANPADS" (A-MANPADS)
- HMMWV with a ring mount for a crew-served weapon, rack for four Stinger missiles, and associated Stinger gunner equipment
- Effort under contract and will complete during FY-07
- *Requirements development efforts underway to support POM-10 initiative for a future Short Range Air Defense / Ground Bases Force Protection System*



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PM Air Defense Weapons Systems

LtCol Lew Wood

Appropriations	FY 06	FY 06 Supplemental	FY 07
RDT&E	\$12,064,000	\$0	\$3,062,000
O&MMC	\$3,110,000	\$0	\$3,650,000
PMC	\$2,309,000	\$12,000,000 (requested for CLAWS missiles)	\$7,049,000



## Near-Term Program Initiatives

- **CLAWS**
  - CLAWS Increment 0 completes with fielding of 1 CLAWS Platoon in July, 2006
  - Support of Pre-Planned Product Improvements (Advanced CLAWS) through the US Army's SLAMRAAM contract
- **GBAD**
  - Remote Terminal Unit (RTU) replacement
  - Stinger Night Sight replacement (PAS-13 MWTS replaces PAS-18)



## Future Program Initiatives

- *R&D Investment*
  - CLAWS: support of US Army SLAMRAAM program
  - GBAD:
    - Anticipated POM-10 initiative based on outcome of current MCCDC requirements development efforts
    - RTU replacement
- *PMC Investment*
  - CLAWS: In FY-09, begin A-CLAWS procurement
  - GBAD: In FY-07, complete A-MANPADS procurement and procure RTU replacement
- *O&MMC Investment*
  - Sustainment of CLAWS and A-MANPADS



## Open Discussion Topics

- *Future Short Range Air Defense / Ground Force Protection capability (Missile, Gun, etc.)*





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PM Air Defense Weapons Systems

LtCol Lew Wood

LtCol Frank Kelley,  
Program Manager MC2I Unmanned Systems.



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# **MC2I PM Unmanned Systems (PM US)**

**LtCol Frank Kelley**



## Unmanned Aircraft System (UAS) Family of Systems (FoS)

- Provide each level of the MAGTF a “tactical” organic, interoperable, integrated and tailored capability that gives SA to the warfighter through a common C2 architecture across the range of military operations.
  - Tier I:
    - Dragon Eye Operational in OIF
    - Block I Upgrade IOC 2008
  - Tier II:
    - In Concept Refinement Phase
  - Tier III:
    - Pioneer Operational in OIF
    - VUAV at Concept Decision
  - FoS Concept:
    - Common Ground Control Station and Remote Receive Stations
    - Common Architecture, Standards, and Interfaces for Product Dissemination
  - OIF Support:
    - ISR Services Contract and Follow-on Competitive ISR Services Contract
    - Remote Receive Stations



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**PM Unmanned Systems**

**LtCol Frank Kelley**

<b>Appropriations</b>	<b>FY 06</b>	<b>FY 06 Supplemental</b>	<b>FY 07</b>
RDT&E	\$1.2M		\$0.5M
O&MMC	\$3.1M		\$4.4M
PMC	\$13.3M	\$7.2M	\$6.1M



## Near-Term Program Initiatives

- Tier I
  - Next Generation/Block I Upgrade
- Tier II
  - Program of Record (PoR) Development
- Tier III
  - Improved Pioneer Sustainment Initiatives
- FoS
  - Development of common ground control station in conjunction with Tier II PoR and MAGTF C2 PoR



## Future Program Initiatives

- FoS interoperability with MAGTF C2:
  - Sensor to Shooter Connectivity
  - Decrease Kill Chain Latency
  - Improved Data Dissemination and Sharing
- UAS improvements:
  - Heavy Fuel Engine
  - Modular Payloads (Plug and Play)
  - New Payload Technology Development
  - TCDL Standardization and Improvements





## Open Discussion Topics

- **Joint UAS Material Review Board**
- **Joint UAS Center of Excellence**
- **MCWL User Demonstration**
- **OSD UAS Roadmap**