Functions of Marine Aviation

- Offensive Air Support
- Anti-Air Warfare
- Assault Support
- Air Reconnaissance
- Electronic Warfare
- Control of Aircraft and Missiles
Expeditionary Marine Aviation

• **What makes us more expeditionary?**
  • L-Class Shipboard Compatibility
  • Increased speed
    o Platform
    o Information
      ▪ Digital Interoperability; FMV, VMF, Link-16
  • Increased Range
    o Platform
    o Sensors/Weapons
    o Communications
  • Increased efficiency
    o Fuel, Batteries
    o Sustainment; O&M cost controls
MWSS

- Expeditionary Operations
  - MWSS is the critical enabler to ACE operations
  - Tactical and Strategic Agility
  - Realignment of MWSS under MAG

- EAF 2000 Reconstitution
  - AM-2 Retrograde and Refit
    - (7 million sq ft installed ISO OEF)
  - Next Generation Airfield Lighting/Matting

Enables All Six
Control of Aircraft and Missiles
Anti-Air Warfare
Assault Support
Aerial Reconnaissance
Offensive Air Support
Electronic Warfare
Ground/Air Task Oriented Radar (G/ATOR) Transition

- **G/ATOR: A MAGTF Weapon System**
  - Block I: Air Defense/Surveillance Radar
  - Block II: Ground Weapon Locating Radar
  - Block IV: Air Traffic Control

- Both Engineering Development Models (EDMs) are meeting integration and testing expectations
  - G/ATOR Incr. 1 EDM’s are detecting and tracking air traffic at BWI.

- Program is on schedule
- Program was resourced in PB-13

**AAO:**
- ACE Qty 31 (Incr I & IV)
- GCE Qty 38 (Incr II)
- Total 69

G/ATOR replaces 5 legacy radars:
- TPS-63, TPS-73, TPQ-46
- UPS-3 and MPQ-62
UAS Family of Systems

- RQ-7B Weaponization approved

- RQ-21 Small Tactical UAS (STUAS) early operational capability
  - EOC started in Sep 2011

- Planned Cargo UAS deployment to OEF
  - Arrived in Nov 2011

- VMU officer primary MOS approved
KC-130J

- Active FOC by 31 Dec 2011
- Reserve transition ~ FY15-26

- Enhanced Capabilities:
  - More efficient aerial delivery
  - Twice the delivery rate for Rapid Ground Refueling (RGR) operations
  - 21% increase in speed
  - Shorter Take-off distances
  - Common engine to the MV-22
  - Advanced defensive systems
    - LAIRCM
  - Harvest Hawk

POR: 79 aircraft
    AC: 3 X 15 aircraft
    RC: 2 X 12 aircraft

Squadrons: 3 active, 2 reserve
MV-22B Osprey

- FRP – 2005; IOC – 2007
- Deployments: 14; 3 OIF, 6 OEF, 5 MEU
- Missions: Raids, CASEVAC, TRAP, HA/DR, resupply, VIP, and theater security cooperation
- Goal: reduced cost per flight hour, improved readiness and maintainability, continued fleet success

PO: 360 aircraft
AC: 16 X 12 aircraft
RC: 2 X 12 aircraft

Squadrons: 16 active, 2 reserve
“Turns Texas into Rhode Island.”
– BGen Alles, CG ACE MNF-W
H-1 Upgrades Program

- AH-1Z IOC (February 2011)
  - 85% commonality between Y/Z
    - Reduction in logistics/training requirements
- To date:
  - ~64 Yankees / ~26 Zulus delivered

- Enhanced Capabilities:
  - Yankee
    - Double the range and payload
    - 170 knots versus 130 knots Vne
    - 8 fully loaded Marines
    - Digitally integrated cockpit
  - Zulu
    - Improved Sensors – Max range Weapons employment
    - Double the Range

POR: 349 aircraft (160 Y, 189 Z)
  - AC: 8 X 15Z / 12Y aircraft
  - RC: 1 X 15Z / 12Y aircraft

Squadrons: 8 active, 1 reserve
H-1Y/Z Combat Radius and Range

**AH Mission Parameters**
- 8 HF, (14) 2.75”, (650) 20mm
- 30 min on station
- 20 min fuel reserve

**UH Mission Parameters**
- 8 Troops plus mission gear
- 20 min on station
- 20 min fuel reserve

**Combat Msn Radius**
- UH: 119 NM
- AH: 131 NM
- (UH/AH) *Range: 310 NM

*Without auxiliary fuel tanks
F-35B JSF Update
Program Overview

- Only ACAT1D developmental rotorcraft program in DoD
- Evolves the CH-53E design to improve operational capability, reliability, maintainability, survivability, and cost of ownership
- Only fully marinized helicopter capable of lifting 100% of the equipment in the Marine Corps’ “Middle Weight Force” vertical MAGTF in support of future warfighting concepts and CMC’s V&S 2025
- Program of Record: 200 aircraft

Acquisition Status

- Currently under a System Development and Demonstration (SDD) contract funded by RDT&E dollars
- MS-B: Dec 05
- Preliminary Design Review: Sep 09
- Critical Design Review: Jul 10
- Ground Test Vehicle Light Off: Jan 13
- First Flight: FY14
- MS-C: FY15
- IOC: 1QFY19
- FOC: FY27

Issues

- Projected to meet and exceed all Key Performance Parameters (KPPs)
- Executing and has met all Obligation & Expenditures benchmarks since FY08
- Program converted the SDD contract to Cost Plus Incentive Fee (CPIF) in Mar 2011 IOT emphasize cost and schedule
- Fiscal constraints impacting procurement ramp indicated in the Selected Acquisition Report (SAR)

Plans

- Ground Test Vehicle (GTV) assembly began Jan 2011 at Sikorsky’s West Palm Beach facility (88% complete).
- Static Test Article (STA) is 100% complete and has been delivered to test (Stratford, CT)
- Engineering Demonstration Model (EDM-1) entered assembly in Dec 2011 (89% complete).
- EDM-2 entered assembly in Feb 2012 (38% complete).
- EDM-3 entered assembly in May 2012 (22% complete).
- EDM-4 entered assembly in Jul 2012. (1% Complete)
- The GE38-1B engine program has accumulated 2,226.1 successful test hours.
- First Marine Maintenance Det and Integrated Test Team arrive WPB, FL in Jan 2013.
CH-53K In Assembly
Capability Drivers

- Decrease the size and weight
  - Lighten the MAGTF OPT ongoing
  - 2010 MEU ACE ~ 520 K; 2020 MEU ACE ~ 800 K

- Increase the speed (tempo)
  - Sensor to shooter and Kill Chain information
    - Digital Interoperability

- MAGTF EW
  - We view the EW spectrum as battle space
  - This is space we need to dominate and exploit
Acquisition Challenges

• **Defining requirements:**
  - What is the problem we are trying to solve?
  - Healthy tension between clarity & industry creativity
  - Capability with what capacity? At what cost?

• **Contracting:**
  - Takes too long

• **Multiple transitions simultaneously**
  - USMC / DoD transitions

• **Sustainment and Relevance**
  - Sustainment for the new & legacy platforms
  - Modification / upgrade costs vs. buy new
Acquisition for the Future

• Avoid a single view of warfare
  o The only thing certain is uncertainty
  o Surprise will be the dominant factor

• Cyberspace & the EW Spectrum

• Cost imposing strategies
  o How do we make war (more) expensive for the enemy?

• Time to Train & Dwell vs. multi-mission platforms
  o Readiness – maintenance, sustainment
  o Service life – support to legacy platforms and systems
  o Simulation - training

• Expeditionary subsystems - Integrated Capabilities
  o Security and Interoperability
  o Expeditionary connectors
MARINE AVIATION

Questions
KC-130J Harvest HAWK

**Persistent ISR and attack capability conducted from KC-130 J**
- Preserves refueling capability from RH AAR Pod.

**System Components**
- AN/AAQ-30 Targeting Sight System (TSS)
- RO/RO fire control station on modified pallet
- AGM-114P Hellfire II in place of left AAR pod
- Griffin Stand Off Precision Guided Munitions
- Video Downlink to Rover

**CURRENT FORCE:**
1 AC VMGR SQDN x 2 MISSION KIT
1 AC VMGR SQDN x 1 MISSION KIT

**FORCE GOAL:**
2 AC VMGR SQDN x 3 MISSION KITS

One kit deployed since Oct 2010 - Identified 8 confirmed and multiple suspected IEDs
Employed 74 Hellfire & 13 Griffin - Feedback from supported units is outstanding
Harvest Hawk
MV-22 MISSION SNAPSHOT

Operation Odyssey Dawn

26 MEU MV-22’s prepare to launch from USS Kearsarge

HQMC cleared for public release
Afghanistan Retrograde

**SIGONELLA**
6xMV-22 ARR (9 Apr): 1520Z
2+20 Flight Time/480nm

**SOUDA BAY**
Arrive: 1605Z
13+05 Flight Time/2952nm

**ALI AL SALEM**
Arrive: 0750Z, DEP: 0910Z
Refueling stop required for KC-130s.

**BASTION**
Depart with 2 KC-130s at 0130Z

3 MVs moved on 3 April; 3 MVs moved on 6 April. Limiting factor was tanker availability.

6 x MV-22’s, 3 continents, 10 countries, 3432 NM
25 Marines, 15000 lbs of cargo, 15+25 hrs
DOD Budget Context

Historic drawdown average 30%
Procurement takes disproportionate hits

Historical Ave = $460B

Currently 8-11% down this slope with POM13 - $3.93B.