Multi-Function Electronic Warfare – Air (MFEW Air)

Host Platform: Gray Eagle

Wing Mounted Pod

MFEW Air Capabilities

- Airborne Electronic Attack capability with the intent of denying, degrading, or disrupting enemy communications capability and emitters.
- Electronic Warfare Support (ES) to search, intercept, identify, and locate or localize sources of electromagnetic (EM) energy to support operations.
- Dissemination of Military Information Support Operations (MISO)
- Offensive Cyber Operations (OCO)

MFEW Air Large STATUS

- Tailored Milestone B approved – 12 April 2018
- Contract Strategy: Other Transaction Authority (OTA)
- Plan to award up to two (2) agreements on C5 Consortium to build prototypes for evaluation and follow on testing to support early fielding
- OTA process is ongoing. Project award planned for Aug 2018

Future Opportunities

- MFEW Air Small is dependent of Class III UAS
- MFEW Rotary Wing to be developed in coordination with other ongoing airborne programs, to include Aircraft Survivability.
- Early opportunities for prototyping may begin in FY19/20, subject to availability of funding.
Terrestrial Layer System (TLS)

TLS Capabilities

• An integrated, interoperable, and multi-functional collection and exploitation family of systems that are modular and mission tailorable.
• Provides expeditionary SIGINT, Electronic Warfare (EW), and Offensive Cyber Operations
• Initial capabilities will be for a tactical ground-based mobility platform that aligns with the type of maneuver force it supports
• Future configurations may include small, dismounted and/or fixed-site capabilities

STATUS

• Initial Capabilities Document has been approved. Capabilities Development Document and update to Analysis of Alternatives are underway.
• Leveraging current Programs of Record and COCOM Urgent Operational Needs to accelerate prototyping and development of organization, doctrine, and manning
• Materiel program efforts tentatively planned for FY20. Exploring various rapid acquisition methodologies to prototype and accelerate fielding to begin as early as FY19.
Risk Reduction For MFEW Air

**CENTCOM QRCs**
Communication Electronic Attack with Surveillance and Reconnaissance; Networked Electronic Warfare Remotely Operated

**Rapid Innovation Fund**
MORA (Modular Open RF Architecture) Demonstration FY16/17 (Complete)

**Leverage/Modify**
TSP Army POR

**AES (ES/EA)**
USMC Intrepid Tiger Block II/X

**USMC Program of Record**
Offensive EA Techniques, Lessons Learned (Collaborate)

**Explore State of Industry**
Group III Solution

**Collaborate with Industry**
VIGILANT HAMMER 1,2

**Torpedo Pod From Scratch**
AFRL/RCO/PEO IEWS effort
- Demo Full TORO (Delayed)

**Target Platform**
MQ-1C Gray Eagle
Air EW payload and power enhancements Coordination with PM MAE

**Risk Reduction**

- Other Transaction Authorities
  - Project Award NLT Aug 18
  - Up to 2 Rapid Developments (18 months to 1st delivery+18 months)
  - Fly Before Army Buys...if it meets threshold requirements Army can decide to procure

**MQ-1C Gray Eagle**
Air EW payload and power enhancements Coordination with PM MAE

**Rapid Innovation Fund**
Calypso

**Micro-Scan**

**‘Deliver State of Industry’**
Group IV Solutions

- Other Transaction Authorities
  - Project Award NLT Aug 18
  - Up to 2 Rapid Developments (18 months to 1st delivery+18 months)
  - Fly Before Army Buys...if it meets threshold requirements Army can decide to procure

**MFEW Air Large Program of Record**
Risk Reduction For Terrestrial Layer System

- Investigate all existing authorities for rapid development and technical maturation for rapid fielding
- 6.4 RDTE Funding begins in FY20
- Continue to leverage RCO, OSD, Others, to jump-start and reduce risk to program
- Ensure scalability of design for ease of incorporation of technology to pace the threat

Rapid Equipping Force
Desert Horizon March 2018
Mounted ES\EA demonstration of industry solutions against multiple targets and ranges

PEO IEW&S
TLS Technology Needs

- Miniature directional antennas that support high-power transmit for Electronic Attack (EA)
- Miniature broad-band power amps for EA
- Direction Finding (DF) performance across the full band of interest
- Fast tuning and DF capabilities/algorithms that can support ES/EA against modern waveforms
- Improved DF accuracies
- RF Interference Mitigation
- Miniature tuners/radios that support digitization
- Machine learning for automated EA attacks
- Development of smart EA techniques
- Ability to use full disk encryption on headless server
- Role based access