United States Army
Special Operations Aviation Command

Technology Applications Program Office Overview for Special Operations Forces Industry Conference 2014

Briefer: COL Paul Howard
PM TAPO
Date: 22-23 May 2014
TAPO Mission

Deliver Aviation capability to the USASOC/USASOAC, specifically the 160th SOAR(A), through new aircraft, systems, upgrades, and life cycle product support in order to maintain SOA comparative advantage; ensure good stewardship of resources; achieve maximum value for each dollar spent.

MH-47G  MH-60L/K/M DAP  MH-6M  Mission Equipment  SOF Unique
Fixed Wing / UAS

Right People + Customer Focus + Requirements + Funding + Technology = Materiel Capability
ARSOA Acquisition Triad

Lean, responsive, and adaptable enterprise focused on **equipping and sustaining** the soldiers of the USASOAC/160th SOAR(A) with the most capable rotary wing aircraft in the world.

Relationship Enables:
- Customer focus
- Access to operational expertise
- Proximity to user throughout
- Iteration
- Access for decisions
- Continual team synch
- Real-time trades
- Govt integration
- Responsiveness

USASOAC
[Fort Bragg]

USSOCOM
Acquisition Executive
Acquisition Oversight

Systems Integration
Management Office (SIMO)

Aviation Maintenance
Support Office (AMSO)

TAPO
(Materiel Developer)
[Fort Eustis]

(Combat Developer/User Rep)
[Fort Campbell]

AMCOM Director
Special Programs (Aviation),
(Acquisition MDA)
[Fort Eustis]
TAPO Key Processes & Functions

- Materiel Development
- Contracting (through the Technology Applications Contracting Office)
- Systems Engineering
- Systems Integration
- Developmental Test and Evaluation
- Configuration Management and Control
- System Safety
- Risk Management & Acceptance Process
- Obtain Airworthiness Release
- Facilitate System Initial Training
- Publications
- Program Protection
- Obtain Fielding & Deployment Release, or Conditional Release
- Life Cycle Sustainment / Logistics
- Contractor Performance Assessment Reporting
# TAPO Roadmap

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- **Programmed**
- **TBD**
TAPO Focus

- Deliver Capability to the Customer Now - On Time, On Budget
- Modernize Logistics & Affordably Sustain the Fleet
- Build & Adjust Affordable Program Plans for the Future (Global SOF Network, ARSOF 2022)
- Develop/improve people, facilities and processes to meet tomorrow’s needs.

Maintain SOA Materiel Comparative Advantage
MH-47G Configuration

Legacy Airframe Structure (New Elect. Wires/ Hyd Lines and cockpit)

Standardized Aircraft Max Gross Wt (54,000 lbs)

Enhanced Air Transportability Provisions

CMWS & SIRFC ASE

Digital Auto Flt Control System (DAFCS)

Improved Bilge Paint & Corrosion Protection

CAAS Cockpit

Cockpit Structure New Build

Expanded Left-FWD Gunner’s Window

Vibration Reduction (Airframe Stiffening)

Side Facing Gunner’s Seat (Blk 2.3)

Refueling Probe

Left-Aft Gunner’s Window

New FLIR

Standardized Engines With IES-47 Suppression

Dual Mode Searchlight (IR & White Light)

Multi-Mode Radar

Component Recapitalization

Standardized Aircraft Max Gross Wt (54,000 lbs)

Left-FWD Gunner’s Window

Digital ICS (Blk 2.3)

Standardized Extended Range (Fat Tank) Configuration

Refueling Probe

Legend:
CH-47F Common
SOF Provided

Note: system improvements depicted are not all inclusive
MH-47G Activities

- Block 2.3 execution
- +8 New Build execution
- Sustainment cost drivers
- Development Efforts
  - Advanced Parallel Actuator System (APAS)
  - Engine Barrier Filter
  - Engine Compressor Blade Coating
MH-60 Program
MH-60M Configuration

Comm / Identification Suite:
- ARC-201D
- Digital ICS
- APX-118 IFF
- 4x ARC-231 (2 SATCOM Capable)
- ARC-220
- MTX Blue Force Tracker

DAP Weapons:
- LASS Wing
- M230 30 mm Chain Gun (up to 2)
- M299 Hellfire (up to 16)
- M261 Rockets (up to 4 19-shot pods)
- M134 Miniguns (2)

Wide Chord Blades

Dual Digital AFCS

Active Vibration Control

Rotor Brake

ALQ-144

35 kVA APU Generator

Structural Mods to increase GW to 24,500lbs

CMWS / ICMD (4th Bucket)

YT706-GE-700 Engine

60 kVA Main Generators

Fuel Management Suite:
- Internal 185/200 Gallon Auxiliary Tanks
- Fuel Dump

DAP Weapons:
- LASS Wing
- M230 30 mm Chain Gun (up to 2)
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DAP Weapons:
- LASS Wing
- M230 30 mm Chain Gun (up to 2)
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- M261 Rockets (up to 4 19-shot pods)
- M134 Miniguns (2)

Legend:
UH-60M Common
SOF Provided
MH-60 Activities

- MH-60M production execution
- MH-60K divestiture execution
- Sustainment cost drivers
- Performance increases
A/MH-6M

AH-6M

MH-6M
A/MH-6 Activities

• Block 2.2 upgrade execution
• Block 3.0 upgrade planning
• Sustainment cost drivers
Fixed Wing and UAS Activities

C-27J Focus:
• Establishment of Program Office Acquisition Support
• Training Support
• Airworthiness
• Sustainment

UAS Focus:
• Establishment of Program Office Acquisition Support
• Synchronize with Army and SOCOM efforts
• Airworthiness
Mission Equipment Program
Mission Equipment (MH-47G/MH-60M)

Requirements

Survivability
Multi-Spectral Threat
Detect and Defeat

Penetration / Fires
Navigation
Terrain Avoidance
Targeting

C4 / Mission Command
Situational Awareness
Digital Connectivity
Data Management

Programs
Radar (RF) - SIRFC
Infrared (IR) – CMWS

Laser - AVR-2B
Small Arms/RPG - HFIS
Ballistic Protection - AOBPS

Electro- Optical - Q2 V1/V2
Penetration - 174B / Silent Knight Radar
Degraded Visual Environment - DVE

End State
Common Integrated
Advanced ASE

Common Sensor/
Weapons

Common Cockpit

Common Avionics Architecture
Real Time Video/Data (SRTV)
Mission Processor Modularity
Network Radio
# Mission Equipment (A/MH-6)

## Requirements

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<td>Light Weight ASE</td>
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<td>Penetration / Fires</td>
<td>AOBPS (Ballistic Protection)</td>
<td>MANPAD Threat (Detect and Decoy/Jam)</td>
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<td>Q3 V1 (Assault) and V2 (Attack)</td>
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<td>C4 / Mission Command</td>
<td>LRF/LD Capability</td>
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<td>Situational Awareness, Digital Connectivity, Block 3.0 CAAS Light</td>
<td>Future Cockpit</td>
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<td>Moving Map, Reduced Size/Weight/Power</td>
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Mission Equipment Activities

**Survivability:**
- Hostile Fire Indicator DT/OT
- Lightweight IR Countermeasure Development

**Penetration/Fires:**
- Degraded Visual Environment Development

**C4/Mission Command:**
- Secure Real Time Video Integration
- A/MH-6 Block 3 Cockpit
- Tactical Airborne Network Integration

**Sustainment:**
- Sustain operational availability
- Control sustainment costs of mission equipment
Technology Interests

• Light weight fuel cell - maintaining ballistics and crashworthy characteristics

• Lighter weight cabin sound proofing/thermal protection

• Conformal multiband antennas

• Low volatility lithium battery

• Transparent, curved, light, ballistic materiel
Competitive Acquisitions

- Planned future competitive acquisitions
  
  - A/MH-6 cockpit hardware
  
  - A/MH-6 light weight Infrared Countermeasures