FY 2010 Marine Aviation Plan

Deputy Commandant for Aviation

The Air-Ground Team

All our training and war plans are based on the idea that the Marine Corps will act as an advance base force to seize and hold an advance base from which we can operate against the enemy…In any war with a major force our fleet is going to be fully occupied and the advance base force will have to … use its own aviation for its information, protection from attack from the air and assistance in holding the base after seizure.

Marine Corps aviation is of paramount importance in the force. It also seems self-evident that there would be far better cooperation and results if the Marine force had Marine aviators rather than some unit temporarily attached…

To obtain maximum results, aviation and the troops with which it operates should be closely associated and know each other, as well as have a thorough knowledge of each other's work.

Marine Aviation is not being developed as a separate branch of the service that considers itself too good to do anything else.

We do not aspire or want to be separated from the line or to be considered as anything but Marines.

Marine Corps Gazette 1926

Message from the Deputy Commandant for Aviation

The Commandant of the Marine Corps has outlined his vision of the Marine Corps in 2025. That vision portrays a fast, lethal expeditionary force that is ready for the uncertainties of future combat operations, yet has the staying power of engagement in the most austere conditions imaginable. To this end, I have three goals. First, we will sustain our wartime operational tempo while improving current readiness and combat effectiveness through the efficient use of resources in hand. Second, we will execute our planned type/model/series transition strategies from our legacy platforms to the advanced capabilities associated with next generation platforms. Finally, we will improve warfighting integration by developing new concepts of operation to leverage our transformational systems.

The Marine Corps is like a middle-distance runner. We need the strength and explosive speed for a sprint - like the surge we executed in Operation IRAQI FREEDOM and the similar effort we are conducting into Afghanistan today. We must also have the endurance and stamina for the long haul: eight years in Afghanistan and more than six years in Iraq, and counting. The climes and places we have taken aircraft and Marines since 2001 are among the most dangerous and demanding on the planet, and we have excelled.

While we execute current sustained combat operations as a critical component of our forward-deployed forces, we are also in the midst of an unprecedented modernization effort that will replace every major aircraft type in our inventory with enhanced, next-generation capabilities and platforms.

In less than a decade, we will transition more than 50% of our squadrons to new aircraft as we field fully the MV-22 and UH-1Y; update the entire KC-130J fleet; field the AH-1Z and F-35B; field an entirely new family of Unmanned Aircraft Systems (UAS); introduce a new model of the CH-53; and significantly improve our aviation command and control and aviation logistics systems. Five years from now, Marine Corps-wide, we will have added five more operational squadrons; almost 100 more aircraft; nearly 4,500 more enlisted Marines; and 570 more officers to our strength. By the time our transition is complete, in the mid-2020s, every single aircraft in the Marine Corps will have been replaced with a new model or a new airframe. Everything we are bringing online will fly higher, faster, farther and longer; carry more than does the aircraft it replaces; and operate as a node within a network of fused data which will make us all better warfighters.

We are not interested in aircraft for their own sake; we are interested in the *capabilities* those aircraft provide in support of our ground forces. Tilt-rotor technology is fascinating, but what is more important is how swiftly the Osprey can get Marines in and out of landing zones, transiting dangerous areas above the threat and inserting Marines deep behind the enemy. Short Takeoff / Vertical Landing (STOVL) capabilities bring unprecedented responsiveness to the fight, and crucial to the future fight will be the leap-ahead technologies the JSF will bring us.

Powerful and agile four-bladed H-1 helicopters will provide more weapons, and more-responsive and longer-duration attack and utility support to that rifleman who is the focus of our effort.

Without our aviation expeditionary enablers - Marine Air Control Groups (MACGs) and Marine Wing Support Groups (MWSGs) - we cannot accomplish our warfighting objectives. Our command and control (C2,) logistics, training, and unmanned aircraft systems are critical combat multipliers, growing and transitioning with the rest of aviation to fully accommodate the MAGTF's needs. Our Aviation Command and Control Family of Systems (C2 FoS) will fuse C2, sensors, weapons data, and information to provide commanders and operators with a common operational picture. The digital battlefield is becoming a reality, and our ACE must be prepared to execute a seamless plan that takes advantage of every available asset and technology to ensure victory.

The Marine Aviation Logistics Support Program II (MALSP II) is the cornerstone of the expeditionary ACE. It is more flexible, responds with increased speed and reliability, and allows for a smaller forward logistics footprint. Its "demand-pull" approach to logistics will increase Marine aviation's ability to deploy, employ, sustain, and redeploy in austere regions.

We have added several sections to this year's AVPLAN. The new "Science and Technology" chapter outlines those initiatives, at varying stages of conceptual development, which may someday enhance our capability set. What once were just ideas – STOVL; tilt-rotor aircraft; unmanned systems; computer based knowledge management tools for commanders; global positioning with satellites; stealth coatings and airframe design – can change the way we think and fight. We owe it to the rest of the MAGTF to maximize and leverage breakthroughs by our industry partners.

We have also added a Tactical Air Control Party (TACP) chapter. The TACP and Joint Terminal Air Control (JTAC) teams we have on the battlefield today are the sine qua non of air-to-ground ordnance precision and integration, and it is critically important that these teams have the proper organization, training and equipment to perform their critical tasks. In a dispersed fight or major contingency maneuver warfare environment, these teams are an essential element of the MAGTF's success.

The aviation combat element is what makes our Marine Air-Ground Task Force unique, and we will be the MAGTF's aviation force in readiness across the full spectrum of combat operations. We must focus on today's fight as we also look ahead to the Marine Corps of 2025. This is an exciting time to be a part of Marine Corps aviation and I am proud of our Marines. Together, we are doing great things for those who will follow us.

Semper Fidelis,

George J. Trautman III

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Section 1 --- Aviation Readiness

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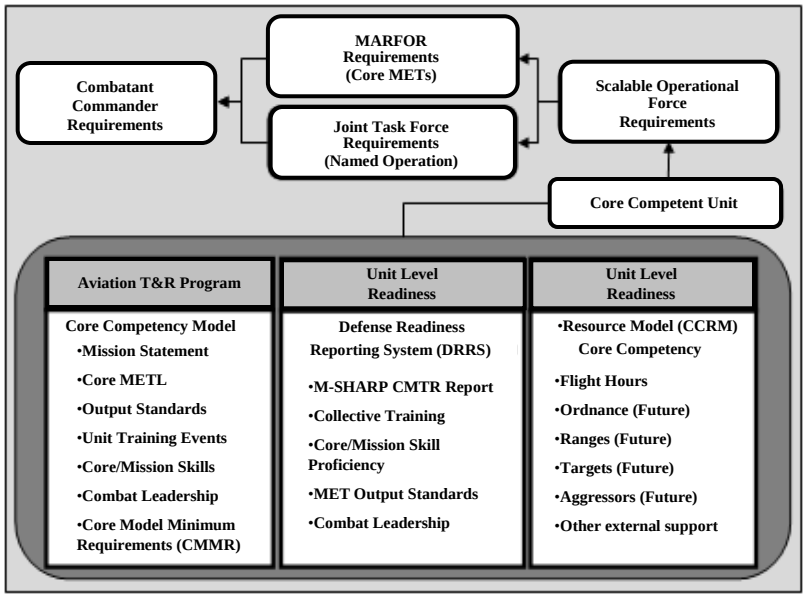
Aviation Training and Readiness Program

Marine aviation must be prepared to respond to operational tasking around the world. Its effectiveness is directly related to unit sortie generation capability, the ability to command and control aviation assets, and our ability to train mission skill-proficient crews and combat leaders in a standardized manner at levels commensurate with the aircraft and command and control Mission Essential Task List output standards.

Aviation Training and Readiness (T&R) Program (Today)

NAVMC 3500.14.B outlines the standards, regulations and policies regarding the training of Marine Corps aircrew, Command and Control, airfield emergency and operations services, and meteorological and oceanographic personnel. The aviation T&R Program implements a comprehensive, capabilities-based training system. This system provides mission skill-proficient crews and combat leaders to MAGTF and combatant commanders. The Marine aviation T&R Program aligns with Department of Defense (DoD) and joint requirements by prescribing training standards required to develop core competent units that can fulfill operational requirements of combatant commanders. The T&R Program has been updated to identify resource requirements for training and assist in HQMC planning and budgeting. The Marine aviation T&R Program structure, Unit Readiness Reporting methods, and Training Resources Requirements' contribution to force readiness is depicted below.



The foundation of every Marine aviation community T&R is the Commandant of the Marine Corps-approved Core Competency Model. The Core Competency Model establishes the basic structure around which each T&R program is created and links the following:

- Mission Statement
- Mission Essential Task List (METL)
- Unit Core Capability (MET Output Standards)
- Core/Mission Skill Proficiency (CSP/MSP) and Combat Leadership (CL) Requirements
- Core Model Minimum Requirement (CMMR)

In 2000, the DoD established Defense Readiness Reporting System (DRRS) to make readiness reporting more objective, timely, and accurate. The DRRS initiative provides a "capabilities-based, adaptive, near-real time readiness reporting system" and requires a demonstrable link between Mission Essential Tasks (METs) and readiness reporting. In 2004, the Office of the Under Secretary of Defense (OUSD) directed each service to execute both its specific mission essential tasks "to standard" and to execute its METL (mission objective) in its entirety. The OUSD further directed Commanders to assess the ability of the unit to execute specific METs, under specified conditions, as a "Yes," a "Qualified Yes," or a "No" in accordance with established criteria.

Aviation Training and Readiness Program (Future)

In response to the DRRS initiative, TECOM(ATB) has undertaken an effort to develop adjustments to the T&R Program in order to provide a clearer link between T&R event proficiency, the T&R Core Model and MET accomplishment, and required readiness reporting under the DRRS initiative. The following concepts, policies and reports are being developed:

- Collective Training
- Unit Evaluations
- Core Model Training Report

• Core METs

To date, all aviation communities have established unit Core METLs to replace T&R METs. These validated and standardized Core METLs are being incorporated into community T&Rs during the next scheduled community T&R review.

• Mission Skills

All Marine aviation communities have established a framework, within T&R Program Manual guidance, where Core Skills are comprised of essential events that act as enablers for higher-order skills or "Mission Skills." Mission Skills represent those skills that most closely reflect the ability to perform the METs. It is in the Mission Skills-to-MET correlation where a commander can best gauge the readiness of his unit to accomplish a specific MET. With this in mind, the T&R program shall adapt the Mission Skills concept for aviation communities governed by the T&R Program.

• MET to Core Skills/Mission Skills Matrix

The Core Skills-MET matrix was originally created to demonstrate traceability between Core Skills and METs. In the future, the matrix will serve a valuable role in linking Core and Mission skills to Unit METs, thus laying a firm foundation for both training program structure and accurate readiness reporting.

MCTs	CORE SKILLS						MISSION SKILLS					
	FAM	AAR	AS	NS	AA	LAT	CAS	AR	SCAR	AAW	SEAD	AI
CAS	X	X	X	X		X	X					
AR	X	X	X	X		X		X				
SCAR	X	X	X	X					X			
AAW	X	X	X	X	X	X				X		
SEAD	X	X	X	X							X	
AI	X	X	X	X		X						X
AAW (AD)	X	X	X	X	X	X				X		

CMTR working model

•Collective Training and Unit Evaluation

Training readiness assessments allow a commander to certify his unit's ability to accomplish a given MET. Certifications are currently based upon unit execution of selected T&R events at approved exercises such as Enhanced Mojave Viper. Future certifications will be based on unit demonstration of collective training events (CTE) that draw upon the knowledge, aeronautical abilities, experience and situational awareness developed via Mission Skill training.

Unit evaluations will leverage collective training, live and virtual events, and external participants (ground forces, supporting arms, etc.) to exercise essential elements (Mission Analysis, Rapid Planning, Command and Control, etc) and requisite skill sets to successfully perform assigned missions. The T&R Program must include the structure and policy to incorporate these CTEs and accompanying standards.

•T&R Program Readiness Chapter

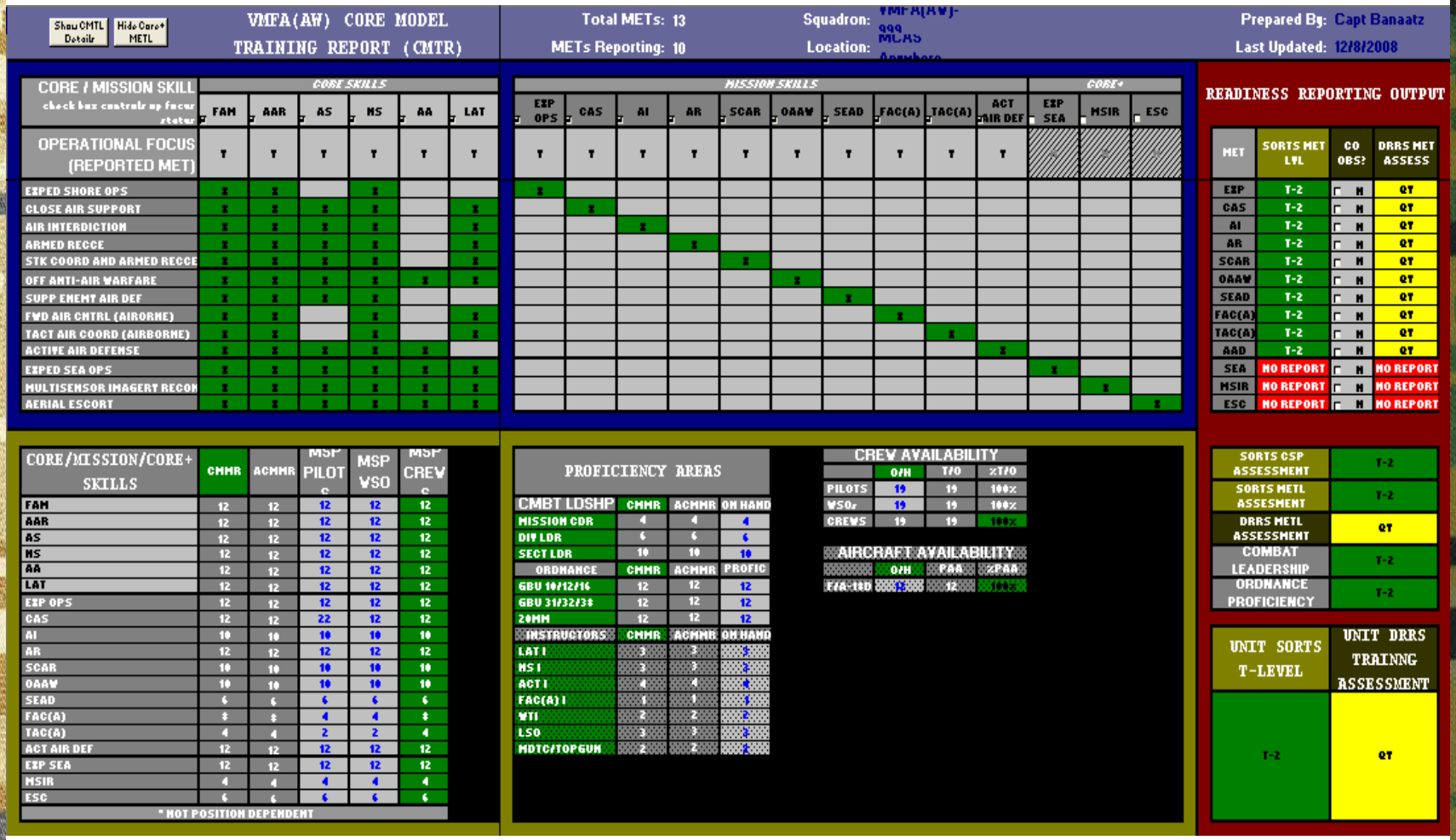
Per PP&O readiness reporting guidance, Marine aviation shall replace the SORTS-based training readiness metric of unit "average individual Combat Readiness Percentage" with MET-based reporting. The T&R Program must communicate clearly the method by which the T&R Program will support readiness reporting, while preserving the concepts of Core Capability, Core and Mission Skill Proficiency, and Combat Leadership. To accomplish this task, TECOM(ATB) has added a chapter that describes the method used to link the T&R Program to aviation community DRRS training assessments.

Assessment	Definition
Yes	Unit "trained to standard" in a **majority** of METs by: 1. Unit meets the T&R CMMR (CMTL-2 or better) requirements for each corresponding Core/Mission Skill as determined by the Core/Mission Skills-METL matrix; 2. Unit has demonstrated its ability to perform a majority of METs to the MET output standard and; 3. Unit meets the T&R CMMR (CMTL-2 or better) requirements for Unit Combat Leadership.
Qualified Yes	Unit "trained to standard" in a **majority** of METs by: 1. Unit meets the T&R CMMR (CMTL-2 or better) requirements for each corresponding Core/Mission Skill as determined by the Core/Mission Skills-METL matrix; 2. Unit has **not** demonstrated the ability to perform to the MET output standard in a majority of unit METs and; 3. Unit meets the T&R CMMR (CMTL-2) requirements for unit Combat Leadership.
No	Unit is not "trained to standard" in one or more METs since it does not meet either of the following: 1. Unit does not meet T&R CMMR (CMTL-2 or better) requirements in one or more METs **or**; 2. Unit does not meet the T&R CMMR (CMTL-2) requirements for unit Combat Leadership.

Assessment working model

• T&R Core Model Training Report (CMTR)

In response to the DRRS initiative, TECOM(ATB) has updated the original CMTR and has created a working model that fulfills DRRS guidance. Once the methodology is approved, commanding officers will be provided with access to a training level assessment tool for use in both planning for future T&R training events and in DRRS reportage. The model is depicted as on the following page.



CMTR working model

Current Readiness Improvement Program

Current Readiness & Naval Aviation Enterprise

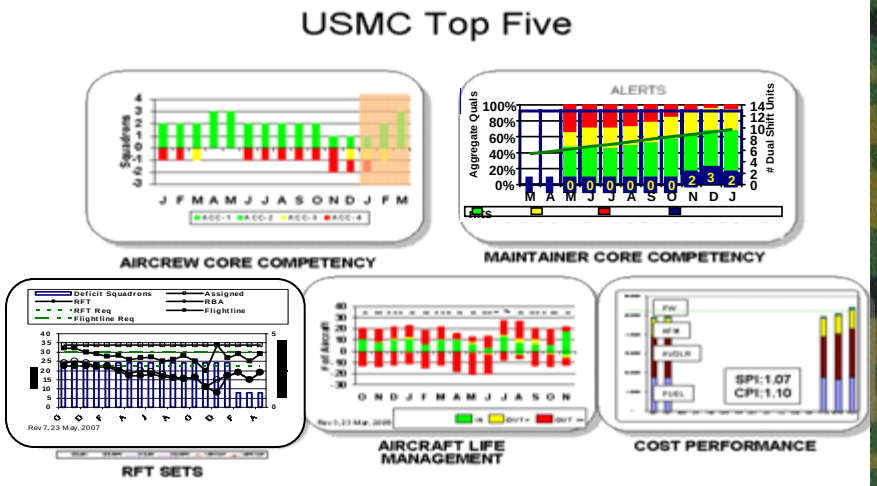
Mission: Marine aviation commanders and leaders – in concert with the naval aviation enterprise (NAE) – will plan, execute, and manage the current readiness (CR) process in order to maximize readiness of equipment and people, optimize material resource allocations and expenditures, and minimize logistics downtime and delays. Leaders will conduct CR operations to align Marine aviation with enabling organizations. The purpose of this alignment is to achieve, effectively and predictably, required levels of readiness needed to produce core competent aviation units (squadrons/ detachments) for warfighting missions.

Goals: The goal of Marine aviation is to attain and maintain combat readiness to support expeditionary maneuver warfare while at the same time preserving and conserving Marines and equipment. Embedded within this combat readiness goal is the ability to plan for crises and/or contingency operations, and the capacity to deploy rapidly, effectively and efficiently on short notice.

- Increase Aircraft Readiness
  - o Increase aircraft availability
  - o Increase in-reporting (IR) rates
  - o Decrease out-of-reporting (OR) rates
  - o Reduce Depot turn around time
- Reduce Workload on Marines
- Understand & Manage Costs
- Extend Service Life for Legacy Aircraft
- Achieve Programmed Service Life for New Platforms
- Improve Health of Organizational and Intermediate Level Maintenance Departments
- Increase Sortie Generation
- Increase Combat Power
- Increase Reliability of Aircraft & Components
- Increase Reliability of Logistics Process

The Goal: A Core Competent Unit

The most direct measurable output of the CR process is the production of **Core Competent Units**. The design of CR, therefore, is to support Mission Essential Task (MET)-based output standards that are consistent with a **Core Competent Unit** and/or detachments.



Key Performance Indicators (KPIs): To create performance-based measurements, type/model/series (T/M/S) teams determine which processes should be measured, what metrics would be used for the analysis, and which of those metrics are to be considered key performance indicators (KPIs).

Ready for Tasking (RFT): One of the main goals of the CR CFT is being able to provide the right amount of RFT equipment resources to support a squadron's current mission.

Trained Maintenance Manpower: Central to producing RFT is the maintenance department's technical ability to maintain aircraft. Maintenance core competency for the maintenance department includes, at a minimum, qualifications and licensing (CDI, CDQAR, aircraft sign off, etc.).

Flight Hour Cost-Per-Hour: The goal of the NAE is to produce readiness and RFT aircraft while managing cost efficiently. In order to meet this goal, T/M/S teams must be aware and critical of the rate at which, and how, they expend fiscal resources.

Aircraft Life Management: Proper management of aircraft utilization ensures airframes last to required service life. This is accomplished by managing airframe usage within acceptable range of life-limiting parameters (flight hours, fatigue, etc.).

Flying Hour Program (FHP) and Core Competency Resource Model (CCRM)

MCO 3125.1B Marine Corps Flying Hour Program Management

The Flying Hour Program (FHP) provides policy, guidance, and responsibilities for the execution of the Marine Corps FHP. Marine Corps flight operations management is composed of two elements: the Sortie Based Training Program (SBTP) and the FHP. The SBTP is the commander's execution tool and the FHP is the budgeting tool. All commanders shall use all available resources to ensure their commands are trained per the current editions of the appropriate **Type/Model/Series** T&R manuals. Key sections of the order include:

Marine Corps Flying Hour Programs
Marine Corps Unit Core Competency Resource Model (CCRM) Guidelines
Marine Corps Sortie Based Training Program
Marine Corps FHP Reporting

Marine Corps Flying Hour Programs

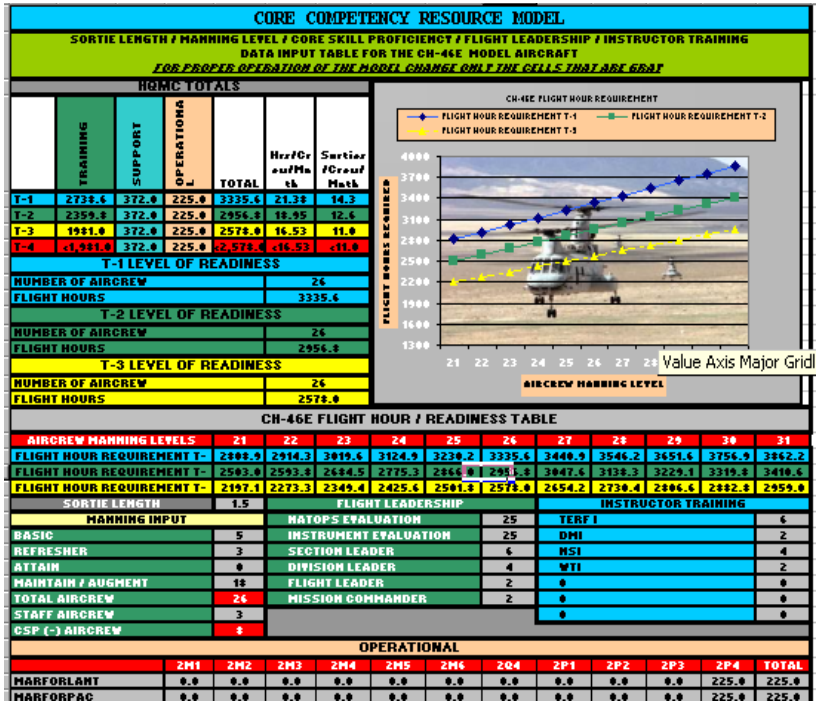
Schedule A: Tactical Aircraft (TACAIR) FHP: all deployable active component (AC) fixed-wing, rotary-wing and tilt-rotor squadrons. Reserve component (RC) squadrons that are activated will be also funded from the gaining MARFOR TACAIR FHP.
Schedule B: Fleet Replacement Squadron (FRS) FHP: all Marine Corps Fleet Replacement Squadrons.
Schedule C: Fleet Air Support (FAS) FHP: all deployable and non-deployable AC operational support aircraft (OSA), SAR, HMX-1, and VMX-22 aircraft.
Schedule D: Reserve FHP: all deployable and non-deployable RC FW/RW/TR squadrons and OSA aircraft.

Marine Corps FHP Funding

USMC aviation flying hours are funded through O&M,N, and HQMC Aviation provides the required inputs to OPNAV N43 (two years before the execution year) in order to ensure adequate funding levels support required readiness levels. Using the output of the CCRM, flight hour requirements for each T/M/S squadron are modeled and then consolidated for all USMC squadrons in aggregate. Because the USMC is growing a number of additional squadrons in order to meet CMC intent for the future, the associated flying hour requirements will also grow. As new units stand up in accordance with the AvPlan, funding levels in O&M,N must increase to meet the demand of the new units.

Core Competency Resource Model

The CCRM directly links the FHP, T&R syllabi, and the readiness reporting system (SORTS and/or DRRS). The CCRM generates annual flying hour and sortie requirements (including training, support, or operational sorties) for maintaining selected T-Level readiness ratings. The Deputy Commandant for Aviation (DC(A)) utilizes the CCRM data as the primary guide/validation tool when providing annual TACAIR FHP inputs to the USN OP-20 budgeting document. Unit commanders may also use the CCRM during the development of their annual SBTP. CG, Training and Education Command (TECOM) Aviation Training Branch (ATB) is the custodian of the CCRM for each T/M/S. The models are maintained on the TECOM website (http://www.tecom.usmc.mil/atb).



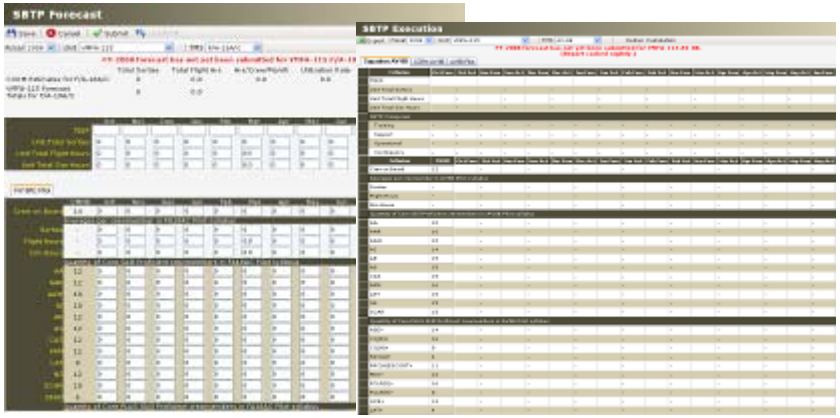
Sortie-Based Training Program

The Marine Corps SBTP allows squadron commanders to develop their unit's Training Exercise Employment Plan (TEEP) and unit training and readiness (T&R) requirements to train mission skill-proficient aircrews and combat leaders per their unit T&R Core Model Minimum Requirement (CMMR) in order to attain and maintain a T-2 level of readiness per NAVMC 3500.14B. A T-2 level of readiness allows a unit to fulfill its Mission Essential Task output standard in support of a Marine Air Ground Task Force or joint force commander.

Annual Unit SBTP Submission. The annual unit SBTP forecast is developed at the squadron level, then reviewed and approved by the Marine Aircraft Group (MAG)/Marine Aircraft Wing (MAW)/Marine Corps Installations (MCI)/Marine Force (MARFOR)/DC AVN chain of command. DC AVN (APP-2) consolidates the MARFOR T/M/S inputs into a single Marine Aviation SBTP by T/M/S. Unit SBTP forecasts shall be submitted by squadrons NLT 01 August each year for the following fiscal year (FY). DC, AVN (APP-2) utilizes the T&R T/M/S Core Competency Resource Models (CCRM) and the MARFOR T/M/S SBTP submissions for the final development of the Marine aviation tactical aircraft (TACAIR) FHP requirement for DC(A) approval prior to submission to OPNAV N43.

Monthly Unit SBTP Execution Submission. The monthly unit SBTP execution report provides squadrons and above the data required to track unit SBTP and FHP execution.

M-SHARP SBTP Forecast/Execution Reports



Marine Corps Sierra-Hotel Aviation Readiness Program (M-SHARP)

We have made great strides in the automation of objective, rules-based risk management within USMC aviation's flight scheduling and training management software. The next step on the automated training management roadmap for Marine aviation is the continued development and sustained use of M-SHARP by USMC aviation flying, MACCS, and METOC units. The fielding of M-SHARP has marked the divestiture of SARA and ATRIMS and the stand-up of a web-based, authoritative data source for Marine aviation training and readiness. M-SHARP leverages the Navy's web-based training management system and aviation data warehouse concept with an automated, Marine aviation-specific training and readiness system. M-SHARP will provide Marine Aircraft Wings with a user-friendly, web-based training management system. M-SHARP's robust scheduling, event tracking, and objective Operational Risk Management capabilities are designed to help the commander prevent delinquent or unqualified individuals (or crews) from being scheduled for an event without requisite skills, proficiency, or supervision. TECOM(ATB) has assumed responsibility for the management of M-SHARP for Marine aviation.

Marine Corps Flying Hour Program Information

FY10 Core Competency Resource Model
TACAIR FHP requirement by T/M/S

T/M/S	Hours
AV-8B	23,825
CH-46E	17,525
MV-22B	19,889
CH-53D	8,580
CH-53E	26,161
KC-130J	21,444
AH-1W	30,814
UH-1N	12,243
UH-1Y	7,536
FA-18A/C	27,361
FA-18D	20,513
EA-6B	6,287
Total	222,178









USMC AVIATION FLYING HOUR PROGRAM FUNDING							
PB-10 ($M)	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FYDP (10-15)**
TACAIR	1,369.6	1,462.8	1,528.4	1,577.9	1,637.6	1,675.3	9,251.6
Fleet Replacement Squadron	205.7	240.9	265.2	267.1	264.6	261.4	1,504.8
Fleet Air Support	50.6	52.3	52.5	52.9	54.7	57.8	320.8
Reserves	137.1	142.7	147.6	149.9	147.3	144.5	869.0
USMC FHP ($M)	**1,762.9**	**1,898.7**	**1,993.5**	**2,047.8**	**2,104.2**	**2,139.0**	**11,946.2**

Marine Aviation Aircraft Inventory

Aircraft Inventory Terminology

Defined by: CJCS INST 4410.01B and OPNAVINST 5442.8

PMAA	Primary Mission Aircraft Authorization (aircraft authorized to a unit for performance of its mission)
PTAA	Primary Training Aircraft Authorization (required for technical and specialized aircrew training)
PDAA	Primary Developmental/Test Aircraft Authorization (required primarily for RDT&E)
POAA	Primary Other Aircraft Authorization (required for special missions not classified elsewhere)
BAA	Backup Aircraft Authorization (10% of PMAA rounded down)
AA	Aircraft Attrition (computed by program office and N432D)
PAA	Primary Aircraft Authorization = PMAA + PTAA + PDAA + POAA

	T/M/S	AVG AGE OF FLEET	PAA (PRIMARY AIRCRAFT AUTHORIZED) PMAA PRIMARY MISSION	PTAA FRS/ TNG	PDAA RDT&E	POAA OTHER/ SPECIAL MISSION	PAA	BAA FACTOR % OF PAA	BAA BACKUP	AA FACTOR	AA FY 09	TOTAL REQ'D	CURRENT INVENTORY	[illegible]	ISR	MOD	IMC	DEPOT
TACTICAL	AH-1W	19	162	19	4	0	185	15.0	27	1.4	2	214	155	(59)	15	3	8	26
	UH-1N	35	72	10	0	0	82	16.3	13	1.4	1	96	84	(12)	1	1	7	9
	UH-1Y	1	18	0	0	0	18	10.0	2	1.0	0	20	15	(5)	0	1	0	1
	CH-46E	41	108	18	0	6	132	16.9	22	0.8	1	155	155	0	1	10	12	23
	MV-22A/B	3	70	20	8	0	98	10.0	10	1.0	1	109	86	(23)	7	6	1	14
	CH-53D	39	30	0	1	0	31	12.8	3	1.3	0	34	35	1	0	0	2	2
	CH-53E	21	118	17	2	6	143	21.3	30	1.4	2	175	148	(27)	3	4	19	26
	AV-8B	13	98	14	6	0	118	12.8	15	1.9	2	135	131	(4)	5	1	10	16
	* F/A-18A/A+	23	46	2	0	0	48	16.5	8	1.6	1	57	57	0	6	2	9	17
	* F/A-18C	16	60	17	0	0	77	23.7	18	1.4	1	96	83	(13)	7	0	7	14
	F/A-18D	15	60	17	2	0	79	25.5	20	0.9	1	100	94	(6)	10	4	13	27
	EA-6B	27	20	0	0	0	20	22.8	5	1.1	0	25	28	3	0	1	7	8
	KC-130T	20	24	0	0	0	24	17.7	4	0.0	0	28	28	0	0	4	4	8
	KC-130J	4	33	0	0	0	33	5.9	2	0.0	0	35	35	0	0	0	3	3
	TOTALS		**919**	**134**	**23**	**12**	**1088**	**16.5%**	**179**		**12**	**1279**	**1134**	**(145)**	**55 4.3%**	**36 2.8%**	**102 9.0%**	**193 17.0%**
OTHER	AH-1Z	1	0	4	4	0	8	10.0	1	1.0	0	9	7	(2)	0	1	0	1
	HH-1N	37	0	0	0	4	4	10.0	0	2.0	0	4	5	1	0	0	0	0
	UH-1Y	1	0	10	3	0	13	10.0	1	1.0	0	14	9	(5)	2	0	0	2
	HH-46E	40	3	0	0	0	3	10.0	0	0.0	0	3	5	2	0	0	0	0
	VH-3D	34	8	0	0	0	8	25.0	2	0.0	0	10	11	1	0	0	3	3
	VH-60N	21	6	0	0	0	6	25.0	2	0.0	0	8	8	0	0	0	1	1
	TAV-8B	20	0	15	0	0	15	30.0	5	1.0	0	20	17	(3)	1	0	3	4
	F/A-18B	23	0	2	0	0	2	13.8	0	0.8	0	2	4	2	1	0	0	1
	F-5F	31	0	1	0	0	1	10.7	0	1.1	0	1	1	0	0	0	0	0
	F-5N	31	0	12	0	0	12	2.8	0	0.0	0	12	11	(1)	0	0	3	3
	C-20G	15	1	0	0	0	1	11.0	0	0.0	0	1	1	0	0	0	0	0
	C-9B	34	2	0	0	0	2	24.1	0	0.0	0	2	2	0	0	0	0	0
	UC-12B/F	28 / 23	11	0	0	0	11	7.2	1	0.0	0	12	11	(1)	1	0	2	3
	UC-35C/D	10 / 5	11	0	0	0	11	1.1	0	0.0	0	11	12	1	0	0	0	0
	T-34C	31	0	2	0	0	2	9.5	0	0.2	0	2	3	1	0	0	0	0
	TOTALS		**42**	**46**	**7**	**4**	**99**	**12.1%**	**12**		**0**	**111**	**107**	**(4)**	**5 4.5%**	**1 0.9%**	**12 11.2%**	**18 16.8%**
	GRAND TOTALS		**961**	**180**	**30**	**16**	**1187**	**16.1%**	**191**		**12**	**1390**	**1241**	**(149)**	**60 4.3%**	**37 2.7%**	**114 9.2%**	**211 17.0%**

DATA OBTAINED FROM AVIATION CURRENT REQUIREMENT NUMBERS
DATA OBTAINED FROM TMS APDF Ver 102 09-19
CALCULATED NUMBERS
DATA FROM AMRR/AIRRS

UNCLASSIFIED

Marine Aviation Transition

Today		Tomorrow
KC-130 T/J		KC-130J
CH-46E		MV-22
UH-1N AH-1W	 	UH-1Y AH-1Z
ISR Services SHADOW	 	STUAS Group-4
CH-53E CH-53D		CH-53K
F/A-18 AV-8B EA-6B		F-35B JSF
VH-3 VH-60	**TBD**	VXX

Section 2 --- Marine Aviation Organizational Structure as of 1 Oct 2009
(Also depicting planned changes to structure and basing between 2010 and 2019)

Marine Aviation 2010 Aviation Plan	2-2
MARFORPAC/1st MAW Organizational Chart	2-3
MARFORPAC/3rd MAW Organizational Chart	2-4
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Marine Corps Bases Atlantic Organizational Chart	2-7
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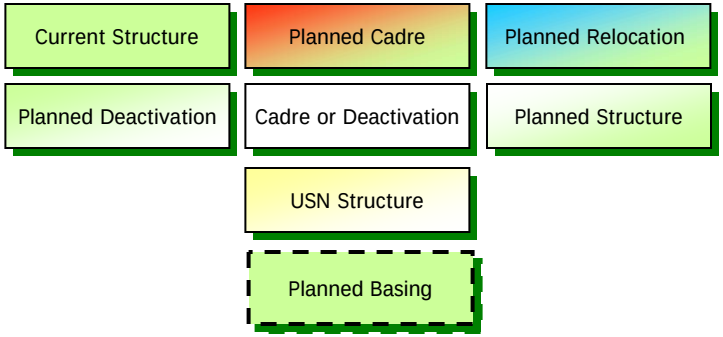
2010 Marine Aviation Plan

The 2010 AvPlan supports the force structure initiatives approved under the Marine Aviation Transition Strategy (MATS); 202K Grow the Force; and, with the exception of a few small challenges, the anticipated requirements resulting from the implementation of the Defense Posture Review Initiative (DPRI). DPRI is the series of sustained security consultations between the U.S. and the government of Japan which resulted in several Agreed Implementation Plans (AIPs). These plans deal with restructuring / rebasing of forces in the Pacific. The combination of these initiatives will continue to shape the future of Marine Corps aviation as adjustments are made to meet the diverse missions of today's and tomorrow's battlefields. The AvPlan provides a systematic method to introduce new aircraft and improved capabilities, and to shape the future organization of Marine Corps aviation, all while maintaining our current capability as our nation's force in readiness. This plan sets in place tomorrow's Marine aviation as a viable and essential component in support of the MAGTF on the battlefield.

The Marine Corps Aviation Plan is designed to improve the posture of Marine Corps aviation in the near term (FY2010-2012); the mid-term (FY2013-2015) and the long term (FY2016-2025).

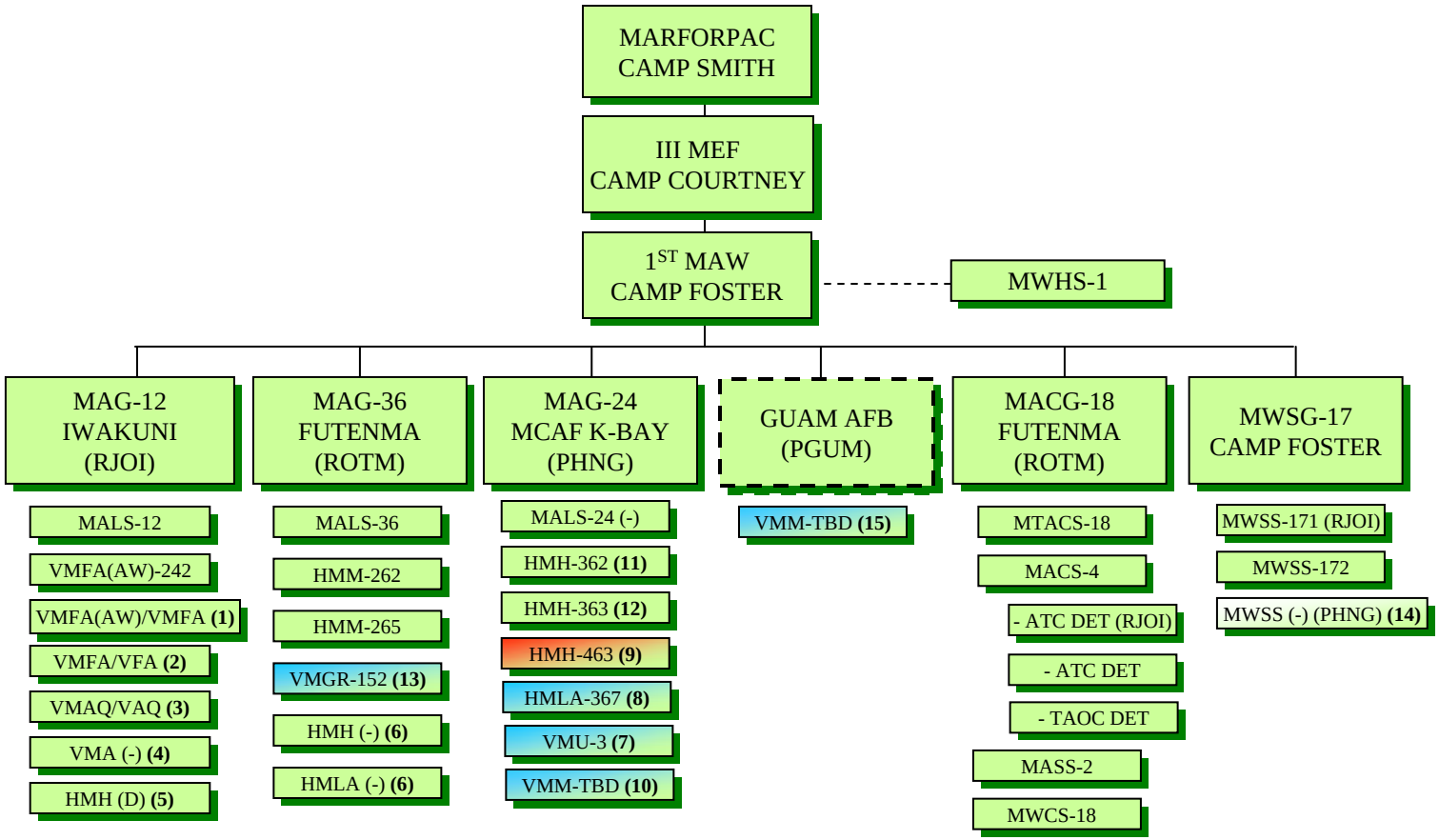
Way Ahead:
During the next decade, Marine aviation will transition from thirteen to six type/model/series manned aircraft, with a peak of eighteen overlapping type/model/series in service at one time. These are manpower and training intensive transitions which will take units temporarily out of the operating force. The 2010 AvPlan delineates the latest plans for these transitioning aviation platforms and programs, and Marine aviation continues to work with the MarFors, MEFs and Wings to optimize these transitions and minimize impact to the operating forces.

Pages 2-3 through 2-12 are Marine Aviation organizational charts that show planned changes in structure and basing between 2010 and 2019.



Color-coded naming convention used in the organizational charts

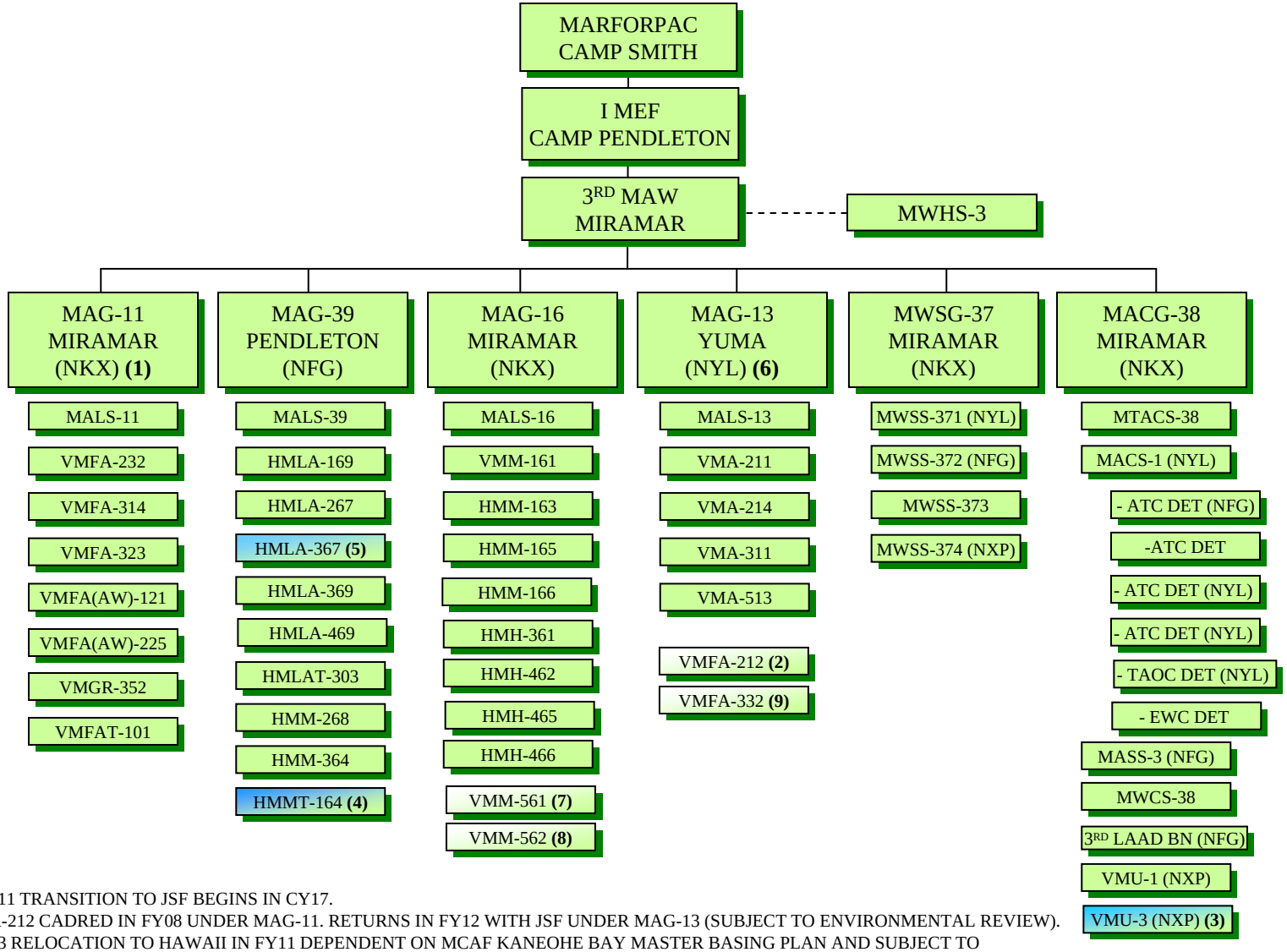
MARFORPAC/1ST MAW ORGANIZATIONAL CHART (as of 1 Oct 2009)



NOTES:

1) UDP SQUADRON SOURCED FROM 2ND/3RD MAW.
2) UDP SQUADRON SOURCED FROM 2ND/3RD MAW OR STRIKE FIGHTER WING PACIFIC.
3) UDP SQUADRON SOURCED THROUGH GFMP (USN/USMC SQUADRON).
4) UDP SQUADRON (-) ISO 31ST MEU SOURCED FROM 2ND/3RD MAW.
5) UDP SQUADRON SOURCED FROM MAG-24.
6) UDP SQUADRON SOURCED FROM 3RD MAW.
7) VMU RELOCATION FROM 29 PALMS IN FY12 SUBJECT TO MCAF KANEOHE BAY MASTER BASING PLAN AND ENVIRONMENTAL REVIEW.
8) HMLA RELOCATION FROM CAMP PENDLETON IN FY12 SUBJECT TO MCAF KANEOHE BAY MASTER BASING PLAN AND ENVIRONMENTAL REVIEW.
9) HMH-463 CADRES IN FY11 TO TRANSITION TO MV-22. RETURNS AS VMM IN FY16.
10) VMM-TBD RELOCATES TO HAWAII IN FY15.
11) HMH-362 TRANSITIONS TO 16-PLANE DELTA SQUADRON IN FY11. RELOCATES TO THE EAST COAST IN FY18 AND TRANSITIONS TO CH-53K. WILL BE REPLACED BY HMH (ECHO) SQDN FROM MAG-26/29. THIS ECHO SQUADRON WILL BE THE LAST HMH TO TRANSITION TO CH-53K.
12) HMH-363 TRANSITIONS TO 16-PLANE DELTA SQUADRON IN FY11. RELOCATES TO THE EAST COAST IN FY19 AND TRANSITIONS TO CH-53K.
13) VMGR-152 RELOCATES TO IWAKUNI IN FY-13.
14) MARINE WING SUPPORT SQUADRON (-) ACHIEVED THROUGH FY08 UNCOMPENSATED REVIEW BOARD; STANDS UP IN FY12 UNDER MWSG-17 ISO MAG-24.
15) VMM-TBD RELOCATES TO GUAM IN FY14 DEPENDENT ON PROGRESS OF AGREED IMPLEMENTATION PLAN (AIP) AND SUBJECT TO ENVIRONMENTAL REVIEW. VMM-TBD WILL HAVE THE CAPACITY TO ACT AS THE HEADQUARTERS FOR A COMPOSITE SQUADRON REPORTING TO MAG-24.

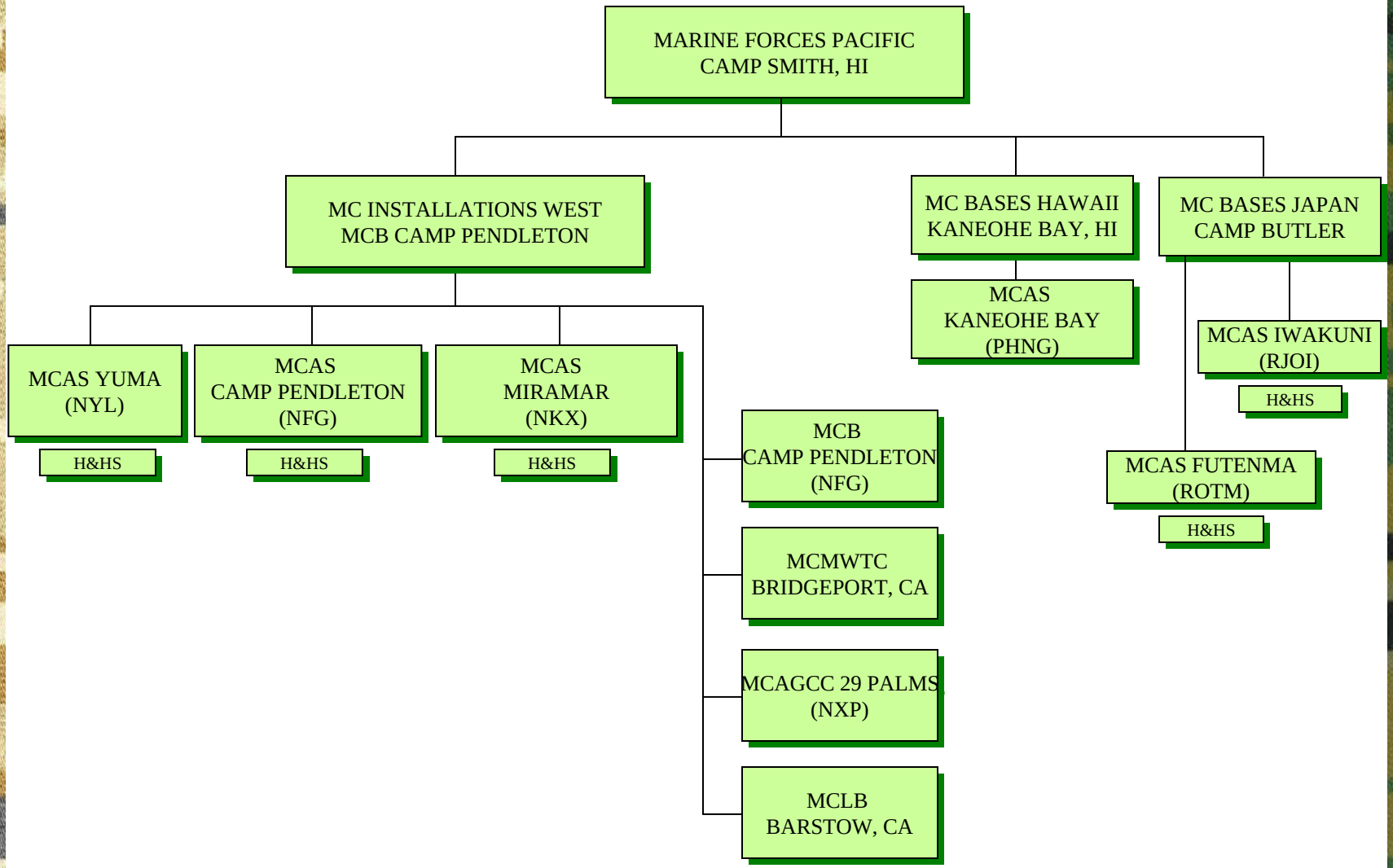
MARFORPAC/3RD MAW ORGANIZATIONAL CHART (as of 1 Oct 2009)



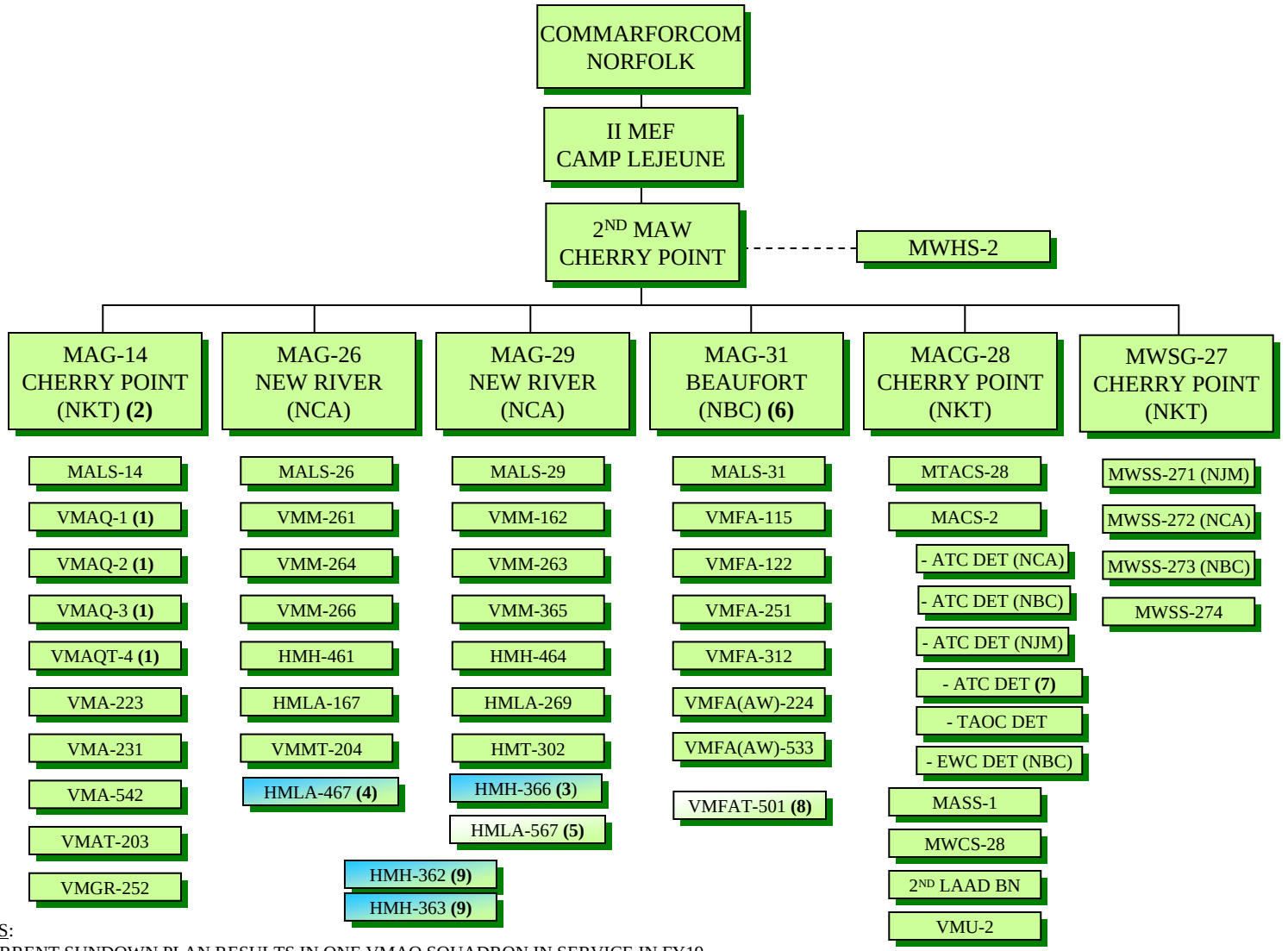
NOTES:

1) MAG-11 TRANSITION TO JSF BEGINS IN CY17.
2) VMFA-212 CADRED IN FY08 UNDER MAG-11. RETURNS IN FY12 WITH JSF UNDER MAG-13 (SUBJECT TO ENVIRONMENTAL REVIEW).
3) VMU-3 RELOCATION TO HAWAII IN FY11 DEPENDENT ON MCAF KANEOHE BAY MASTER BASING PLAN AND SUBJECT TO ENVIRONMENTAL REVIEW.
4) FY14 HMMT-164 RELOCATES TO MAG-16 AND TRANSITIONS TO MV-22.
5) HMLA-367 RELOCATION TO HAWAII IN FY12 DEPENDENT ON MCAF KANEOHE BAY MASTER BASING PLAN AND SUBJECT TO ENVIRONMENTAL REVIEW.
6) MAG-13 WILL BE JSF TRANSITION COMPLETE WITH FIVE VMFA SQUADRONS IN FY19 (WILL GIVE UP ONE SQUADRON AT TIME TBD).
7) VMM-561 STANDS UP IN FY11. RELOCATES TO 1st MAW IN FY13 TO FACILITATE HMM TRANSITIONS AND OPERATIONAL COMMITMENTS.
8) VMM-562 STANDS UP IN FY12. RELOCATES TO 1ST MAW IN FY13 TO FACILITATE HMM TRANSITIONS AND OPERATIONAL COMMITMENTS.
9) VMFA-332 CADRED IN FY07 UNDER MAG-31. RETURNS IN FY11 WITH JSF UNDER MAG-13 (SUBJECT TO ENVIRONMENTAL REVIEW).

MARINE CORPS BASES PACIFIC ORGANIZATIONAL CHART (as of 1 Oct 2009)



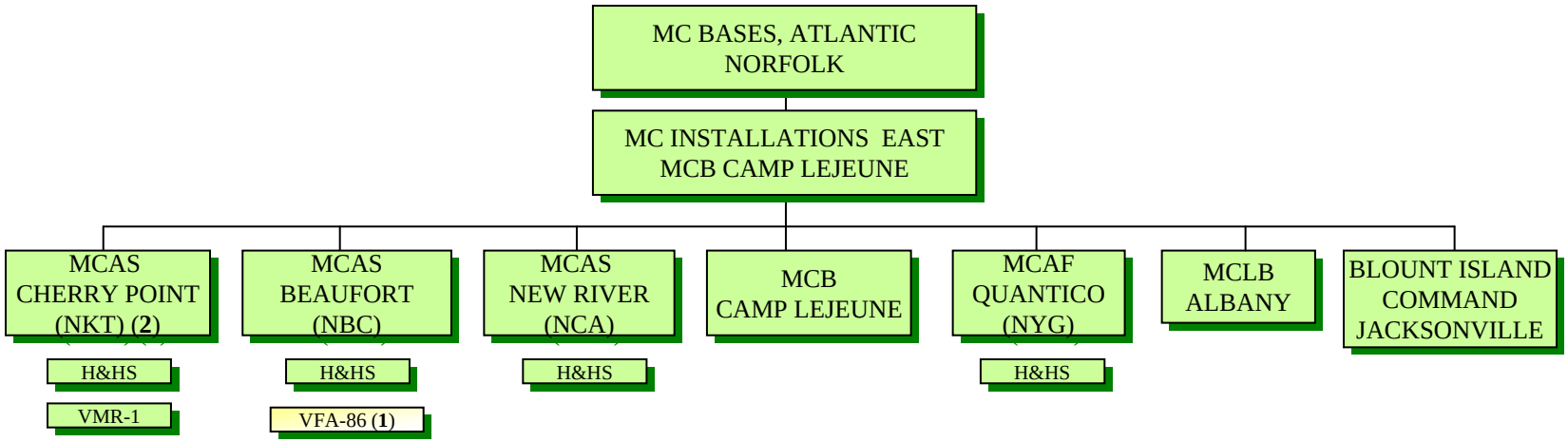
MARFORCOM/2ND MAW ORGANIZATIONAL CHART (as of 1 Oct 2009)



NOTES:

1) CURRENT SUNDOWN PLAN RESULTS IN ONE VMAQ SQUADRON IN SERVICE IN FY19.
2) CURRENT JSF TRANSITION PLAN RESULTS IN ONE JSF SQDN, ONE VMA SQDN, AND ONE VMA SQDN IN TRANSITION WITHIN MAG-14 IN FY19.
3) HMH-366 TEMPORARILY BASED IN CHERRY POINT AND MOVES TO NEW RIVER IN FY12.
4) HMLA-467 TEMPORARILY BASED IN CHERRY POINT AND MOVES TO NEW RIVER IN FY13.
5) IAW 202K EXPANSION, HMLA-567 (THE 9TH AC HMLA) STANDS UP FY11 AT CHERRY POINT AND MOVES TO NEW RIVER IN FY13.
6) CURRENT JSF TRANSITION PLAN RESULTS IN THREE JSF SQDNS WITHIN MAG-31 IN FY19.
7) IAW 202K EXPANSION, MACS-2 ATC DET DELTA STANDS UP FY10 AT CHERRY POINT.
8) VMFAT-501 (F-35B FLEET REPLACEMENT SQUADRON) STANDS UP AT EGLIN AFB IN FY10 (SUBJECT TO ENVIRONMENTAL REVIEW).
9) HMH-362/363 RELOCATE IN FY18/19 TO THE EAST COAST AND TRANSITIONS TO CH-53K. AT THAT TIME A SINGLE HMH SQDN FROM EITHER MAG-26 OR MAG-29 WILL RELOCATE TO HAWAII. THIS ECHO SQDN WILL BE THE LAST TO TRANSITION TO THE CH-53K.

MARINE CORPS BASES ATLANTIC ORGANIZATIONAL CHART (as of 1 Oct 2009)

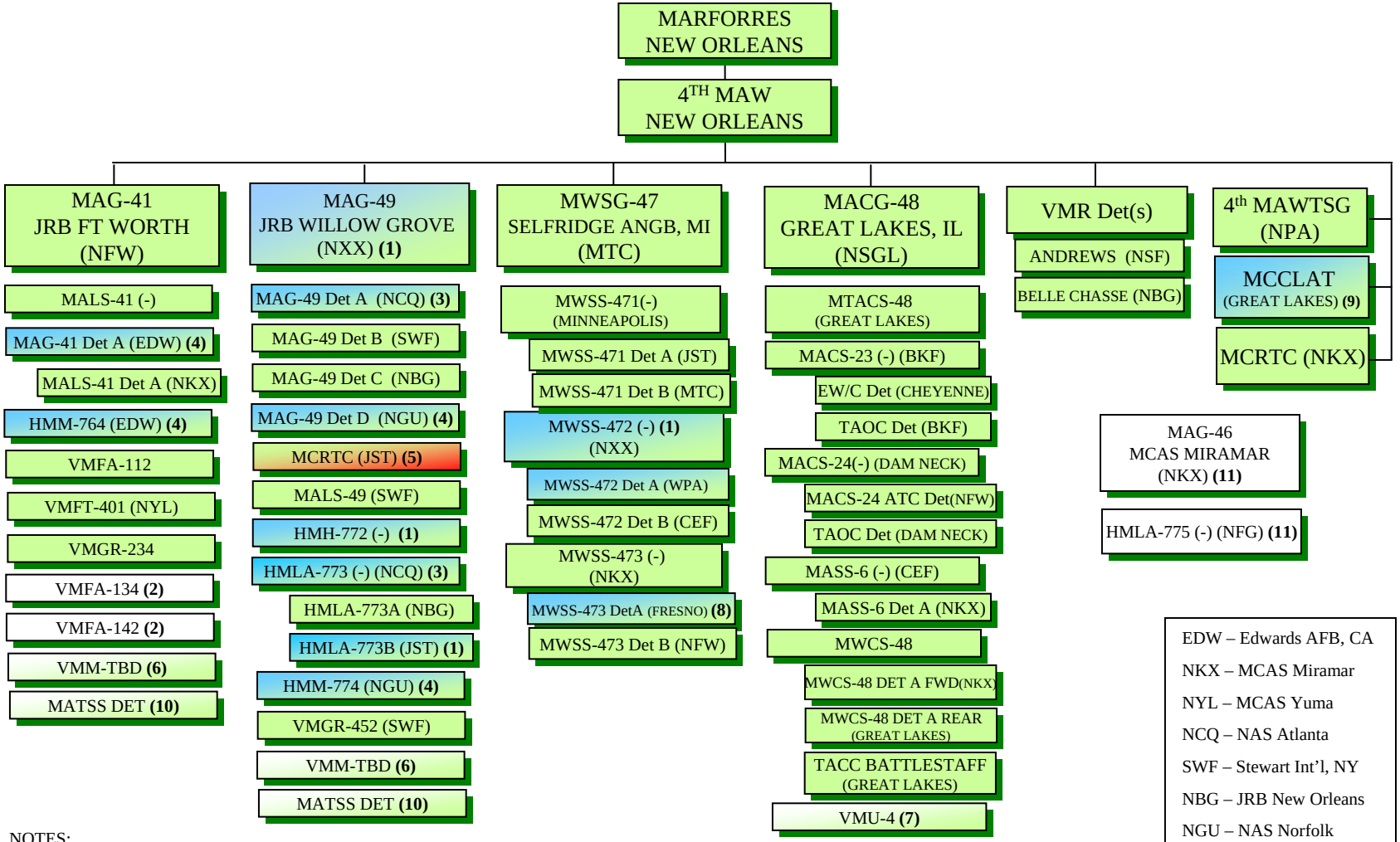


NOTE:

1) USN FA-18C SQUADRON STATIONED AT MCAS BEAUFORT IS INDEPENDENT OF 2ND MAW.

2) USN FA-18E SQUADRONS VFA-143 AND VFA-105 MOVING TO CHERRY POINT

MARFORRES/4TH MAW ORGANIZATIONAL CHART (as of 1 Oct 2009)



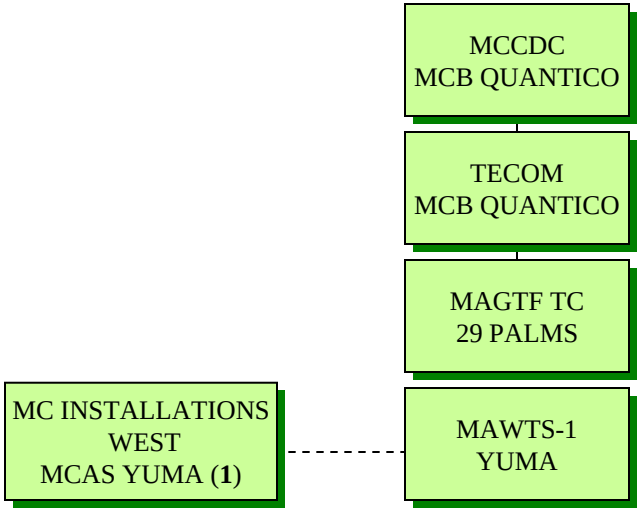
NOTES:

1) BRAC 2005: MAG-49 HQ, HMH-772 (-), HMLA-773 DET B, AND MWSS-472 (-) RELOCATE TO MCGUIRE AFB, NJ (FY11).
2) BRAC 2005: VMFA-142 RELOCATE TO NFW (FY08); VMFA-134 & VMFA-142 CADRE UNDER MAG-41, RETURN WITH JSF (LOCATION TBD).
3) BRAC 2005: RELOCATE TO WRB-WARNER ROBINS AFB, GA (FY10).
4) RELOCATE DUE TO MV-22 TRANSITION; VMM-774 (FY14), VMM-764 (FY16). BASING PROPOSALS UNDER REVIEW.
5) DECOMMISSION FY11
6) RC VMM-3 (FY17), RC VMM-4 (FY17). LOCATION TBD.
7) VMU-4 DETACHMENT STANDING UP AT YUMA IN FYxx PENDING REVIEW; BASING PROPOSAL OF FULL SQUADRON UNDER REVIEW.
8) FY12 RELOCATE TO NLC - LEMORE, CA.
9) FY10 RELOCATE
10) FY10/11 ESTABLISH
11) FY09 DECOMMISSION

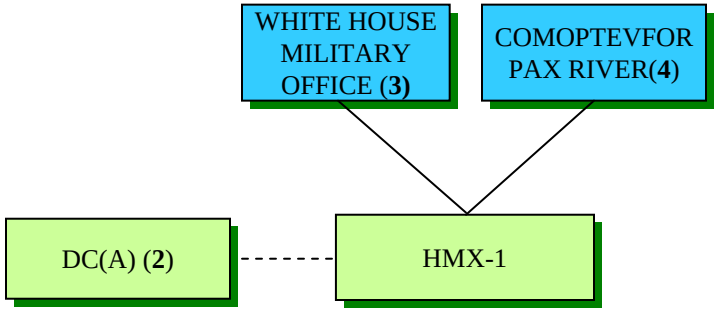
EDW – Edwards AFB, CA
NKX – MCAS Miramar
NYL – MCAS Yuma
NCQ – NAS Atlanta
SWF – Stewart Int'l, NY
NBG – JRB New Orleans
NGU – NAS Norfolk
JST – Johnstown Co., PA
WPA – Wyoming, PA
CEF – Westover ARB, MA
BKF – Buckley AFB, CO
NPA – NAS Pensacola, FL

AVIATION-UNIQUE ORGANIZATIONAL CHARTS (as of 1 Oct 2009)

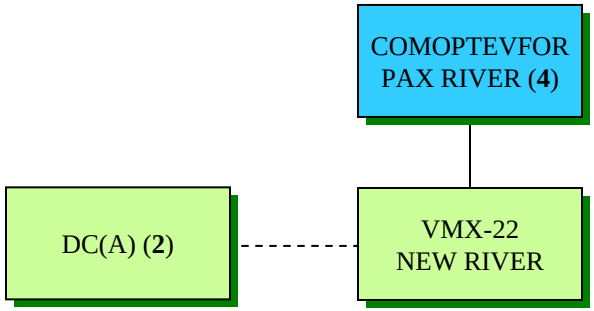
MARINE AVIATION WEAPONS AND TACTICS SQUADRON ONE



MARINE HELICOPTER SQUADRON ONE

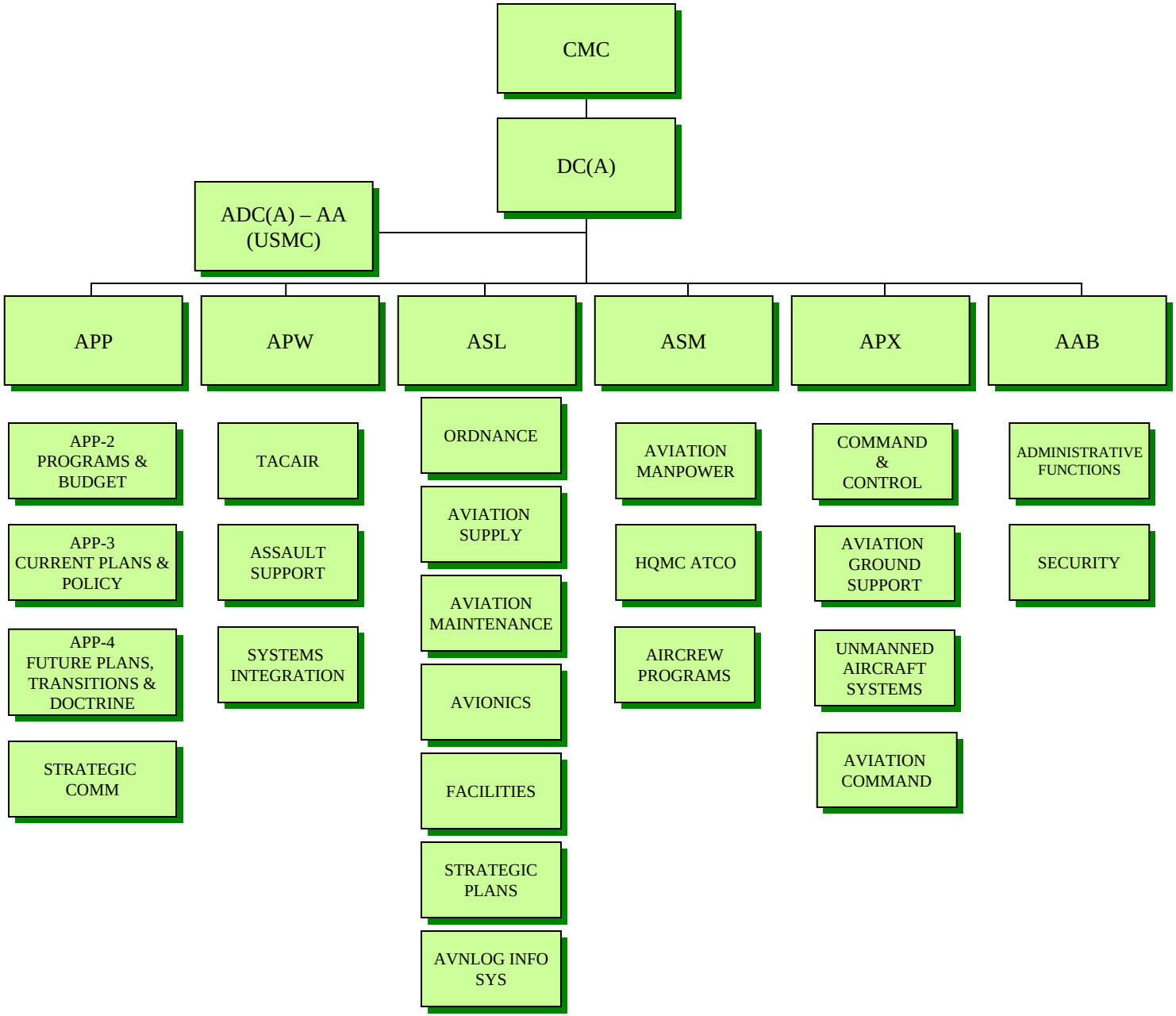


MARINE TILTROTOR TEST AND EVALUATION SQUADRON TWENTY-TWO

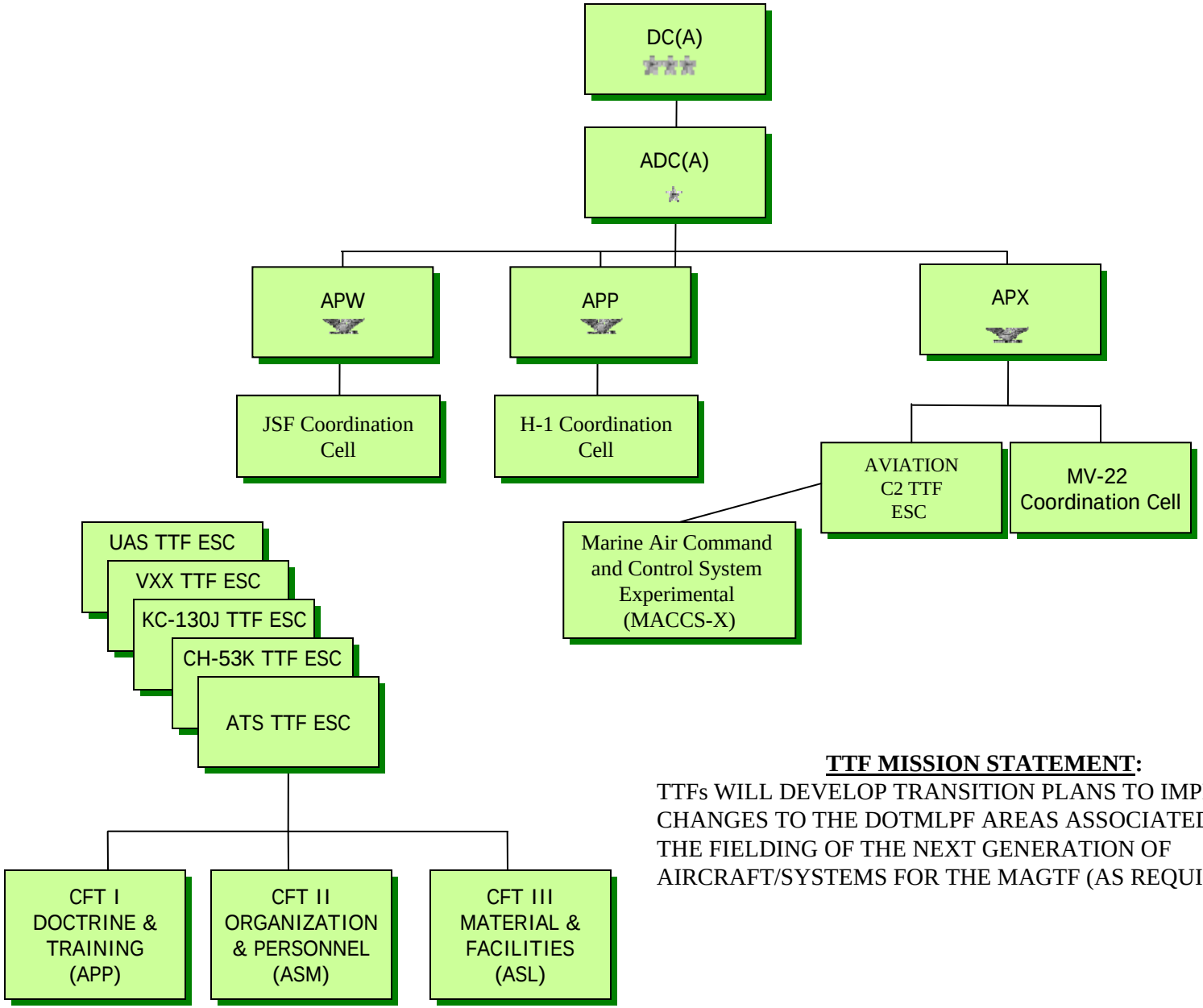


NOTES:
1) FISCAL/COMPTROLLER SUPPORT.
2) ADCON.
3) OPCON FOR PRESIDENTIAL MISSIONS.
4) OPCON FOR OPERATIONAL TEST MISSIONS.

HEADQUARTERS MARINE CORPS AVIATION ORGANIZATIONAL CHART (as of 1 Oct 2009)



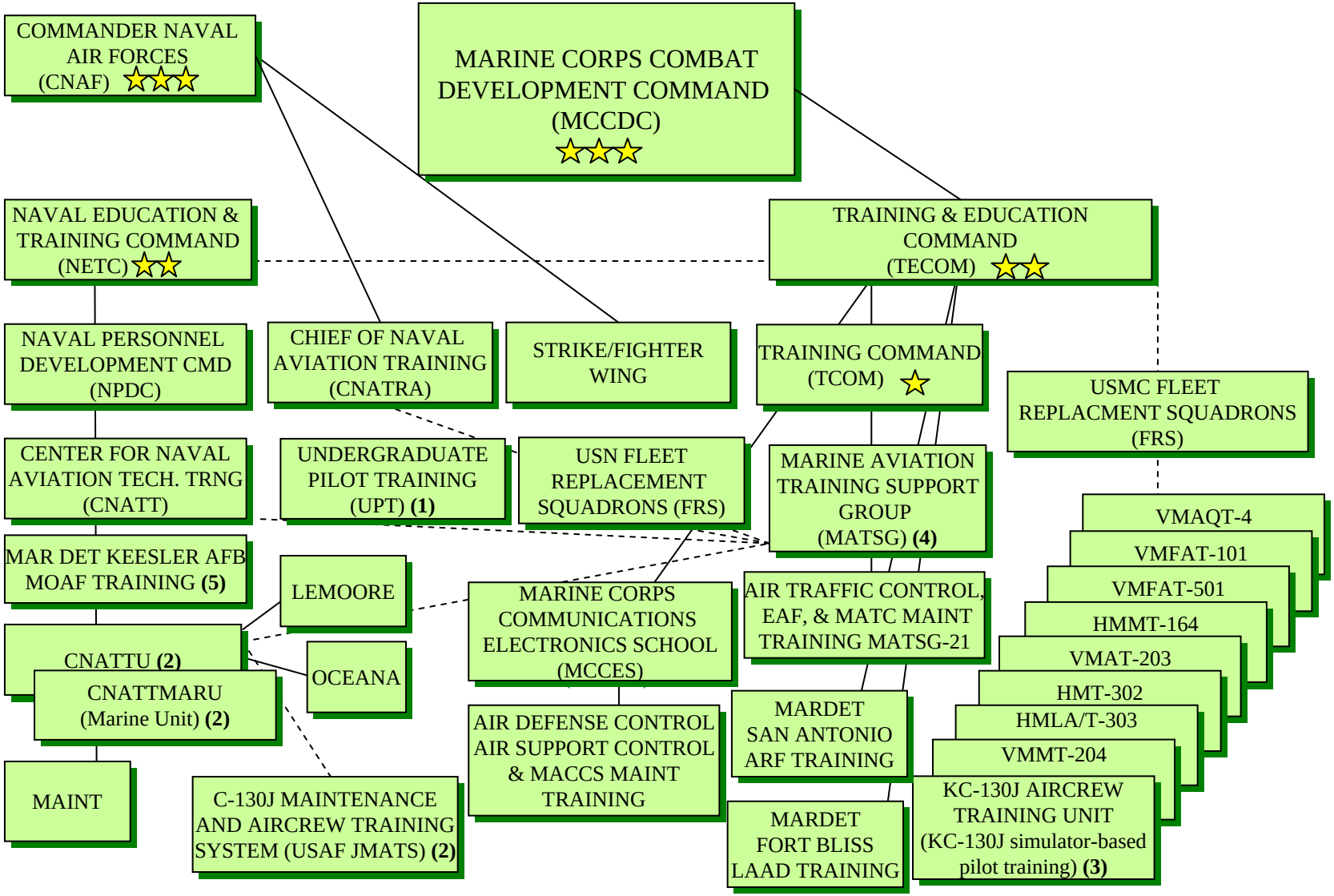
MARINE AVIATION TRANSITION TASK FORCE (TTF) ORGANIZATIONAL CHART
(as of 1 Oct 2009)



<u>TTF MISSION STATEMENT</u>:

TTFs WILL DEVELOP TRANSITION PLANS TO IMPLEMENT CHANGES TO THE DOTMLPF AREAS ASSOCIATED WITH THE FIELDING OF THE NEXT GENERATION OF AIRCRAFT/SYSTEMS FOR THE MAGTF (AS REQUIRED) .

MARINE AVIATION TRAINING ORGANIZATIONAL CHART (as of 1 Oct 2009)



NOTES:

1) TILTROTOR PIPELINE TRAINING PROGRAM DIFFERS FROM THE STANDARD RW TRAINING PROGRAM. THE TILTROTOR PROGRAM CONSISTS OF THE NORMAL PRIMARY FLIGHT TRAINING PROGRAM, FOLLOWED BY INTERMEDIATE FLIGHT TRAINING CONSISTING OF APPROXIMATELY 65 HOURS IN THE C-12, THEN AN ADVANCED STAGE OF TRAINING CONSISTING OF APPROXIMATELY 60 HOURS IN THE TH-57.

2) CNATTU, CNATTMARU AND JMATS PROVIDE USMC AVIATION MAINTENANCE TRAINING.

3) DUAL SITE KC-130J ATU SIMULATOR-ONLY PILOT TRAINING (CHERRY POINT AND MIRAMAR).

4) MATSGs PROVIDE USMC ADMINISTRATIVE OVERSIGHT AND LEADERSHIP TO USMC OFFICER AND ENLISTED AIRCREW, ATC, ATC MAINT, EAF AND AVIATION MAINT STUDENTS UNDERGOING PRIMARY MOS TRAINING AT NON-USMC BASES AS WELL AS PERMANENT PERSONNEL ASSIGNED TO SUPPORT THAT TRNG.

5) MARINE OCEANOGRAPHER AEROGRAPHER FORECASTER (MOAF).

Section 3 --- Aviation Manpower

Aviation Manpower Plans	3-2
Officer Manning	3-3
Enlisted Manning	3-3
Ongoing Manpower Issues	3-5
Manpower Changes with a Transitioning Force	3-6
Reserve Integration and Future Challenges	3-9
Pilot Training Requirements	3-11

Aviation Manpower Plans

Aviation manpower plans are focused on finding the balance between the competing challenges of sustaining current operations and simultaneously transitioning and growing Marine aviation as we prepare for the future. As always, our Marines remain the key to success as we confront these challenges. Our Marines continue to deploy at a tempo unparalleled by that of any previous all-volunteer force. The following information highlights the initiatives, programs, and results of 2009, and our future manpower vision as we continue transforming and growing our force.

202K Endstrength and the Aviation Plan (AvPlan)

The Commandant of the Marine Corps has initiated a plan to increase the overall endstrength of the Marine Corps to 202,000 (202K). Concurrently, Marine aviation continues to refine the Marine Aviation Transition Strategy (MATS) already in execution. The AvPlan returns necessary manpower resources to a stressed operating force, increases the number of operational units available, and identifies transitional structure to continue the FY09 portion of the transition strategy. As a result of the 202K initiative, Marine aviation is growing by almost 5,000 Marines as we transform enlisted and officer manpower across all of our aviation communities. Through 2012, the active component Air Combat Element (ACE) is growing three additional HMLAs, three additional HMHs, and an additional VMU. VMFAT-501 will activate, and VMFA-332 and VMFA-212 return from cadre status as two other VMFAs temporarily leave service to prepare for JSF transition. The MACG will also see significant relief in deployment tempo as a result of an increase in the number of deployable detachments.

Monitoring the Manpower Inventories

Maintaining healthy manpower inventories provides the flexibility Marine aviation requires to meet its dynamic transition and growth plans. Within the Human Resources Development Process (HRDP) the Grade Adjusted Recapitulation (GAR) represents the requirement for each MOS. Tables 3-1 thru 3-3 depict current aviation manpower inventories and how they relate to GAR. Aviation also tracks MOS health through analysis of the First Term Alignment Plan (FTAP) (Table 3-4) and the Subsequent Alignment Plan (STAP) (Table 3-5).

Officer Health (Sep 2009)

Unrestricted Officers SEP 2009	On-Board	GAR	% of GAR	A + Nec B Billets[1]	% of A+ Nec B Billets[1]
7509 (AV-8)	358	548	65%	354	101%
7523 (F/A-18)	553	780	71%	500	111%
7543 (EA-6B)	88	107	82%	67	131%
7556/57 (KC-130)	360	517	70%	340	106%
F/W PILOT TOTALS	**1,359**	**1,952**	**70%**	**1,261**	**108%**
7532 (MV-22)	203	454	45%	307	66%
7562 (CH-46)	639	654	98%	432	148%
7563 (UH-1)	282	514	55%	328	86%
7564/66 (CH-53)	531	878	60%	579	92%
7565 (AH-1)	499	852	59%	560	89%
R/T/W PILOT TOTALS	**2,154**	**3,352**	**64%**	**2,206**	**98%**
7525 (WSO)	195	221	88%	138	141%
7588 (ECMO)	187	249	75%	145	129%
NFO TOTALS	**382**	**470**	**81%**	**283**	**135%**
6002 (Aircraft Maintenance)	246	284	87%	207	119%
6602 (Aviation Supply)	210	240	88%	170	124%
7202 (Air CMD & Control)	153	216	71%	159	96%
7204 (LAAD)	53	47	113%	29	183%
7208 (Air Support)	161	236	68%	164	98%
7210 (Air Defense Control)	101	127	80%	80	126%
7220 (Air Traffic Control)	87	92	95%	61	143%
AVN-GROUND TOTALS	**1,011**	**1,242**	**81%**	**870**	**116%**

TABLE 3-1

Note 1: MMOA utilizes necessary A and B billets as the Health Index vice GAR; this is due to the long Time To Train (T^{3}) combined with the fact that officers are not promoted by MOS.

Restricted Officers SEP 2009	CWO		LDO		Total
	On-Board	GAR	On-Board	GAR	Strength
5902 (Electronic Maint)	0	0	30	33	91%
5910 (Radar Officer)	11	13	0	0	85%
5950 (ATC Maint)	16	19	0	0	84%
5970 (Data systems)	16	18	0	0	89%
6004 (A/C Maint. Engineer)	95	98	42	44	96%
6302 (Avionics Officer)	88	90	45	44	99%
6502 (Ordnance Officer)	50	54	37	39	94%
6604 (Avn Supply Ops Off)	43	44	0	0	98%
6802 (METOC Officer)	22	25	10	10	91%
7002 (Exp Airfield & ES Off)	35	38	0	0	92%
7380 (Tacital Sys Officer)	13	13	0	0	100%
RESTRICTED TOTALS	**389**	**412**	**164**	**170**	**95%**

TABLE 3-2

Officer Manning

Tables 3-1 & 3-2. Aviation officer accessions are being increased as a result of the 202K growth process. Although we have achieved most of our training requirements, and total time-to-train (T^3) has been on a gradual decline for the last six years, company grade inventories of aviators are below desired levels. After careful analysis of available data and projected requirements, Manpower Plans concluded overall production of Marine aviators needed to be increased in order to build the required number of company grade officers in the fleet. As a result, accessions will continue to increase and ACP incentives will be modified annually until we reach desired inventories and grade mix. TECOM(ATB), coordinating with HQMC Aviation and MMOA(MPP), continues to work with CNAF/CNATRA in accordance with the Naval Aviation Production Process (NAPP) guidelines regarding all modifications to Marine aviation training requirements.

Enlisted Manning

Aviation enlisted health (Table 3-3) depicts individual occupational field health as a percentage of the FY10 GAR. Compared to last year's 97% aggregate, this year's inventory of Marines remains healthy at 101%. Our aviation-related inventories are keeping pace with the 202K end strength growth.

The aggressive growth of the 202K force (5000/year) raised initial concerns last year with regard to assignable manpower inventory lagging behind demand. By implementing a crawl-walk-run phase-in plan for activation of new units we have mitigated these concerns.

Additional indicators used in assessing the health of the enlisted force are the First Term Alignment Plan (FTAP) and Subsequent Term Alignment Plan (STAP) re-enlistment programs. The FTAP is constrained by the FY in which a Marine executes his first reenlistment (Table 3-4). However, STAP is a rolling twelve-month requirement for career Marines (Table 3-5).

Due to the ambitious nature of the 202K growth, M&RA implemented an aggressive retention bonus plan in FY08, resulting in retention rates far surpassing those of previous years. Table 3-4 depicts aviation's current FY09 execution at 109%. Aviation's FY09 quota is reduced in comparison to FY08 by 201 Marines, a 12% reduction. Yet FY09 far surpassed FY08 in in actual FTAPs executed by 161 Marines, an 11% increase.

Enlisted Occupational Health as of Sep 2009

OCC FIELDS SEP 2008	GAR	On Board	% of GAR
59XX (Electronics Maintenance)	1557	1732	111%
60XX (Aircraft Maintenance)	5213	5335	102%
61XX (RW Maintenance)	6679	6337	95%
62XX (FW Maintenance)	3998	4594	115%
63XX (Avionics OMA)	4050	3885	96%
64XX (Avionics IMA)	2914	2933	101%
65XX (Aviation Ordnance)	2772	2890	104%
66XX (Aviation Supply)	2169	2351	108%
68XX (Aviation Weather)	387	315	81%
70XX (Airfield Services)	2388	2507	105%
72XX (Air Control/Support)	2310	1916	83%
73XX (Enlisted Flight Crew)	389	349	90%
TOTALS	**34826**	**35144**	**101%**

TABLE 3-3

First Term Alignment Plan (FTAP) as of Sep 2009

OCC FIELD	Lat Moves	FTAP Exec	Remain BS	09 FTAP Quota	FY 09% Exec	FY 08 Quota	FY 07 Quota
59XX	8	63	0	61	103%	61	43
60XX	8	246	0	238	103%	206	109
61XX	32	370	0	300	123%	313	210
62XX	4	157	0	149	105%	145	114
63XX	13	218	0	209	104%	231	152
64XX	0	119	0	119	100%	106	102
65XX	1	126	0	126	100%	204	118
66XX	1	91	0	87	105%	120	92
68XX	1	25	0	24	104%	24	20
70XX	11	122	0	111	110%	150	104
72XX	6	95	0	78	122%	147	102
73XX	5	22	0	18	122%	14	15
TOTALS	**90**	**1654**	**0**	**1520**	**109%**	**1721**	**1181**

TABLE 3-4 Note 1: Boat spaces (BS) are the number of Marines that a specific MOS is programmed to reenlist in a specific FY.

Enlisted Retention

The Selective Reenlistment Bonus (SRB) program has evolved to meet the demands associated with Marine aviation's portion of the 202k growth plan. This growth and associated program requirements present challenges in retaining the best, hardest to retain Marines in critical high-demand / low-density MOSs. Therefore, reenlistment incentives were increased greatly, traditional "boat space" restrictions were lifted, and lateral move opportunities were increased; all these actions ensure the Marine Corps supports end strength increase across all affected MOSs and ranks. Currently the Marine Corps inventory consists of over 182,000 enlisted Marines and almost 21,000 officers (approximately 203,169 total). The 202K plan has been achieved.

Enlisted Time to Train (T^3)

We work continuously within the naval aviation enterprise (NAE) to develop and implement improved solutions to expedite the training and production of aviation maintenance personnel. HQMC works closely with TECOM on T^3 management for our enlisted Marines.

Aviation "Top 6" and Enlisted Grade Shape Review (EGSR)

The Marine Aviation Transition Plan applied resources to improve aviation safety initiatives discussed in CMC Policy Directive 1-05. Part of the directive's intent was to provide more experience and supervision in the enlisted ranks of the QA, Maintenance Control and Safety Departments. Presently, Marine Aviation's "Top Six" inventory (E4-E9) is 63.8% of the total enlisted population.

Subsequent Term Alignment Plan (STAP)

OCC FIELD	Zone A/B Exec [1]	Zone C Exec [2]	Zone D Exec [3]	STAP Exec	STAP Remain	STAP Quota	STAP % Exec
59XX	29	25	9	63	10	72	88%
60XX	72	105	64	250	31	281	89%
61XX	116	102	65	288	27	289	100%
62XX	69	74	33	181	16	185	98%
63XX	100	55	22	181	9	174	104%
64XX	81	46	26	157	9	141	111%
65XX	85	28	20	136	2	98	139%
66XX	53	53	15	123	0	86	143%
68XX	7	7	3	17	1	18	94%
70XX	70	50	36	160	4	155	103%
72XX	43	34	13	91	11	101	90%
73XX	11	5	1	17	0	10	170%
TOTALS	**736**	**584**	**307**	**1664**	**120**	**1610**	**103%**

TABLE 3-5

Note 1: Zone A = fewer than 6 years active duty.
Zone B = 6-10 years active duty.
Note 2: Zone C = 10-14 years active duty.
Note 3: Zone D = 14-19 years active duty.

Ongoing Manpower Issues

AvPlan Implementation Strategy and the 202K Endstrength Increase

The Commandant of the Marine Corps (CMC) initiated a plan which increased the overall endstrength of the Marine Corps to 202K. Marine aviation meanwhile continued to execute its Marine Aviation Transition Strategy (MATS); this combination of initiatives infused critical resources to a stressed operating force. However, this aggressive pace of growth presents significant manpower management challenges. Most aviation-related occupational fields and aircrew training have long T^3 requirements. It will require several years to grow and mature the inventories properly with regard to rank mix and specific MOSs.

EA-6B Training

As a result of transitioning to the EA-18G, the Navy plans to sundown EA-6B aircrew training at VAQ-129, NAS Whidbey Island, by the end of FY10. Therefore, MATSG-53 will stand down at the end of FY10 as aircrew production ceases at Whidbey Island and the Marine Corps will be solely responsible for EA-6B aircrew training in MCAS Cherry Point beginning in FY11. CMC has approved the transition of VMAQ-4 to a USMC FRS, VMAQT-4, beginning in Nov 2009. VMAQT-4 aircrew production will begin in April 2010 and continue until FY16.

Despite the sundown of aircrew training at VAQ-129, the Navy has committed to continue EA-6B OMA and IMA maintenance training at NAS Whidbey Island for the life of the program

F/A-18A/C/D FRS Training

F/A-18 C/D training is currently conducted by VMFAT-101, VFA-125 and VFA-106. Beginning in FY10, the USMC will cease F/A-18 C/D FRS production at VFA-125. Consequently, MATSG-23 will sundown concurrently with the divestment of USMC participation at VFA-125. Manning and staffing will be adjusted accordingly at VMFAT-101 and MATSG-33 to support the resulting increase in USMC production requirement at those FRSs.

Aviation Career Pay (ACP) Goals/Current Status

The FY09 ACP program was disseminated by MARADMIN 540/08, and defines the specifications relating to ACP. ACP is a special pay that varies annually depending on the health of aviation officer inventories. The intent is to provide a proactive, long-term aviation career incentive for Marine aviation officers. The health of each community is analyzed using a combination of current and forecast inventories and current and forecast requirements. Budget forecasts show ACP funding is set to meet the anticipated demand**.**

Naval Flight Officer Sundown Plan

Based on the current aviation transition strategy, there will no longer be a requirement for USMC Naval Flight Officers (NFOs) after FY19. The F/A-18D WSO MOS (7525) and the EA-6B ECMO MOS (7588) will be programmed to end as a primary MOS at a date TBD. Marine aviation is actively engaged with Manpower and Reserve Affairs to ensure officer end strength and accessions provide flexibility and professional opportunities for remaining NFOs, while capitalizing on NFO MOS expertise. This expertise will be harnessed by aligning the electronic warfare and missions systems skills in the NFO community with emerging requirements in the UAS family of systems (FoS), manned ISR initiatives and the F-35B program. Additionally, the sundown plan will include an increase in NFO-to-pilot transition opportunities.

TACAIR Integration

Marine aviation has worked closely with the Navy in order to match each service's TACAIR resources to their mission requirements. In the execution of this plan, Marine F/A-18 squadrons embarked aboard aircraft carriers require additional manpower to meet the demands of operating at sea. Accordingly, an updated table of organization (T/O) was developed for F/A-18 A+/C squadrons programmed for tactical air integration (TAI), with an increase of twenty-six Marines (25 O-level and one I-level). The Navy also programmed for three 57-man Intermediate Maintenance Activity (IMA) detachments to increase expeditionary capabilities for their UDP units.

Manpower Changes with a Transitioning Force

HQMC Aviation (ASM), Total Force Structure (TFS) and Manpower and Reserve Affairs (M&RA) continue to manage finite resources to meet the expanding requirements associated with our transition plans and the operational requirements of our force.

KC-130J Conversion

Active component VMGR squadrons have completed KC-130J transition and are now fully focused on supporting operational commitments. The tables of organization for all three squadrons now meet the requirements of a twelve-plane PMAA for the KC-130J and are programmed to meet a fifteen-plane PMAA requirement consistent with the KC-130J delivery schedule. This consists of a nine-plane core squadron and two three-plane detachments for additional flexibility and MEU (SOC) deployments. The reserve component will begin its transition to the KC-130J in FY15 and will maintain a twelve-plane PMAA with a six-plane core squadron and two three-plane detachments.

The KC-130J brought changes to squadron manpower requirements by reducing the number of Marines required to maintain and operate the new aircraft. Additionally, five years of KC-130J operational experience since IOC in 2005 positioned the community to re-evaluate its manpower requirements. As a result, the KC-130J loadmaster and crew chief will be merged into a single "Crewmaster" MOS beginning in FY10.

Additionally, the armed KC-130J "Harvest Hawk" mission will require a new Fire Control Operator (FCO) crew position to operate the fire control station. Initial deployment requirements for this crew position will be filled by WSOs and pilots with sensor management and weapons employment experience. Several courses of action are currently in development to develop these skill sets within the KC-130J community and provide for a long term solution for the manning of the FCO crew position.

MV-22 Transition

The first three MV-22 squadrons - VMM-263, VMM-162, and VMM-266 - stood up between 2006 and 2007. VMM-261, VMM-365 have now transitioned and with completion of the VMM-264 transition which is in process, the east coast VMM stand-up will be complete. Focus is now on transferring and/or leveraging manpower with MV-22 experience to the west coast as we continue to transition HMM squadrons to VMMs.

In FY08, VMM-263 completed the first MV-22 operational deployment. The deployment, in support of OIF, was successful in every regard, and was followed in quick succession by two more equally successful MV-22 combat deployments. The Osprey is currently returning home from the platform's first MEU deployment.

During late 2006, the MV-22 pilot selection process changed from a board-only process to a direct assignment process managed by MMOA-2. MMOA now manages direct assignment of CH-46E pilots for MV-22 transition. The annual DC(A) transition/conversion board continues to select fixed-wing pilots, and rotary-wing pilots from outside the CH-46E community, for MV-22 transition. The revised policy supports transition of the medium-lift assault support community and will take into account the critical balance of building the VMM population aggressively while also continuing to meet ongoing warfighting requirements.

UH-1Y/AH-1Z Conversion

The first UH-1Y deployment began in January 2009. A significant number of Y/Z - trained Marines are now in operational units within 3d MAW. The addition of these Marines to the fleet will bolster the growing UH-1Y and AH-1Z experience base.

Structure has been consolidated at VX-9, NAWC China Lake, and will provide the infrastructure for future H-1 Operational Test and Evaluation (OT&E) requirements. Increased manning has been arriving at HMLAT-303 and will be complete by 4th quarter 09. Additionally, HMLAT-303 is being augmented with contract maintenance support (CMS). The increase in FRS manpower will support both conversion training of fleet squadrons and increased throughput associated with the activation of three additional HMLAs. Furthermore, plans are being refined to increase use of reserve personnel and units in support of the FRS and the overall H-1 transition. The first HMLAT-303 UH-1Y training began in FY08, and the first Cobra detachment will begin AH-1Z pilot training in FY10. Enlisted upgrades training will be completed in concert with UH-1Y conversion.

Transition of HMLA-367 and HMLA-369 are in process, with by name lists and training being closely monitored. HMLA-469 was activated 1 June 2009 and Marine aviation is developing a detailed manning plan for the stand-up of HMLA-567.

VXX Conversion

HMX-1 structure has been augmented and realigned to support VH-XX integrated test and transition requirements. HMX-1 will continue the executive lift mission with legacy VH aircraft until another platform is introduced.

CH-53K Transition

Marine aviation is executing a phased manpower plan to augment VMX-22 as they assume the mission of CH-53K OT&E. The first aircraft arrived at VMX-22 in Jul 09. Initial structure will support OT&E planning with follow-on structure to support a CH-53K operations and maintenance capability.

F-35B Transition

Manpower requirements have been programmed to support all squadron transitions from legacy TACAIR TMSs (F/A-18A/C/D, EA-6B and AV-8B) to F-35B and the activation of FRS squadrons through FY15. This programming includes the standup of the Joint Integrated Training Center (JITC), activations of VMFA-332 and VMFA-212 from cadre status, the transition of an additional three operational squadrons from legacy, and the activation of two FRSs (VMFAT-501 and VMFAT-502). The JITC, located at Eglin AFB, is the site for the first F-35B FRS and all F-35B maintenance training. It is composed of the 33rd Fighter Wing staff, the 33rd Maintenance Group, the F-35B FRS (VMFAT-501), an Academic Training Center, and a Maintenance Training Squadron (359 TRS). Two follow on FRSs are planned to support additional pilot training requirements with a location that TBD pending environmental studies. Planned squadron transitions to F-35B begin in FY12. Aviation selected the first cadre of JSF instructor pilots in CY09 and will convene follow-on F-35B transition selection boards to meet FRS and operational squadron staffing requirements. Targeted communities for transition to F-35B are F/A-18, AV-8 and EA-6B. Transition manpower plans are designed to support manpower requirements for both the introduction of F-35B squadrons and while maintaining legacy TMS deployment capability. VMX-22 will assume mission of F-35B OT&E.

EA-6B Transition

As a result of the USN divestment from EA-6B aircrew training, and the transition of one operational EA-6B squadron (VMAQ-4) into an FRS squadron (VMAQT-4), manpower adjustments for the three remaining operational EA-6B squadrons have been programmed in FY10. These changes to the EA-6B tables of organization account for the increase in squadron PMAA from five to seven aircraft. Additionally, manpower solutions are currently in development to support the staffing of EA-6B staff and OT/DT billets that traditionally have been the responsibility of the USN.

UAS Transition

The Marine Corps is instituting significant changes with respect to manpower and equipment. Programmed requirements have supported the activation of VMU-3, transition to the RQ-7B Shadow, addition of Group-3 UAS in FY12, and expansion of aviation concepts at the small unit level with Group-1 UAS.

The Marine Corps' transition to the RQ-7B Shadow facilitated expanded capabilities within the existing manpower structure. The Performance-Based Logistics maintenance contract reduced maintenance manpower requirements, and the newer RQ-7B system provided more reliable materiel management. The VMUs capitalized on these factors to greatly expand their concept of employment from the legacy RQ-2 Pioneer - a single system (four UAVs per VMU) - to the RQ-7B enabling a laydown of three systems (twelve UAVs per VMU) within the same manpower structure.

The UAS community continues to support the MAGTF with an interim Group-3 UAS through an ISR services contract, however, it remains augmented by Marine manpower. The Marine Corps will supplant this contract with the STUAS IOC in FY11 and a 30% increase in VMU structure in FY12. The additional manpower will support STUAS fielding and enable VMU squadrons to task-organize and deploy scalable Group-3 and Group-4 detachments in support of the full range of MAGTF operations.

We are currently fielding over 400 RQ-11B Raven UAS to GCE units with improved data links. Commanders have responded by generating greater aviation expertise within their existing manpower at the battalion and company levels for integrating their UAS into the three dimensional battlespace.

By FY16, the MAGTF will employ UAS with an expeditionary capability exceeding that which is currently available from existing Group-4 systems. UAS capability will continue to expand with the planned acquisition of Group-4 UAS. These systems will exceed the current RQ-7B capability and drive additional manpower skill requirements for weaponization and electronic warfare for continued support to future MAGTF requirements.

Personnel Exchange Program (PEP)

The Marine Corps shares 24 aviation exchange billets with our sister services, allies and partners. New for 2010 are exchanges for the UH-1Y and USAF HH-60G "Pavehawk," and for the KC-130J and MC-130P "Combat Talon." In addition to these billets, the Marine Corps continues to expand exchange programs to share tactical experience and operational employment concepts for a new generation of aircraft, unmanned aircraft systems, and C2 technology. Applicants for PEP billets are thoroughly screened to ensure they are the most competitive and qualified individuals to represent their service and country. More information can be found on the HQMC Aviation website. Table 3-6 depicts current USMC aviation exchanges.

While most exchanges tours last two to three years, we are also exploring short term "subject matter expert" exchanges with non-traditional partner nations. These short term exchanges will be coordinated with MAWTS-1 and will encompass a wide variety of aviation communities.

Current Aviation Exchanges

Country/Service	Foreign Nation or Inter-service Billet with USMC
Australia	AH-1 (MAG-39)
	F/A-18 (MAG-31)
	F/A-18 Maintenance Officer (VMFAT-101)
Canada	F/A-18 (MAG-31)
	KC-130J (VMGR-252)
Italy	AV-8B (MAG-14)
Spain	AV-8B (MAG-13)
United Kingdom	2 x AV-8B (MAG-13)
	2 x AV-8B (MAG-14)
	F/A-18 (VMFAT-101)
	MV-22 (MAG-26)
	AH-1W (MAG-26)
	Air Defense Controller (MAWTS-1)
United States Air Force	F-5 (VMFT-401)
	F/A-18 (MAG-31)
	AV-8B (MAG-13) (2)
	UH-1Y (MAG-39) (START 2010)
	KC-130J (VMGR-252) (START 2010)
	JTAC (EWTGPAC)
	Air Traffic Control (MACS-1)
	Tactical Air Defense Controller (MACS-1)
United States Army	UH-1 (MAWTS-1)
United States Navy	F/A-18 (MAWTS-1) (2)
	EA-6B ECMO (MAWTS-1) (2)

Country/Service	USMC Billets with Foreign Nation or Inter-sevice
Australia	ARH Tiger (RAA)
	F/A-18 (RAAF)
	F/A-18 Maintence Officer (RAAF)
	Air Traffic Control/Support (RAAF) (CNX 2010)
Canada	F/A-18 (CAF)
	CC-130 (CAF)
Italy	AV-8B (IN)
Spain	AV-8B (SN)
United Kingdom	GR7/9 Harrier (RN)
	GR7/9 Harrier (RAF)
	F-3 Tornado (RAF) (START TYPHOON 2010)
	Mk4 Sea King (RN)
	Mk7 Lynx (RM)
	Air Defense Controller (RAF)
United States Air Force	F-16 (Filled by F/A-18 pilot) (Luke AFB)
	F-16 (Filled by AV-8B pilot) (Shaw AFB)
	F-22 (Filled by F/A-18 pilot) (Nellis AFB)
	JTAC (AGOS/JFCC) (Nellis AFB)
	MC-130P (Eglin AFB) (START 2010)
	HH-60G (Davis Monthan AFB) (START 2010)
	Air Traffic Control (Eglin AFB)
	Tactical Air Defense Controller (Hill AFB)
	CV-22 (1)
United States Army	AH-6 (TF-160) (Fort Cambell)
United States Navy	F/A-18 (NSAWC) (NAS Fallon)
	EA-6B ECMO (NSAWC) (NAS Fallon) (2)

TABLE 3-6

NOTES:
(1) Pending (2) Not currently filled

Reserve Integration

As reserve aviation continues to support emerging contingency requirements, we will ensure future RC aviation and aviation support Marines are trained, equipped and ready to augment and reinforce the active component. Since 2003, 4th MAW has maintained an "operational reserve" posture that has provided Overseas Contingency Operations (OCO) with a ready supply of RC units, detachments and individual augments (IAs) ISO combat operations. OIF 9.2 provided a significant milestone; 100% of 4th MAW's operational units have now mobilized and deployed in support of OCO with a high percentage of these RC Marines maintaining the same deployment-to-dwell ratio as their AC counterparts. Reserve integration has proven to be a force multiplier as RC Marines continue to volunteer for service when and where needed as a part of the total force concept. However, in order to continue the successes of the recent past, we must consider current RC manpower issues as they relate to future planning.

From 2003 to 2005, 80% of 4th MAW was mobilized in support of OCO providing critical relief to the AC. The mandatory dwell period for many of these RC units is nearing completion which will make their RC Marines eligible for a second involuntary mobilization effort if needed. Current OCO support includes a robust contingent of RC units and detachments serving in both OEF and OIF. RC Marines continue to augment and reinforce CONUS-based exercises and training such as Enhanced Mojave Viper, WTI, and JTAC evolutions on a recurring basis. Additionally, the Marine Corps Reserve Instructor Pilot (MCRIP) program under 4th MAW Training Support Group (MAWTSG) is currently providing SMCR instructor pilot support to CNATRA and the FRS as a means to mitigate AC instructor pilot shortfalls and build technical and tactical know-how within the RC in advance of next generation deliveries. Proposals are in work to add enlisted SMCR structure at the FRS as well. These initiatives are scalable and provide additional manpower during difficult transitional years and preserve supportable career paths for RC Marines in next generation aircraft. With current aircraft, equipment and training, RC Marines are postured for today's fight.

Focusing on future requirements, HQMC, Marine Forces Reserve (MFR) and 4th MAW are addressing near-, mid- and long-term challenges to reserve aviation training, readiness and recruitment/retention as it relates to the AVPLAN and OCO. During FY10 and FY11, nearly 1,500 Marines, supporting six HQ, aviation and aviation ground support (AGS) units, will be relocated due to the 2005 Base Realignment and Closure Commission (BRAC) law. Within two years, the first RC UAV squadron, VMU-4, will stand up and expand RC career opportunities. Planning has begun for the FY14 and FY16 relocation of both RC HMMs as the units and Marines transition to the MV-22.

Detailed, integrated planning for these and a host of other issues associated with RC transitions and AC support measures will sustain legacy aircraft and equipment during the AVPLAN transitional years; minimize RC time to train in next generation aircraft/equipment; mitigate the impact of dislocating RC Marines from their current drill sites/units; and ensure RC Marines and their equipment will support AC and OCO theater requirements during the out years of the AVPLAN.

The 4th MAW 2020 vision has driven reorganization and management of the enduring, operational use of reserve aviation. The strategy was created by HQMC Aviation, Reserve Affairs, MFR, and 4th MAW's working together to get to a multi-year, phased plan that positions RC aviation to:

- Develop Operational Reserve Working Group (ORWG) recommendations
- Develop processes and measures to retain "Next Generation" personnel
- Promote reserve aviation training, readiness, and equipment commonality with the active component ISO the total force concept

Whether supporting the warfighter or providing realistic training in CONUS, reserve aviation will continue to support the AVPLAN's emerging requirements by ensuring RC units and Marines are equipped, trained, and mobilized ready to augment and reinforce.

Reserve Integration (cont.)

4th MAWTSG AVPLAN SUPPORT

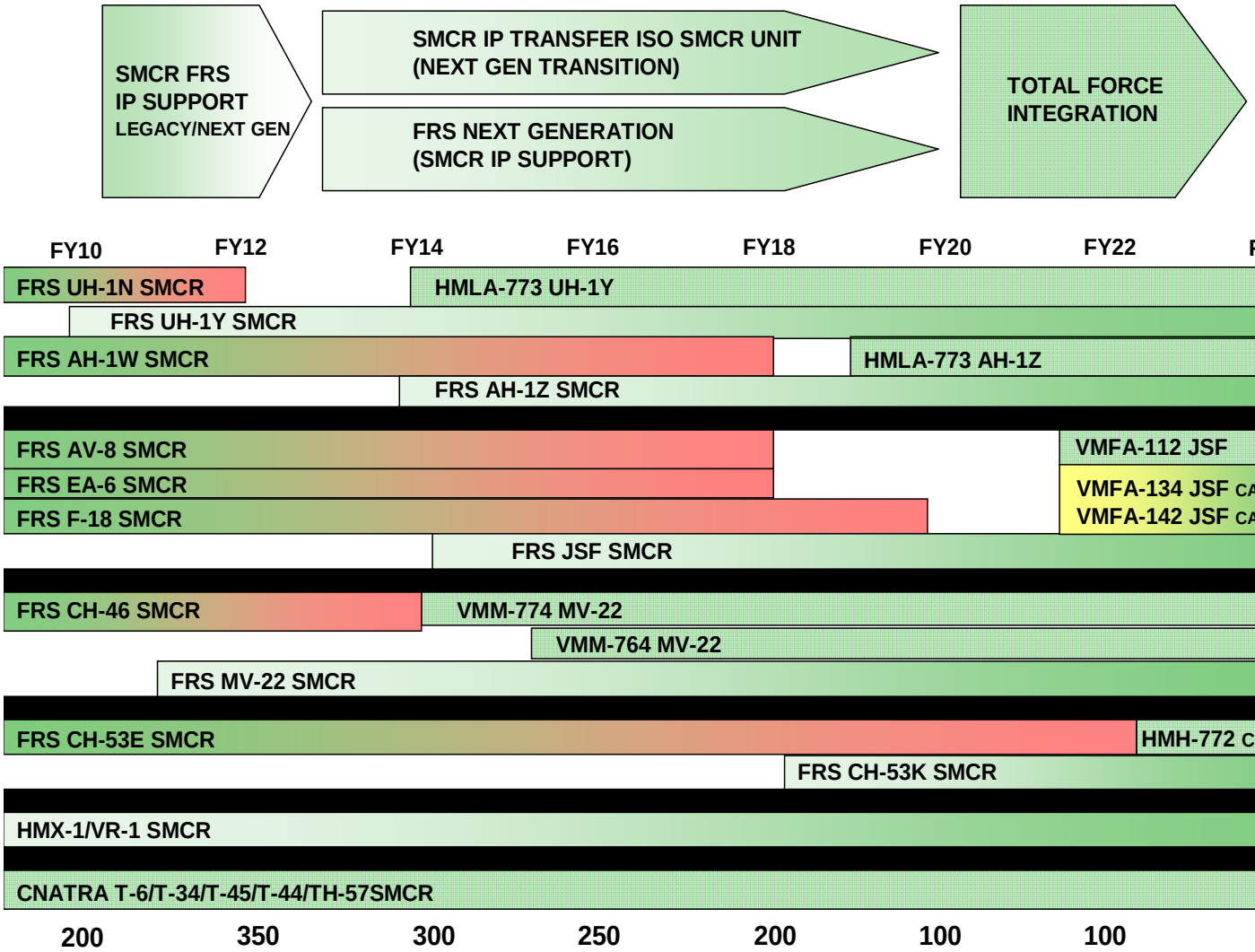


TABLE 3-7

Pilot Training Requirements through 2019

Aviation Training System (ATS) Initiatives

We continue to refine our comprehensive and fully integrated training continuum for all Marine Aviation platforms. Key program initiatives include standardization and evaluation for flight leadership and for T&R events across all tactical and training evolutions, to include all aircrew, maintenance and C2 personnel. In the long term, we expect higher-quality training at reduced costs through a systems approach to training with an increased reliance on high-fidelity simulators. Within each of the three active duty Air Wings, we are placing aircrew, maintenance, and C2 training detachments at all major subordinate command locations. This will facilitate the integration of tactical training across all platforms and incorporate increased simulation. The initial structure dedicated to fill core staff billets will be complete by the end of FY10. ATS continues its migration to the RC during FY10.

Officer Time to Train (T^3)

With increasing external demands on fleet replacement squadrons and aging aircraft, the T^3 for replacement pilots and aircrew has shown some change over the previous year. Table 3-8 depicts time to train from The Basic School (TBS) to the Fleet.

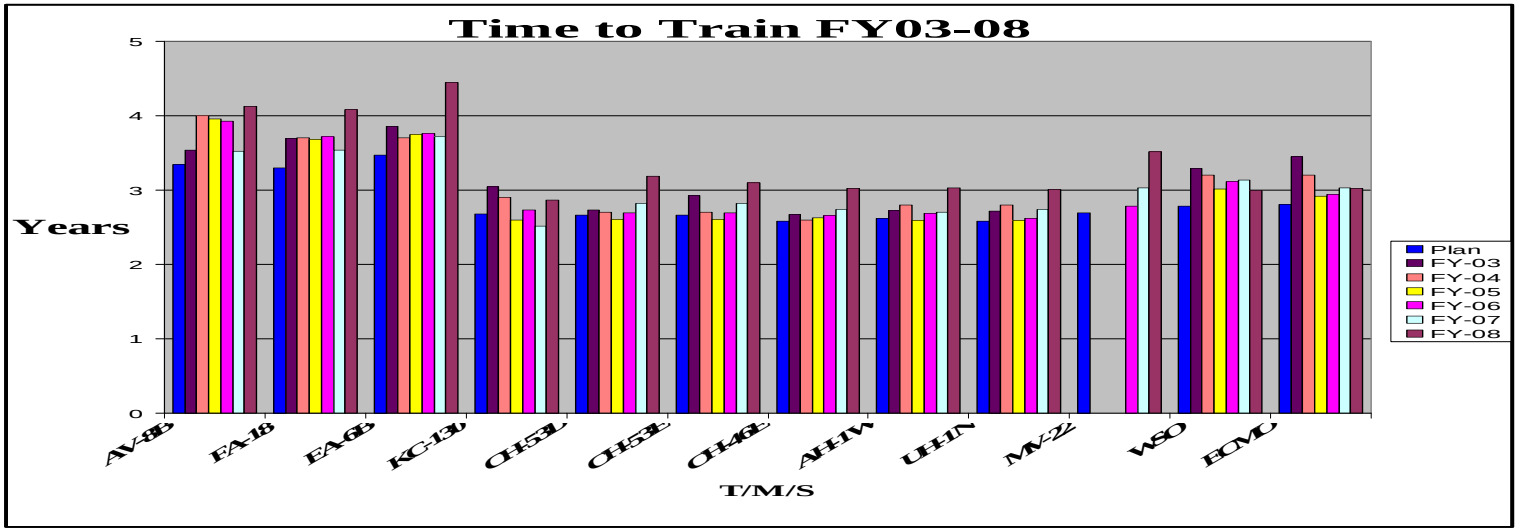


TABLE 3-8

•The CAT I initial accession and NFO numbers are derived from MPP-30 officer accession models.

•The CAT II,III, and IV numbers are derived from MMOA historical data and planned assignments.

•Tables reflect pilot training requirements published in the OPNAV Training Requirements Letter (TRL) and are subject to change as updated during Production Alignment Conferences and naval aviation enterprise direction.

•USMC inputs are submitted annually and are based on a ten-year forecast.

MARINE AVIATION PILOT TRAINING REQUIREMENT					
FISCAL YEAR	STRIKE	MARITIME	ROTARY	TILTROTOR	TOTAL
09	80	26	193	24	323
10	82	26	198	36	342
11	89	28	197	42	356
12	90	30	186	46	352
13	97	30	170	48	345
14	86	34	167	64	351
15	84	34	167	64	349
16	70	34	167	80	351
17	66	34	167	80	347
18	65	34	167	80	346
19	63	34	167	80	344

MARINE AVIATION NFO TRAINING REQUIREMENT					
FISCAL YEAR	STRIKE/FIGHTER	STRIKE (ECMO)	ATDS	NAV	TOTAL
09	20	15	0	0	35
10	17	15	0	0	32
11	14	15	0	0	29
12	11	15	0	0	26
13	11	15	0	0	26
14	8	12	0	0	20
15	5	12	0	0	17
16	0	10	0	0	10
17	0	6	0	0	6
18	0	0	0	0	0
19	0	0	0	0	0

TABLE 3-9

TacAir Aircrew Training Requirements

MARINE AVIATION TACAIR PILOT TRAINING REQUIREMENT (PTR)											
TRAINING UNIT	09	10	11	12	13	14	15	16	17	18	19
VMFAT-101 FRS TRAINING REQUIREMENT											
CAT I PILOT	20	19	37	37	37	39	39	40	29	20	13
CAT II PILOT	0	0	0	0	0	0	0	0	0	0	0
CAT III PILOT	13	13	13	13	9	9	10	13	13	13	13
CAT IV PILOT	5	9	9	9	9	9	7	10	8	8	8
CAT V CQ	5	2	2	2	2	2	2	6	3	3	3
CAT I WSO	17	20	17	14	11	11	8	5	0	0	0
CAT II WSO	0	0	0	0	0	0	0	0	0	0	0
CAT III WSO	7	7	7	7	7	7	7	6	6	6	6
CAT IV WSO	4	5	5	5	5	5	5	4	4	4	4
VFA-106 FRS TRAINING REQUIREMENT											
CAT I PILOT	9	14	15	15	15	11	9	0	0	0	0
CAT II PILOT	0	0	0	0	0	0	0	0	0	0	0
CAT III PILOT	9	9	9	9	5	4	3	0	0	0	0
CAT IV PILOT	4	8	8	7	7	7	7	0	0	0	0
CAT V CQ	3	3	3	3	3	3	3	0	0	0	0
VFA-125 FRS TRAINING REQUIREMENT(POST FY11 PLAN UNDER DEVELOPMENT/ LEGACY TRAI											
CAT I PILOT	11	13	0	0	0	0	0	0	0	0	0
CAT II PILOT	0	0	0	0	0	0	0	0	0	0	0
CAT III PILOT	0	0	0	0	0	0	0	0	0	0	0
CAT IV PILOT	0	0	0	0	0	0	0	0	0	0	0
CAT V CQ	0	0	0	0	0	0	0	0	0	0	0
F/A-18A+/C/D TOTAL REQUIREMENTS											
CAT I PILOT	**40**	**46**	**52**	**52**	**52**	**50**	**48**	**40**	**29**	**20**	**13**
CAT II PILOT	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CAT III PILOT	**22**	**22**	**22**	**22**	**14**	**13**	**13**	**13**	**13**	**13**	**13**
CAT IV PILOT	**9**	**17**	**17**	**16**	**16**	**16**	**14**	**10**	**8**	**8**	**8**
CAT V CQ	**8**	**5**	**5**	**5**	**5**	**5**	**5**	**6**	**3**	**3**	**3**
VMFAT-501 F-35B FRS TRAINING REQUIREMENT											
CAT I	0	0	0	BEGINS	7	9	15	17	31	45	45
CAT II U.S.	0	BEGINS	15	18	18	20	30	37	46	46	46
CAT II FMS	0	0	0	4	0	4	6	14	8	8	8
CAT III	0	0	0	0	0	0	0	0	0	0	0
CAT IV	0	0	0	0	0	0	0	0	0	0	0
CAT V (.5-1.0 UPGRD)	0	0	5	4	0	0	0	0	0	0	0
CAT V (1.0-2.0 UPGRD))	0	0	0	14	1	0	0	0	0	0	0
VAQ-129/VMAQT-4 FRS TRAINING REQUIREMENT[1]											
CAT I PILOT	10	6	7	7	7	6	4	3	1	0	0
CAT II PILOT	0	0	0	0	0	0	0	0	0	0	0
CAT III PILOT	3	3	3	3	3	3	3	3	3	3	3
CAT IV PILOT	3	3	3	3	3	3	3	3	3	3	3
CAT I ECMO	16	15	15	15	15	12	12	10	6	0	0
CAT II ECMO	0	0	0	0	0	0	0	0	0	0	0
CAT III ECMO	5	5	5	5	5	5	5	5	5	5	5
CAT IV ECMO	5	5	5	5	5	5	5	5	5	5	5
VMAT-203 FRS TRAINING REQUIREMENT											
CAT I PILOT	30	30	30	31	31	21	17	10	5	0	0
CAT II PILOT	0	0	0	0	0	0	0	0	0	0	0
CAT III PILOT	13	13	11	11	10	8	8	7	7	7	7
CAT IV PILOT	12	12	10	10	9	7	7	6	6	6	6
FMS	3	3	3	3	3	3	3	3	3	3	3

NOTE: (1) Based upon USN plan to divest itself of EA-6B FRS mission, the USMC EA-6B FRS aircrew and maintenance training plan led to VMAQT-4.

TABLE 3-10

This table reflects pilot training requirements published in the OPNAV Training Requirements Letter (TRL) including TACAIR production shortfall FY-09-11. USMC inputs are submitted annually and are based on a ten-year forecast.

Assault Support Pilot Training Requirements

MARINE AVIATION ASSAULT SUPPORT PILOT TRAINING REQUIREMENT (PTR)											
TRAINING UNIT	**09** [1]	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
VMGR KC-130J TRAINING REQUIRMENT											
CAT I	26	26	28	30	30	34	34	34	34	34	34
CAT I TRANSITION	3	1	1	2	2	2	2	2	2	2	2
CAT II	17	10	8	4	2	2	1	0	0	0	0
CAT III	6	8	8	8	8	8	8	8	8	8	8
CAT IV	6	6	6	6	6	6	6	6	6	6	6
VMMT-204 (MV-22) FRS TRAINING REQUIREMENT											
CAT I	24	36	42	46	48	64	64	80	80	80	80
CAT I USAF (CAT I Syllabus)	20	21	24	24	24	24	24	24	24	24	24
CAT I (Transition)	24	34	34	34	34	34	34	34	28	21	14
CAT II (Series Conversion)	0	0	0	0	0	0	0	0	0	0	0
CAT III	0	2	2	10	20	20	20	20	15	15	15
CAT IV	0	0	0	0	0	0	0	5	6	6	7
CAT V (FMS)	0	0	0	0	0	0	0	0	0	0	0
HMT-164 (CH-46E) FRS TRAINING REQUIREMENT											
CAT I	41	40	36	15	10	0	0	0	0	0	0
CAT II	0	0	0	0	0	0	0	0	0	0	0
CAT III	20	23	20	20	9	7	4	0	0	0	0
CAT IV	4	3	3	2	2	1	1	0	0	0	0
FMS	0	0	0	0	0	0	0	0	0	0	0
HMT-302 (CH-53D & CH-53E) FRS TRAINING REQUIREMENT											
CAT I CH-53D/E	60	60	60	60	60	65	65	65	65	65	65
CAT I (Transition)	0	0	0	0	0	0	0	0	0	0	0
CAT II (CH-53D)	20	20	20	20	20	20	20	20	20	20	20
CAT II (CH-53E)	4	4	6	6	6	6	6	6	6	6	6
CAT III	30	26	26	26	26	26	26	26	26	26	26
CAT IV	0	0	0	0	0	0	0	0	0	0	0

TABLE 3-11

NOTES: (1) Numbers reflect actual FY09 production.

This table reflects pilot training requirements published in the OPNAV Training Requirements Letter (TRL). USMC inputs are submitted annually and are based on a ten-year forecast.

Light Attack Pilot Training Requirements

MARINE AVIATION LIGHT ATTACK PILOT TRAINING REQUIREMENT (PTR)											
TRAINING UNIT	**09 [1]**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
HMLAT-303 (UH-1/AH-1) FRS TRAINING REQUIREMENT											
UH-1N:											
CAT I	22	22	22	14	0	0	0	0	0	0	0
CAT II	4	2	2	0	0	0	0	0	0	0	0
CAT III	8	8	5	3	3	3	0	0	0	0	0
CAT IV	0	0	0	0	0	0	0	0	0	0	0
UH-1Y:											
CAT I	12	17	17	31	33	35	35	35	35	35	35
CAT II (N to Y)	20	25	30	15	15	19	19	19	19	19	19
CAT II	3	3	3	3	3	3	3	3	3	3	3
CAT III	8	10	18	18	18	18	18	18	18	18	18
CAT IV	0	0	0	0	6	6	6	6	6	6	6
AH-1W:											
CAT I	58	59	59	56	56	56	53	50	47	35	20
CAT II	2	2	2	2	2	2	0	0	0	0	0
CAT III	25	20	20	20	20	20	20	20	20	20	20
CAT IV	2	3	4	4	4	4	4	4	4	4	4
FMS	0	0	0	0	0	0	0	0	0	0	0
AH-1Z:											
CAT I	0	5	8	10	10	12	15	18	21	33	48
CAT II (W to Z)	0	12	16	12	13	16	19	26	33	40	47
CAT II	0	0	0	0	2	2	2	2	2	2	2
CAT III	0	0	0	4	4	4	6	6	6	6	6
CAT IV	0	0	0	0	0	0	0	0	0	0	0

TABLE 3-12

NOTES: (1) Numbers reflect actual FY09 production

Section 4 --- Marine Aviation Science and Technology Plan

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Marine Corps specific Aviation Science and Technology Objectives (STOs)	4-3

Aviation Science and Technology

Marine aviation is an integrated and essential component of the Marine Air-Ground Task Force (MAGTF), supporting and sustaining naval and joint forces throughout the range of military operations. Aviation resources must be available to the MAGTF/joint force commander regardless of the operational scenario, austerity of engagement, or level of lethality. Due to the complexity and expense normally associated with aviation combat and support systems, component extensibility/upgradeability is key to ensure future utility regardless of the threat or operational environment.

The Vision

Now, more than ever, as we execute the Commandant's "Vision and Strategy 2025" in complex, hybrid environments of the future, we must be well postured to remain the nation's force in readiness, regardless of the operational context. To this end, the aviation vision is for a network-enabled and digitally-interoperable expeditionary aviation combat element postured to execute responsive, persistent, lethal and adaptive full-spectrum operations as directed by the MAGTF or joint force commander.

Aviation S&T Strategic Guidance

This chapter serves to articulate Marine Corps unique S&T needs to those agencies devoted to aviation S&T priorities. Aviation focal points include both S&T program opportunities and legacy S&T investment category priorities.

Key Program Challenges Major aviation program areas with opportunity for high-payoff S&T investments are:

(1) Heavy Lift Replacement (HLR)
(2) Electronic warfare (EW)
(3) Data links and Information/Capability Management Networks
(4) Unmanned Aircraft Systems (UAS) and associated payloads

Legacy (Rotorcraft) Investment Category Priorities These are prioritized categories in terms of current aviation-related S&T technology modernization/transition/insertion as well as future aviation programs.

(1) **Survivability/Safety:** Improvement in the ability to avoid detection, tracking and engagement in a complex threat environment and survive hit/crash.

(2) **Battlefield situational awareness:** Improvement in the ability to know and comprehend the location, intent, and actions of blue/red forces, non-combatants, environment condition, terrain, and obstacles in the area of operational responsibility. This includes increased situational awareness for embarked Marines while maneuvering.

(3) **Lethality:** Improvement in the ability to precisely deliver a spectrum of intended effects (lethal or non-lethal).

(4) **Battle Command:** Improvement in the ability of the commander to decide on a course of action and execute command measured in response time.

(5) **Affordability:** Reduction in development, acquisition, operating and support cost while maintaining or increasing capability.

(6) **Supportability/Maintainability:** Improvement in reliability, availability and maintainability.

(7) **Training:** The efficiency with which commanders/staff, pilots, operators and maintainers are initially and continuously trained to proficiency.

(8) **Footprint:** Reduction in the weight and volume of the personnel, materiel, equipment and supplies that support an aerial system and must be moved.

(9) **Deployability:** Reduction in the time, effort, and support systems to prepare, transport, and restore a force capability.

(10) **Mobility:** The ability to responsively maneuver and transport troops, supplies and equipment on the battlefield in complex terrains/sea states.

Aviation S&T Relationships

Relationships with the below-listed agencies are essential for the Marine Corps S&T IPT to drive adequate aviation leverages, share unique leverage opportunities, and ensure an overall, balanced Marine Corps aviation S&T investment.

Naval Aviation Enterprise (NAE). The leadership of the NAE publishes a biennial S&T Plan and its own science and technology objectives (STOs) to provide guidance to the NAE. Marine Corps aviation is dependent upon the NAE for much of its S&T investment and coordinates as appropriate for development efforts of mutual Navy and Marine Corps benefit.

Office of Naval Research (ONR) and the Naval Research Laboratory (NRL). Achieved primarily via the Marine Corps S&T IPT, but also through a direct relationship with ONR and NRL.

Air Force Research Lab (AFRL) and Army Research Lab (ARL). Key S&T partners providing insight into cross service opportunities for collaboration across a wide variety of platforms, programs, and interests.

Defense Advanced Research Projects Agency (DARPA). Provides cutting-edge research applicable to all of DOD with potentially large payoffs for Marine aviation.

Army Research, Development and Engineering Command (ARMDEC). Responsible, by charter, for rotorcraft S&T. This is a key relationship as rotorcraft S&T investment has been minimal for over a decade.

Marine Corps-specific aviation STOs:

AVN STO 1: Collaborative networking

Develop technologies that facilitate and provide for a network-enabled and digitally- interoperable expeditionary aviation combat element postured to execute responsive, persistent, lethal and adaptive full-spectrum operations.

AVN STO 2: Advanced Electronic Warfare (EW) systems

Develop technologies that are compatible with Marine Corps follow-on electronic attack (EA) platforms as the platform requirements are refined. Develop multi-function, transceiver arrays that enable future EW as well as provides adequate bandwidth, SIGINT and ISR and Next Generation Jammer technologies. Software Reprogrammable Payload (SRP) is a single common payload module that is flexible and reconfigurable to support simultaneous missions and applications making maximum use of available bandwidth and ensuring interoperability within joint standards and protocols providing commonality across platforms. Collaborative On-line Reconnaissance Provider Operationally Responsive Attack Link (CORPORAL) is a Joint Capabilities Technology Demonstration (JCTD) that provides "on-demand" collaborative situational awareness (NTISR) & kinetic and non-kinetic fires to the small unit's target area of interest. It consists of plug-and-play, software reprogrammable, scalable, IP-based, and open-architecture non-kinetic fires solutions and will outpace traditional point solutions, accommodate existing legacy systems, and provide a bridge to future operational systems, enabling machine-to-machine collaboration and coordination.

AVN STO 3: Sand- and dust-penetrating radar, providing precision (landing quality) navigation video in brownout, whiteout and dust-out visibility conditions

Develop technologies that enable passive obstacle detection at range (e.g., uncharted wires/cables) and enables precision support of distributed operations in unprepared landing zones for current rotary wing and tilt rotor aircraft, as well as supporting technology transition into future UAS. Develop complementary technologies to precision quality navigation in brown-out/dust-out that enables precise, landing quality, non-visual air and groundspeed reference.

AVN STO 4: Command and Control (C2) data fusion and networking
Develop technologies to support data fusion to improve sensor tracking of tactical aircraft and UASs as well as the fusing of data from the various ground and intelligence system employed by the MAGTF. The most significant challenge for aviation C2 is data fusion. The requirement statement in the CAC2S CPD describes data fusion as fusing data from real time sensors/ near real time TADILs and non-real time data components to deliver an adaptive situational display. Develop a robust data network established with common databases that push near-real time updates to C2 operators and aircraft. Overcome security and IA requirements with multiple data standards and security levels. Develop a single system that can interface with both current ground C2 and intelligence systems and has communication channels with adequate capacity to transmit and receive terabytes worth of data.

AVN STO 5: Standardized force tracking system
Develop technologies that provide 100% assured, covert, real-time identification of friendly forces for fratricide avoidance as well as battlefield coordination, maneuver deconfliction, command SA, future re-supply/CASEVAC etc during future distributed operations. Incorporate tracking technologies applicable to red-force/HVT (classified).

AVN STO 6: Group 4 (Tier III) Unmanned Aircraft Systems (UAS)
Develop an expeditionary, all-weather, high endurance, multi-mission UAS capable of operating from austere locations and providing networked, interoperable systems to enhance the MAGTF and joint force commander's battle-space awareness. Further refinement and development of Unmanned System Interoperability Profiles (USIP) standards for aircraft configuration, payload interfaces, data transmission, and UAS control will enable seamless integration between manned/unmanned systems and command and control networks. Advancements in standard interfaces will allow for interchangeable, mission-tailored payloads such as electro-optical/infrared; electronic warfare; signals intelligence; synthetic aperture radars; communications relay; laser designators; wide area scan; ground moving target indicators; and network enablers.

AVN STO 7: Advanced multi-function EW transceiver
Leverage next generation jammer (NGJ) technologies to develop capabilities compatible with Marine Corps follow-on EW concepts (e.g., system-of-systems distributed EW, including low observable systems) as the system requirements are refined. Multi-function transceiver arrays potentially enables future EW as well as increasing bandwidth access, SIGINT and ISR capabilities.

AVN STO 8: Ground-based C2 and surveillance systems
The concept of active aperture array is critically dependent on the availability of compact and minimum weight, low consumption and high reliability transmit/receive (T/R) modules. Develop technologies that provide the thermal margins required to meet mission radar performance for the T/R modules using of state of the art, air-cooled technology. Develop manufacturing techniques that can produce high quality, micro-miniature RF circuits (T/R modules) that are not susceptible to stress and cracking during production. Develop technologies that support the calibration of an ambient air-cooled active electronically scanned array (AESA).

AVN STO 9: Advanced laser systems suitable for countermeasure, sensor, and attack applications
Develop laser enabling technologies including multi-scan mirrors; high power/high efficiency optical amplifiers and switches; dual/multi band laser systems; lightweight open and closed-loop IRCM systems; and high duty cycle systems. Resulting technologies must be applicable to both rotary and fixed wing air vehicles and provide exceptional reliability. Systems developed should interoperate with existing air-vehicle subsystems with minimal integration effort and provide countermeasure, sensor and attack capabilities.

AVN STO 10: Scalable, light weight, interference cancellation system and adaptive/cognitive radio technologies for both co-situated RF emitters and RF saturated environments to eliminate VHF, UHF, SATCOM RF interference between multiple radio and electronic attack systems.
Develop low-cost interference cancellation technologies and adaptive/cognitive radio systems to enable assured communications and information distribution for emerging platforms and systems as well as technology transition for legacy platforms that suffer communications degradation with multiple communications systems or jamming.

AVN STO 11: Net-enabled weapons
Develop technologies that enable aviation ordnance to rapidly join the battlefield network in order to allow terminal control, ISR, and bomb damage assessment (BDA). Additionally, develop small form factor jammers (e.g. d1igital RF Memory (DRFM) systems) capable of being utilized in ordnance, artillery, or expendables.

AVN STO 12: Cargo UAS

Develop advanced UAS vertical lift technologies in order to provide force sustainment to multiple company-level operations over a widely dispersed area. Explore autonomous and semi-autonomous line of sight (LOS) and beyond line of sight (BLOS) UAS control in remote deployed environments to facilitate navigation and cargo delivery during 24/7 operations. Cargo UAS platforms are required to operate at high density altitudes, delivering multiple in-stride cargo drops, over round-trip distances with a threshold of 150 nautical miles and an objective of 900 nautical miles, reducing the number of ground transport-delivered items.

AVN STO 13: UAS Universal Ground Control Station (UGCS)

Develop UAS Universal Ground Control Station (UGCS) with Type I encrypted Tactical Common Digital Link (TCDL) capable of controlling USMC and Joint UAS Family of Systems. Advancement in UGCS interoperability enables ground control of current and future UAS platforms to provide increased operational capability and scalable UAS options to the war fighter. It will also facilitate the rapid development and acquisition of system compatible UAS platforms.

AVN STO 14: Active kinetic and non-kinetic aircraft self-protection

Develop technologies such as high energy liquid and fiber laser systems and continued investment in technologies which enabled systems such as Tactical Aircraft Directable Infrared Countermeasures (DIRCM). Develop technologies that enable “unlimited magazine” self-protect capabilities against both IR SAMs and RPGs while reducing requirement for magazine (e.g., flares). Additionally, investigate Electromagnetic Pulse (EMP) and High Power Radio Frequency (HPRF) technologies development for both offensive and defensive lethal and non-lethal effects.

AVN STO 15: Radio Frequency (RF) countermeasure, decoy, and expendables systems

Develop technologies related to RF countermeasures applicable to fixed and rotary wing aircraft. Systems include towed decoys, released/launched decoys, RF jamming systems, and RF expendables. Develop both active and passive RF systems that contribute to, and collaborate with, the EW system-of-systems construct in an EW battle-managed environment as well as provide offensive RF capabilities. Develop technologies that assure that RF systems can interoperate with “blue” force systems in all domains and environments.

AVN STO 16: Advanced rotor/prop technologies for performance across wider envelope

Develop advanced technologies for rotors/props as components of assault support propulsion as well as tactical UAVs. As rotorcraft/helicopters (MV-22/VUAV) requirements grow in terms of hover load and harsh environments (heat/dust/high altitude), as well as top-end speed, advanced rotor performance enhancement (dynamic blade shaping) will garner performance as well as efficiency (fuel/load savings). Develop V-22 capability enhancements to sustain performance KPPs and improve high altitude operations. V-22 design is based on tropical day at 3000 ft/91.5º F. OEF and other potential deployment locations require lift well beyond this ambient pressure/temperature. Develop technology that can increase vertical lift by at least 2000 lbs, increase operational radius by at least 40 nm, and preserve 10,000 lb load KPP.

AVN STO 17: Small form factor, lightweight expeditionary ordnance for fixed and rotary wing aircraft

Develop technology supporting a family of small, lightweight expeditionary ordnance for both fixed and rotary wing aircraft. Given the logistic challenges of transporting aviation ordnance to expeditionary forward operating bases (FOBs), as seen in Iraq and Afghanistan, we need small, lightweight ordnance that can be transported overland or by aircraft (e.g. KC-130) to austere sites and then loaded quickly and easily by minimal personnel. Small form factor ordnance, on the order of 50-250 lbs explosive equivalent, will further increase number of weapons fixed and rotary wing aircraft can deliver during a single sortie while both scaling effects and minimizing collateral damage. Develop technologies that can enable basic ordnance to have a variety of fusing, guidance and propelling packages thereby increasing functionality of this family of ordnance.

AVN STO 18: Low collateral damage/low energetic weapons

Develop technology supporting a family of low collateral damage/low energetic weapons. Existing methods of obtaining low collateral damage munitions include reducing the amount of explosive filler of existing weapons. Develop technologies to improve accuracy thereby reducing the risk of collateral damage when an appropriate lethality warhead and fuse are applied. Develop technologies that ensure weapon fusing and weapon yield is electable from within the cockpit.

AVN STO 19: Cost effective mass memory (terabytes)
Develop improvements for digital map and other avionics systems capable of higher speed data transfer, as well as sensor data/information storage, retrieval, and dissemination compatible with airborne and shipboard environmental conditions. Develop technologies that enable autonomous operations with comprehensive information onboard. Information storage onboard autonomous platforms reduce the risk in distributed and net-centric operations against an EW-capable adversary where link information is potentially denied.

AVN STO 20: Distributed networking of aviation simulators.
Develop simulators and technologies to enable aviation Marines to train the way they fight. This includes engaging the senses in realistic, challenging, and rapidly reconfigurable scenarios which allows scenario-based training and mission rehearsal. The goal is to optimize the application of simulation training across the live/virtual/constructive (LVC) training construct throughout Marine aviation.

AVN STO 21: Multi-function, low-drag VHF, UHF, and SATCOM (broadband) antenna
Develop technologies that enable reduced airframe antennae and reduced airframe signature, including conformal arrays and active elements, as communications and data link requirements grow, while allowing communications growth without additional apertures.

AVN STO 22: Composite materials in expeditionary environments
Develop technologies for health monitoring of composite structures enabling “condition based maintenance” and “predictive failure” of composite structures on aircraft in order to reduce time in depot-level maintenance facilities as well as reducing NDI inspections. The increased use of composite structures requires an enhanced capability to rapidly make repairs to these structures in all environmental conditions (heat, cold, sand, humid, etc.) requires the development.

AVN STO 23: Lightweight De-ice/Anti-ice capability for aircraft
Develop technologies to provide a lightweight all de-ice/anti-ice capability for both rotor blades and fuselage that reduces both weight and electrical power requirements. Current de-ice/anti-ice capabilities are heavy due to power requirements for heating and wiring.

AVN STO 24: Variable-speed air refueling drogue
Develop technologies that enable refueling drogues to refuel fast tactical aircraft as well as slower rotorcraft.

Section 5 --- Marine Air Command & Control System (MACCS) Plan

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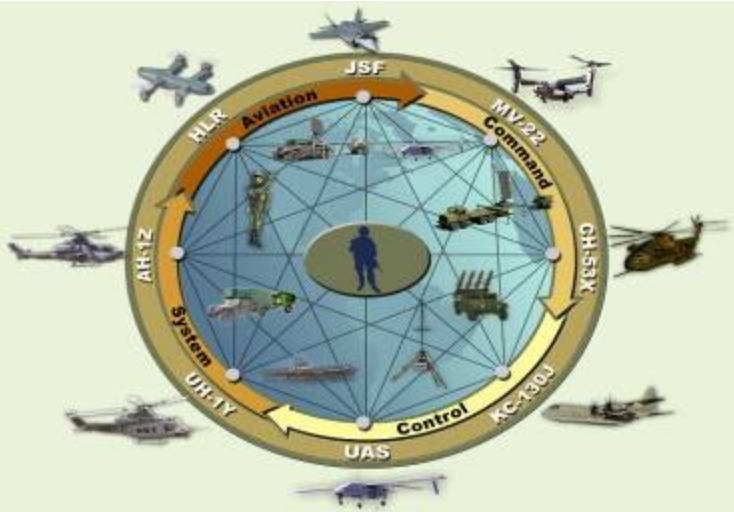


Marine Air Command and Control System (MACCS)

The Marine Air Command and Control System provides the ACE commander with the agencies necessary to exercise command and control (C2) of aviation and air defense assets supporting MAGTF, naval, and joint operations. These agencies provide the ACE commander with the ability to execute the six functions of Marine aviation.

As one of Marine aviation's expeditionary enablers, the MACCS is rapidly deployable and scalable, ready for MAGTFs of any size and mission, from Special Purpose MAGTFs and MEUs to MEF-size major combat operations. To meet the challenges of the future, Marine aviation is pursuing aggressively enhanced capabilities of data fusion; improved modularity and mobility; and increased situational awareness. Central to our improvement efforts is enhancing the ability of the commander to make rapid and informed decisions using decision support tools and intuitive situational displays.

One of Marine aviation's highest priorities is the transformation of our C2 systems to ensure the MACCS prepares for emerging operational environments while continuing to support current operations. Success in the future fight requires capability increases in the following areas:

Deployability – Employ reduced operations and logistics footprint, improved modularity and commonality of equipment with a focus on EMW.

Flexibility – Distribute, via multi-function nodes, MACCS functions across the network; decentralize operations empowered by shared battlespace awareness; integrate open architecture suites with new technology and adapt to future environments.

Integration – Migrate to MAGTF C2.

Manpower and Training – Shift from highly-focused, single function specialties into broader skill areas.

Adaptability – Operate afloat, ashore, and airborne, and during transitions.

Data Fusion – Fuse common, real-time, non-real-time, and near-real-time data from sensors, weapon systems, and C2 systems into a single display.

Focus on Aviation Command

All future enhancements to the MACCS will focus on the "command" aspect of aviation C2. By leveraging technological advancements and innovation to increase our aviation C2 capability, we ensure that the tactical air commander can execute effectively his battle command and battle management functions in support of the MAGTF commander.

MACCS Transformation

MACCS transformation is focused on providing the aviation combat element commander with the most capable, effective and responsive C2 capability that technology, resources and personnel can provide. MACCS transformation will focus on three fundamentals: 1) expeditionary multi-function C2 nodes; 2) seamless MAGTF and joint force integration; and 3) full-spectrum warfare effectiveness. We will continue to assess our MACCS agencies for transformation to multi-mission operation centers to meet the Commandant's *Vision and Strategy 2025*.

Aviation C2 Family of Systems (FoS)

The AC2 FoS is a set of related, scalable, modular systems which the ACE can arrange or interconnect in various configurations to provide different capabilities. The mix of systems can be tailored to provide desired capabilities, dependent on the situation or mission assigned. The AC2 FoS is designed to:

- Be expeditionary and joint
- Operate in a distributed and network centric manner
- Fuse non-, near-, and real-time C2, intelligence, sensor and weapons information, and data to achieve shared awareness across the C2 network. It will attain rapid decision superiority enabling massed effects across the battlespace. The key characteristics of the AC2 FoS include:

Expeditionary - Highly mobile and transportable to support distributed forces, and routinely seabased to defeat enemy anti-access and area denial.

Scalable - Modular and task-organized to provide various functions dependent on critical mission requirements across the spectrum of military operations.

Multi-mission - Mission-tailored, operational centers toperform multiple AC2 functions, change functions performed over time, provide task-organized components of all AC2 functions concurrently, and enable the distribution and phasing of control functions across the battlespace.

Data & Software Fusion - Fuse data from various sensors and C2 systems to provide an integrated tactical display. Real-, near-, and non-real-time data will be available throughout the AC2 FoS and shared with other C2, weapon, and sensors systems throughout the battlespace. The system will provide enhanced battlefield awareness and significantly reduced decision making time for commanders. The integrated tactical display will be augmented with an integrated software application capability enhancing command and control of MAGTF aviation assets.

Redundant & Survivable - The AC2 FoS will be available continuously for the AC2 system, including sensors, communications, and networks. The increased speed and tempo of future operations demands a system that provides the ACE commander the ability to manage air assets uninterrupted, even if the system is degraded or damaged.

Evolving Digital ACE - Digital & Voice Communications - The AC2 FoS will be capable of communicating digitally; this capability will ultimately extend to all Marine aircraft platforms, as well as to the extensions of the AC2; e.g., Tactical Air Control Parties (TACPs). The Aviation C2 FoS will digitally receive, process and display requests; select the aviation asset(s) available to meet the request; and digitally transmit the mission data back to the requestor and the responding platform once assigned.

The AC2 FoS must have the ability to receive and transmit data with all MAGTF aircraft. By 2020, all units requesting immediate support from Marine aviation - whether requesting CAS, assault support, or any other immediate aviation mission - will be equipped with both the communication means and C2 application capabilities to send their immediate mission requests via digital data, augmented by voice if needed, to the AC2 FoS. All Marine aircraft will have both the communications means and C2 application capabilities to exchange secure digital data information, augmented by voice:

- Between aircraft on a common mission (peer-to-peer data exchange)
- Between aircraft and the AC2 FoS (parent-to-child/child-to-parent data exchange)
- Between aircraft and all of those requestors who had an aviation mission assigned to them by the AC2 FoS (cross-peer data exchange)

Aviation C2 Family of Systems (FoS) Continued

Evolving Digital ACE - Digital & Voice Communications (continued) - Digital data should be available to troop commanders and mission commanders embarked in assault support aircraft. Key to this effort will be to adjust Marine Corps C4I policies to mandate adherence to DISA-mandated NCID T-300 Quality of Service standards for communications.

Joint – Systems will be compatible and interoperable with other services' C2 systems and compliant with all joint mandates and standards, in accordance with CJCSM 3170.01F.

Network Centric - Enable information superiority resulting in an increase in available combat power through the attributes gained by networking of sensors, decision makers, and shooters to achieve shared awareness, increased speed of command, higher tempo operations, greater lethality, increased survivability, and self-synchronization.

Adaptive & Continually Enhanced – We will meet the challenges of new operational environments and emerging joint concepts, relentlessly improving to outpace enemy capabilities through a spiral process of innovation within a culture of continuous transformation. The key attribute of the AC2 FoS will be the common, open C2 and sensor architecture that facilitates continued adaptation and improvement.

Sensor Network Capable - The AC2 FoS will be capable of participating in all joint sensor networks for sharing information in a real and near-real time basis. This capability will be essential to ensure that the Marine Corps is a contributor to the Integrated Air and Missile Defense (IAMD) operating concept.

Netted Sensors/Sensor-to-Shooter - The AC2 FoS will provide sensor-to-shooter capability, allowing for rapid response against fixed wing and rotary wing aircraft, UASs, tactical ballistic missiles (TBMs) and cruise missile attacks. The networked sensors and sensor-to-shooter capabilities will enable emerging joint concepts, such as integrated fire control (IFC) and engage on remote (EOR). AC2 will contribute to strike operations by providing greater operational reach inland and expanding the netted sensor network of radars.

Future MACCS Systems

Common Aviation Command and Control System (CAC2S): The CAC2S is the command and control component of the aviation C2 family of systems. The CAC2S capability will fuse real-time, non-real time, and near-real time data from sensors, weapon systems, and C2 systems into a single integrated display. CAC2S replaces six disparate legacy platforms and provides an expeditionary and common joint air C2 capability for Marine aviation, employable from the sea base, shore, or air node. It will provide aviation command post, air defense, air operations, and air traffic control capabilities.

The introduction of CAC2S provides an opportunity to leverage technological advancements and increase aviation command capability in order to ensure that future tactical air commanders have the necessary tools and knowledge to employ Marine aviation in support of the MAGTF commander and joint force commander. The Deputy Commandant for Aviation is challenging the aviation community to expand capabilities that have been historically centered on platforms and systems.

Ground/Air Task Oriented Radar (G/ATOR): The G/ATOR system is a 3D short/medium range radar designed to detect low observable/ low radar cross section (LO/LRCS) targets such as cruise missiles, UAS, air breathing targets (ABTs), rockets, mortars, and artillery shells.

Composite Tracking Network (CTN): The CTN system is comprised of commercial-off-the-shelf (COTS) and non-development item (NDI) subsystems adapted from the USN Cooperative Engagement Capability (CEC). The CTN system will interface with C2 systems and sensors to provide the MAGTF and joint task force commanders a ground-based sensor netting solution that correlates sensor measurement data (target velocity and position) from local and remote radars into the CEC network. This data effectively will increase situational awareness by providing accurate, composite, real-time surveillance tracks to support Sea Shield and Naval Integrated Fire Control-Counter Air.

JICO Support System (JSS): The Joint Interface Control Officer (JICO) Support System (JSS) is an emerging, automated, network-centric JICO tool set which supports the planning, management, and execution of the Multi-Tactical Data Link (TDL) Network (MTN). This in turn provides data for the development of the common tactical picture and common operational picture, and enhances the joint force commander's battlespace awareness.

Legacy Aviation C2 Systems

Current systems provide an essential bridge capability until the next generation of Aviation C2 systems is fielded:

Marine Air Command and Control System (MACCS) Sustainment: MACCS legacy systems are providing air command and control in support of current operations. Legacy sustainment is required to keep our existing force operating until our future systems are fielded. MACCS legacy systems, annotated in the glossary, will be modernized through sustainment until replaced by CAC2S.

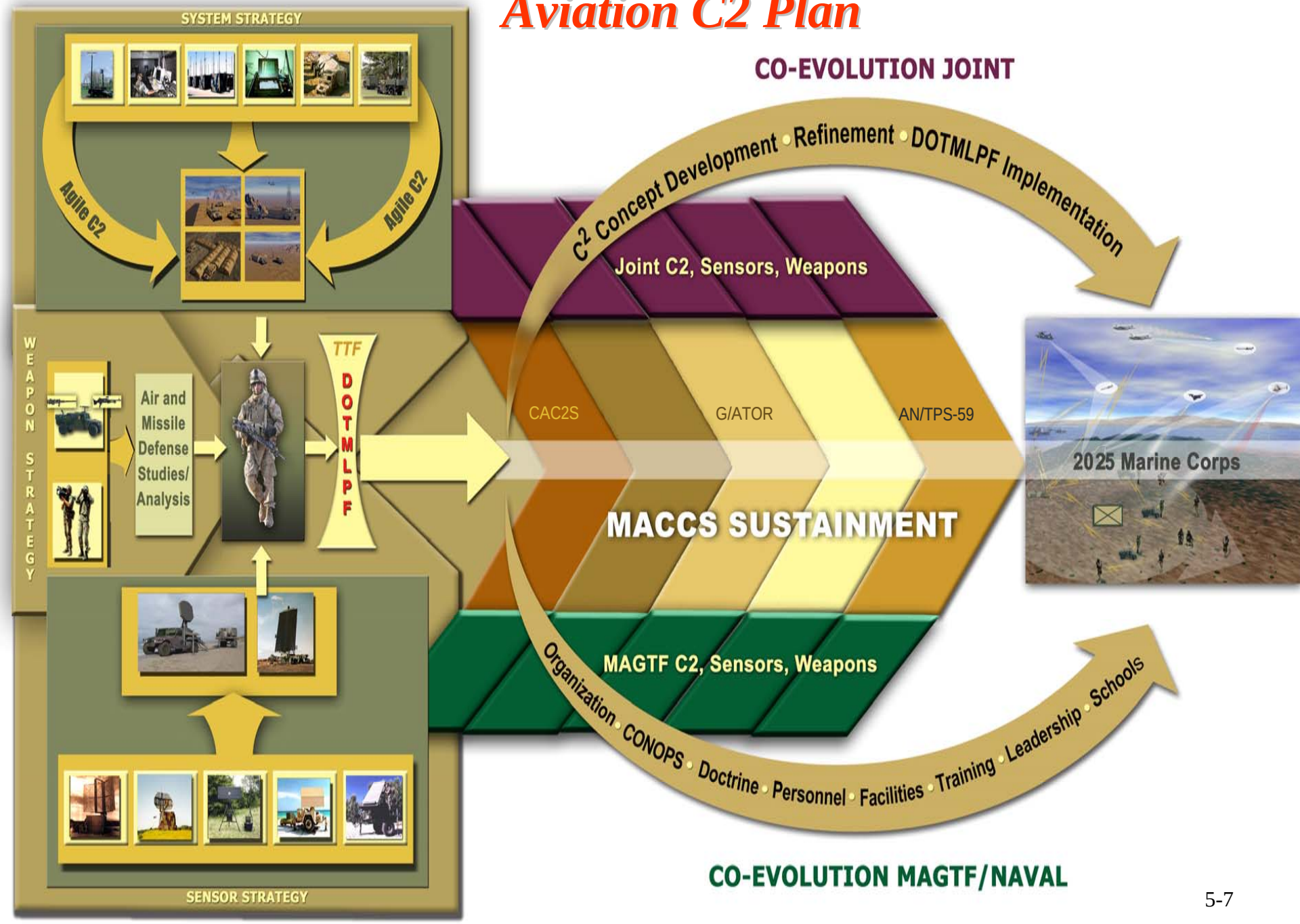
AN/UYQ-3B, DASC (A): AN/UYQ-3B systems are being phased out of active duty MASS units due to limited interoperability with the KC-130J. MACG-48 will retain an airborne DASC capability through 2014. Future increments of CAC2S will include an airborne C2 capability.

AN/TPS-59: The AN/TPS-59 is a proven, fielded system and is the MAGTF's only long-range surveillance radar. On 27 Feb 2009 OSD AT&L signed an ADM that stated the USMC strategy to conduct a TPS-59 Product Improvement Program (PIP) and USAF 3DELRR program will merge into a single material solution in the future, but that the sustainment of the legacy TPS-59 is a requirement, including a unique capability of tracking and calculating launch and impact points of theater ballistic missiles. The sustainment of the current AN/TPS-59 radar system will continue to address diminishing manufacturing resources and obsolescence through a strategy of product improvements. Scheduled product improvements include technology upgrades, component downsizing and expeditionary mobility modifications. The planned OSD merger of 3DELRR and TPS-59 PIP strategy is designed to provide the future long-range surveillance capability for the MAGTF.

Ground Based Air Defense (GBAD): Modernization of LAAD equipment is planned on the replacement of the Remote Terminal Unit with an enhanced laptop and replacing Ground Based Data Link – Extended (GBDL-E) with Joint Range Extension Application Protocol (JREAP) to interface with CAC2S. The Ground-Based Air Defense Initial Capabilities document was signed on 13 May 2009, and provides recommended materiel and non-materiel solutions for the replacement of Stinger. Marine Corps Systems Command is currently conducting an analysis of alternatives to determine the recommended solution to mitigate the capability gap versus low observable/low radar cross section threats.

Marine Air Traffic Control and Landing System (MATCALS)/Air Traffic Navigation Integration and Coordination System (ATNAVICS): MATCALS is a family of systems providing all-weather Air Traffic Control (ATC) services for expeditionary operations ashore. ATNAVICS, an interim system, is being procured to replace current MATCALS precision approach and airport surveillance radar sensors and C2 sub-systems. ATNAVICS is scalable and HMMWV-transportable, and requires substantially less airlift (versus MATCALS systems) for intra-theater movement. A select number of MATCALS ASR and C2-like sub-systems will be maintained until those ATC functions can be migrated to G/ATOR and CAC2S.

Aviation C2 Plan



MARINE TACTICAL AIR COMMAND SQUADRON (MTACS) PLAN

CURRENT FORCE: X4 - CDLS, CIS, CDS, TBMCS CTT, JTIDS, SHELTER SUITE

FORCE GOAL: 4 CAC2S (TACC)*

		FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	EQUIPMENT																																											
MACG-18 FUT																																												
MTACS-18	MRQ-12																													CAC2S (CS)														
	COC V2																													CAC2S PDS														
	CAC2S SDS																																											
MACG-28 CP																																												
MTACS-28	MRQ-12																					CAC2S (CS)																							
	COC V2																					CAC2S PDS																							
	CAC2S SDS																																												
MACG-38 MIR																																												
MTACS-38	MRQ-12																									CAC2S (CS)																			
	COC V2																									CAC2S PDS																		
	CAC2S SDS																																											
MACG-48 ILL																																												
MTACS-48	MRQ-12																															CAC2S (CS)												
	COC V2																															CAC2S PDS											
	CAC2S SDS																																											

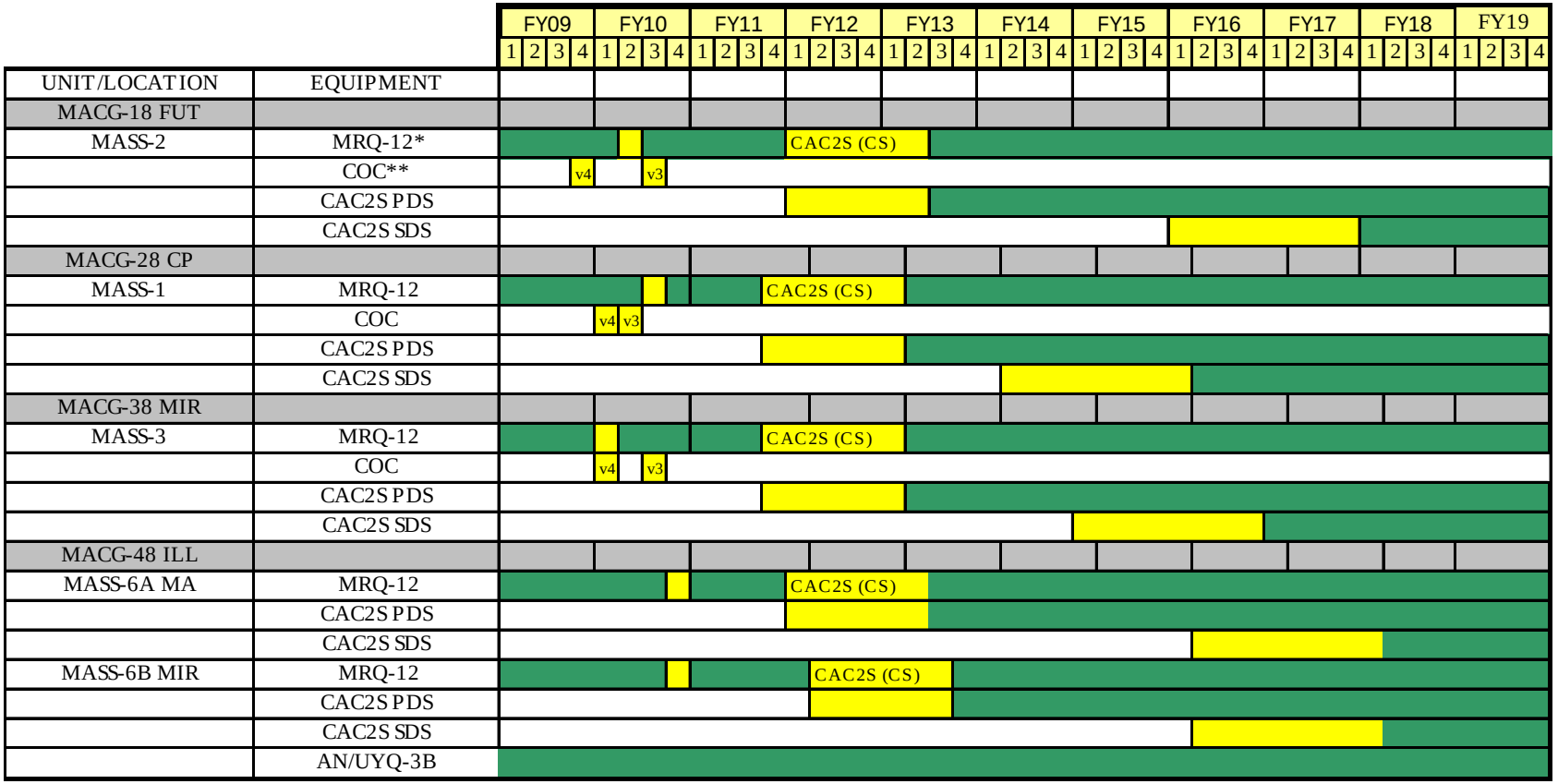
MRQ-12 RECIEVES ECP-20 WITH DSAN FY 10
COC CAPSET VII FIELDED END FY10-11
CAC2S ECP INSTALL TO COC/MRQ-12 BASELINE
* INCLUDES ADDITIONAL EQUIPMENT TO FULFILL TACC REQUIREMENT

GENERAL NOTE: TRANSITION PLAN AS DEPICTED IS NOTIONAL PENDING ANALYSIS OF OPFOR OPTEMPO AT SYSTEM PRODUCTION TIME

MARINE AIR SUPPORT SQUADRON (MASS) PLAN

CURRENT FORCE: X4 - CIS, CDS, DASC (AS)

FORCE GOAL: 11 CAC2S*



* MRQ-12 ECP 20 INSTALL FY10 TRANSITION TO CAC2S CS FY11

** COC ADVANCED FIELDING: V4(x2) FY09-10 V3(X1) FY10

GENERAL NOTE: TRANSITION PLAN AS DEPICTED IS NOTIONAL PENDING ANALYSIS OF OPFOR OPTEMPO AT SYSTEM PRODUCTION TIME

MARINE AIR CONTROL SQUADRON (MACS) TAOC PLAN

CURRENT FORCE: X5 - TAOM, SAAWF, ADCP, CTT, JTIDS, BLOS G/W, TIU, MCIU

FORCE GOAL: 13 CAC2S, 32 G/ATOR

UNIT/LOCATION	EQUIPMENT	FY09 1 2 3 4	FY10 1 2 3 4	FY11 1 2 3 4	FY12 1 2 3 4	FY13 1 2 3 4	FY14 1 2 3 4	FY15 1 2 3 4	FY16 1 2 3 4	FY17 1 2 3 4	FY18 1 2 3 4	FY19 1 2 3 4
MACG-18 FUT												
MACS-4	TPS-59						SUSTAINMENT					
	TPS-63 / GATOR							GATOR				
	CTN											
	MTAOM								CAC2S (SDS)			
	TAOM / ADCP					CAC2S (PDS)			CAC2S (SDS)			
	MRQ-12					CAC2S (CS)						
MACG-28 CP												
MACS-2	TPS-59						SUSTAINMENT					
	TPS-63 / GATOR							GATOR				
	CTN											
	MTAOM											
	TAOM / ADCP				CAC2S (PDS)		CAC2S (SDS)					
	MRQ-12				CAC2S (CS)							
MACG-38 MIR												
MACS-1 YU	TPS-59						SUSTAINMENT					
	TPS-63 / GATOR							GATOR				
	CTN											
	MTAOM											
	TAOM / ADCP					CAC2S (PDS)		CAC2S (SDS)				
	MRQ-12					CAC2S (CS)						
MACG-48 ILL												
MACS-23 AUR	TPS-59						SUSTAINMENT					
	TPS-63 / GATOR							GATOR				
	CTN											
	MTAOM											
	TAOM / ADCP						CAC2S (PDS)		CAC2S (SDS)			
	MRQ-12						CAC2S (CS)					
MACS-24 DMN	TPS-59						SUSTAINMENT					
	TPS-63 / GATOR							GATOR				
	CTN											
	MTAOM											
	TAOM / ADCP						CAC2S (PDS)		CAC2S (SDS)			
	MRQ-12						CAC2S (CS)					

TPS-59: THE CURRENT 59 RADAR WILL BE SUSTAINED THROUGH PRODUDCT IMPROVEMENTS

TPS-63/GATOR: THE TPS-63 RADAR WILL BE REPLACED BY THE GATOR DURING INCREMENT 1

CTN: CTN WILL FIELD THE INITIAL 10 SYSTEMS WITH A RADAR ONLY INTERFACE IN FY10-11. THE C2 INTERFACE WILL FOLLOW IN FY12

MTAOM: WILL REPLACE SOME TAOM AND ADCP UNTIL FULL CAC2S INC 1, PHAES 2 CAPABILITY IS REALIZED IN FY17

TAOM/ADCP: WILL BE REPLACED BY CAC2S INC 1, PHASE 2

MRQ-12: FIELDED TO PROVIDE VOICE COMM FOR THE MTAOM AND WILL BE UPGRADED TO CAC2S DURING INC 1 PHASE 1

MARINE AIR CONTROL SQUADRON (MACS) ATC PLAN

CURRENT FORCE: X4 - TSQ-131, TACAN, TPS-73, TPN-22

FORCE GOAL: 11CAC2S, 11G/ATOR, 11ATNAVICS, 11TACAN

		FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	EQUIPMENT																																											
MACG-18 FUT																																												
MACS-4	TPS-73	T				V																				G								V									
	TPN-22	T				V																																						
	TACAN																																											
	TSQ-131	T				V																																						
MACG-28 CP																																												
MACS-2	TPS-73									V																G								V									
	TPN-22									V																																		
	TACAN																																											
	TSQ-131									V																																		
MACG-38 MIR																																												
MACS-1	TPS-73												V													G								V									
	TPN-22												V																															
	TACAN																																											
	TSQ-131												V																															
MACG-48 ILL																																												
MACS-24	TPS-73	V																								G								V									
	TPN-22	V																																										
	TACAN																																											
	TSQ-131	V																																										

T= ATNAVICS TRANSITION BEGINS
G= G/ATOR TRANSITION BEGINS
V= TRANSITION COMPLETE

CTN IS INCLUDED IN THE CAC2S TRANSITION
*CAC2S NODE IS 1PROCESSING DISPLAY SUB-SYSTEM (PDS) (MAGTF COC), 1SENSOR/DATA SUB-SYSTEM (SDS), AND 1COMMUNICATIONS SYSTEM (CS)

LOW ALTITUDE AIR DEFENSE (LAAD) BATTALION PLAN

CURRENT FORCE:
2ND LAAD BN
3RD LAAD BN

FORCE GOAL:
143 A-MANPADS Fire Unit Vehicles
38 A-MANPADS Section Leader Vehicles

		FY09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15				FY 16				FY 17				FY 18				FY 19			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	EQUIPMENT																																											
MACG-28																																												
2ND LAAD	A-MANPADS Inc 1									1																																		
	Stinger / MSL Replacement			2																						3																		
MACG-38																																												
3RD LAAD	A-MANPADS Inc 1									1																																		
	Stinger / MSL Replacement			2																						3																		

NOTE 1: A-MANPADS INCREMENT 1 VEHICLES WILL BE FIELDED SIMULTANEOUSLY TO BOTH UNITS.
NOTE 2: THE ANALYSIS OF ALTERNATIVES FOR THE STINGER MISSILE REPLACEMENT WILL BE COMPLETED DURING 4TH QTR FY09.
NOTE 3: IOC FOR THE STINGER MISSILE REPLACEMENT IS ESTIMATED TO OCCUR ON OR ABOUT THE 3RD QTR FY15.

Section 6 --- Marine Rotary Wing/Tiltrotor Aviation Plan

Marine Rotary Wing/Tiltrotor Plan	6-2
Marine Medium Helicopter (HMM/VMM) Plan	6-3
Marine Heavy Helicopter (HMH) Plan	6-7
Marine Light Attack Helicopter (HMLA) Plan	6-11
Marine Helicopter Squadron One (HMX-1) Plan	6-15
Marine Search and Rescue (SAR) Plan	6-17

Marine Rotary Wing/Tiltrotor Aviation Plan

Missions

MARINE MEDIUM HELICOPTER SQUADRON (HMM): Support the MAGTF commander by providing assault support transport of combat troops, supplies and equipment, day or night under all weather conditions during expeditionary, joint or combined operations.

MARINE MEDIUM TILTROTOR SQUADRON (VMM): Support the MAGTF commander by providing assault support transport of combat troops, supplies and equipment, day or night under all weather conditions during expeditionary, joint or combined operations.

MARINE HEAVY HELICOPTER SQUADRON (HMH): Support the MAGTF commander by providing assault support transport of heavy weapons, equipment and supplies, day or night under all weather conditions during expeditionary, joint or combined operations.

MARINE LIGHT ATTACK HELICOPTER SQUADRON (HMLA): Support the MAGTF commander by providing offensive air support, utility support, armed escort and airborne supporting arms coordination, day or night under all weather conditions during expeditionary, joint or combined operations.

New Aircraft Test and Evaluation Updates

MV-22:

DEVELOPMENTAL TEST: Ongoing DT efforts include those for fleet sustainment, new capabilities, and envelope expansion for high altitude and defensive manuevering.

OPERATIONAL TEST/OPEVAL: COA development underway to determine primary location for VMX-22 after FY10. Continued integrated test for high altitude tactics, techniques and procedures (TTP), Interim Weapons System (IWS) integration and shipboard interoperability.

VXX:

RMD-802 terminated the VH-71 program and funded VXX program restart in FY11. The VXX program has entered the JCIDS process with initiation of an Initial Capabilities Document (ICD).

UH-1Y:

DEVELOPMENTAL TEST: Complete.

OPERATIONAL TEST/OPEVAL: Complete.

INITIAL OPERATING CAPABILITY: Was achieved On 8 August 2008 when HMLA-267 received a three aircraft UH-1Y detachment with required support equipment, technical publications, trained maintenance personnel and trained aircrew, to include initial spares with interim repair support in place and is capable of deploying for operational commitments. First deployment was with 13th MEU in January 2009.

AH-1Z:

DEVELOPMENTAL TEST: DT-IIC3 begins October 2009.

OPERATIONAL TEST/OPEVAL: OT IIC3 testing in support of the Initial Operational Capability Decision begins February 2010.

INITIAL OPERATING CAPABILITY: Will be achieved during FY11 when the first HMLA receives a six-aircraft AH-1Z detachment with required support equipment, technical publications, trained maintenance personnel and trained aircrew, to include initial spares with interim repair support in place and is capable of deploying for operational commitments.

CH-53K:

DEVELOPMENTAL TEST: 1st Qtr FY12 to 1st Qtr FY16

OPERATIONAL TEST/OPEVAL: 4th Qtr FY13 to 1rd Qtr FY16. Operational Test and Evaluation for CH-53K to be assumed by VMX-22 in FY09.

INITIAL OPERATING CAPABILITY: Will be achieved during FY19 when the first HMH receives a four-aircraft CH-53K detachment with required support equipment, technical publications, trained maintenance personnel and trained aircrew, to include initial spares with interim repair support in place and is capable of deploying for operational commitments.

MARINE MEDIUM HELICOPTER/TILTROTOR (HMM/VMM) PLAN

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
TOTAL SQUADRONS-UNIT PMAA (OR PTAA)											
AC CH-46E	8-12	6-12	6-12	4-12	2-12	2-12	0-0	0-0	0-0	0-0	0-0
AC MV-22	6-12	8-12	10-12	12-12	14-12	15-12	17-12	18-12	18-12	18-12	18-12
RC CH-46E	2-12	2-12	2-12	2-12	2-12	1-12	1-12	0-0	0-0	0-0	0-0
RC MV-22	0-0	0-0	0-0	0-0	0-0	1-12	1-12	2-12	4-12	4-12	4-12
CH-46E FRS	1-18	1-18	1-12	1-12	1-12	0-0	0-0	0-0	0-0	0-0	0-0
MV-22A FRS	1-20	1-20	1-20	1-20	1-20	1-20	1-20	1-20	1-20	1-20	1-20

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
PAA PLAN											
AC/RC PMAA											
CH-46E	120	96	96	72	48	36	12	0	0	0	0
MV-22B	72	96	120	144	168	192	216	240	264	264	264
TOTAL PMAA	**192**	**192**	**216**	**216**	**216**	**228**	**228**	**240**	**264**	**264**	**264**
FRS PTAA											
CH-46E	18	18	12	12	12	0	0	0	0	0	0
MV-22B	20	20	20	20	20	20	20	20	20	20	20
TOTAL FRS PTAA	**38**	**38**	**32**	**32**	**32**	**20**	**20**	**20**	**20**	**20**	**20**
TOTAL PMAA/PTAA	**230**	**230**	**248**	**248**	**248**	**248**	**248**	**260**	**284**	**284**	**284**

MV-22 Transition Timeline

CURRENT FORCE:
6 VMM SQUADRONS Established
8 AC SQDN x 12 CH-46E
2 RC SQDN x 12 CH-46E
1 FRS x 18 CH-46E
1 FRS x 20 MV-22B

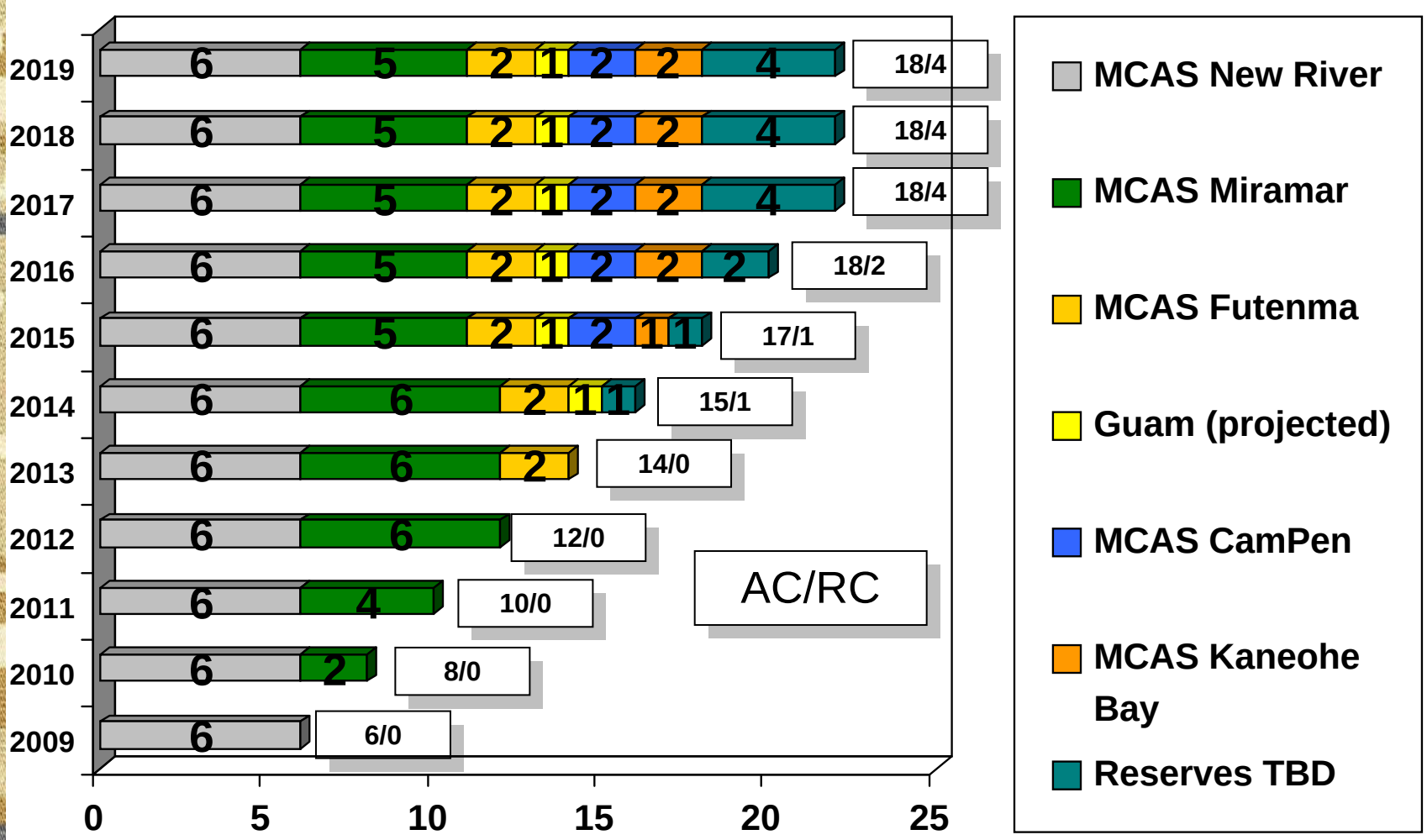
FORCE GOAL FY19:
18 AC VMM SQDN x 12 MV-22B
1 FRS SQDN x 20 MV-22B
4 RC VMM SQDN x 12 MV-22B

UNIT/LOCATION	PMAA	FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MAG-26/29																																											
VMMT-204	20 MV-22																																										
VMM-263	12 MV-22																																										
VMM-162	12 MV-22																																										
VMM-266	12 MV-22																																										
VMM-261	12 MV-22	V																																									
VMM-365	12 MV-22	M				V																																					
VMM-264	12 MV-22		M				V																																				
MAG-16																																											
VMM-161	12 MV-22					M				V																																	
HMM-166	12 CH-46E						M				V																																
VMM-561 (1)										M				V				RELOCATE TO 1ST MAW TBD																										
HMM-165	12 CH-46E										M				V																												
VMM-562 (1)														M				V				RELOCATE TO 1ST MAW TBD																				
HMM-163	12 CH-46E														M				V																								
VMM-164 (2)																							M			V																
MAG-36																																											
HMM (3)	12 CH-46E																		M			V																				
HMM (3)	12 CH-46E																			M			V																			
MAG-39																																											
HMMT-164 (2)	18 CH-46E																						M			V																
HMM	12 CH-46E																									M			V													
HMM	12 CH-46E																										M			V												
MAG-24																																											
TBD (4)																														VMM RELOCATION TBD													
VMM-463 (5)																																M		V									
GUAM																																											
TBD (6)																						VMM RELOCATION TBD																				
RESERVES																																											
HMM-774	12 CH-46E																					M				V																
HMM-764	12 CH-46E																														M			V								
VMM																																		M			V						
VMM																																			M			V					

PMAA – PRIMARY MISSION AIRCRAFT AUTHORIZATION
M - MV-22 TRANSITION BEGINS
V - MV-22 SQUADRON CORE COMPETENT/ENTERS MATURATION AND PTP PHASE
1) VMM-561/VMM-562 – SQUADRON BASED ON USMC END-STRENGTH INCREASE. MOVES TO 1st MAW FY13.
2) HMMT-164 RELOCATES TO MAG-16 AND TRANSITIONS TO V-22.
3) MAG-36 HMM SQUADRONS TO ENTER MV-22 TRANSITION IN CONUS FY13.
4) FMF VMM TO BE RELOCATED TO MAG-24 3RD QTR FY15.
5) HMH-463 WHICH WILL CADRE AS AN HMH IN FY11 AND TRANSITION TO VMM IN FY16.
6) FMF VMM TO BE RELOCATED TO GUAM NO EARLIER THAN FY14. DATE TBD BASED ON MILCON COMPLETION.

****Basing plans are subject to change and further environmental review****

MV-22 SQUADRON GEO-LOCATION



Basing plans are subject to change and further environmental review

MV-22 Transition Task Force
Cross Functional Team (CFT) Working Issues

CFT 1 (DOCTRINE & TRAINING)

- **Completed**
  - Transition Training Unit (TTU) established at MAG-16 to augment transition training for west coast units
  - Updated transition strategy to capitalize on VMM training capacity in order to facilitate transition timeline of two squadrons per year
- **Ongoing**
  - Refine transition plan for MV-22 to include Reserve integration and transition
  - Westpac transition strategy
- **Long Term**
  - Develop detailed strategy for execution of WestPac and Reserve transition

CFT 2 (ORGANIZATION & PERSONNEL)

- **Completed**
  - Manpower strategy completed for first four west coast transition squadrons
  - TTU structure established under MAG-16
- **Ongoing**
  - Stabilization of MV-22 community to support current transition plan (Fleet/FRS/VMX)
  - Manpower strategy for remaining West Coast transition and Reserve introduction
- **Long Term**
  - WestPac and Reserve transition strategy

CFT 3 (MATERIAL & FACILITIES)

- **Completed**
  - Logistics support strategy for MV-22 in OEF and MEU
- **Ongoing**
  - Deployment Operational Capabilities Sustainability Roadmap (DOCSR)
    - Block B Supportability
  - West Coast Environmental Impact Studies (Basing and Training)
  - WestPac Environmental Impact Studies initiation
  - Logistics posture analysis of current and programmed MV-22 POR
- **Long Term**
  - West Coast and WestPac facilities strategy
  - Reserve facilities and basing strategy
  - WestPac and reserve transition strategy

MV-22 CHARTER:

01 Oct 03

TTF DATES:

LAST: Sep 09

NEXT: Dec 09

MARINE HEAVY HELICOPTER (HMH) PLAN

		FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY119
TOTAL SQUADRONS/UNIT PMAA												
AC	CH-53E	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16	7/16
AC	CH-53D	3/10	3/10	2/16	2/16	2/16	2/16	2/16	2/16	2/16	1/16	0
AC	CH-53K	0	0	0	0	0	0	0	0	0	1/16	2/16
RC	CH-53E	DET - 6	DET - 6	DET - 6	DET - 6	DET - 6	DET - 6	DET - 6	DET - 6	DET - 6	DET - 6	DET - 6

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
PAA PLAN											
AC/RC PMAA											
CH-53D	30	30	32	32	32	32	32	32	32	16	0
CH-53E	118	118	118	118	118	118	118	118	118	118	118
CH-53K	0	0	0	0	0	0	0	0	0	8	20
TOTAL AC/RC TACTICAL	**148**	**148**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**142**	**138**
FRS PTAA											
CH-53D	0	0	0	0	0	0	0	0	0	0	0
CH-53E	17	17	17	17	17	17	17	17	17	15	13
CH-53K	0	0	0	0	0	0	0	7	10	10	11
TOTAL FRS PTAA	**17**	**17**	**17**	**17**	**17**	**17**	**17**	**24**	**27**	**25**	**24**
PDAA											
CH-53D	0	0	0	0	0	0	0	0	0	0	0
CH-53E	2	2	2	1	1	1	1	1	1	1	1
CH-53K	0	0	0	0	0	2	4	4	4	4	4
TOTAL PDAA	**2**	**2**	**2**	**1**	**1**	**3**	**5**	**5**	**5**	**5**	**5**
POAA											
CH-53D	0	0	0	0	0	0	0	0	0	0	0
CH-53E	6	6	6	6	6	6	6	6	6	6	6
CH-53K	0	0	0	0	0	0	0	0	0	0	0
TOTAL POAA	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
A/C PER HMH CH-53D	**10**	**10**	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**0**
A/C PER HMH CH-53E / K	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**16**	**16**
TOTAL PAA	**173**	**173**	**175**	**175**	**175**	**176**	**178**	**185**	**188**	**178**	**173**

GENERAL NOTES:

1) IN FY11, 3 X 10 CH-53D BECOME 2 X 16 A/C T/O-T/E
2) IN FY11, 1 CH-53D SQUADRON CADRED TO SUPPORT GROWTH TO 202K
3) IN FY 16, 1 CADRED CH-53D SQUADRON TRANSTIONS TO MV-22
4) IN FY18, 2 CH-53D SQUADRONS RELOCATE TO NEW RIVER FOR TRANSITION TO CH-53K
5) IN FY18, 1 CH-53E SQUADRON RELOCATES TO MCAS KANEHOE BAY
6) TOTAL PROGRAM BUY IS 200 CH-53K.

MARINE HEAVY HELICOPTER (HMH) PLAN

CURRENT FORCE:
7 AC SQDN X 16 CH-53E
3 AC SQDN X 10 CH-53D
1 RC SQDN X 6 CH-53E
1 FRS X 17 CH-53E

FORCE GOAL
9 AC SQDN X 16 CH-53K
1 FRS X 21 CH-53K
1 RC SQDN X 8 CH-53E

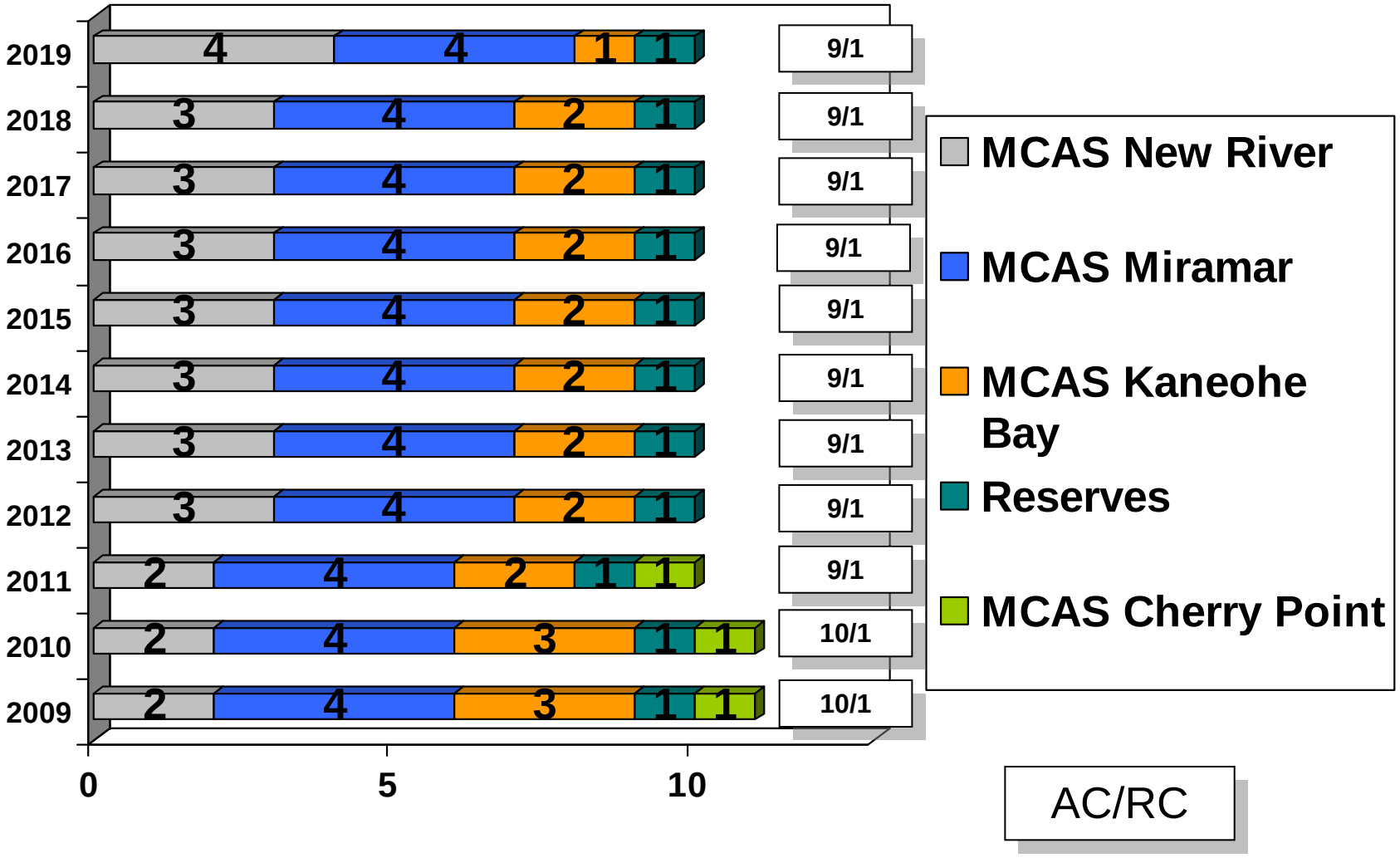
		FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	PMAA																																											
MAG 26/29																																												
HMT-302	17 CH-53E																														K													
HMH-461	16 CH-53E																																											
HMH-464	16 CH-53E																																											
HMH-366 (1)	16 CH-53E																																											
MAG 16																																												
HMH-361	16 CH-53E																																											
HMH-462	16 CH-53E																																											
HMH-465	16 CH-53E																																											
HMH-466	16 CH-53E																																											
MAG 24																																												
HMH-362 (2)	10 CH-53D										P = 16																														K			
HMH-363 (2)	10 CH-53D										P = 16																																K	
HMH-463	10 CH-53D											C																		M			V											
MAG 49																																												
HMH-772	6 CH-53E																																											

A = ACTIVATE
D = DE-ACTIVATE
P = PLUS-UP IN PMAA
C = CADRE SQUADRON
M = ENTERS MV-22 TRANSITION
V = TRANSITION COMPLETE
K = INTRODUCTION OF CH-53K

SPECIFIC NOTE:
1) HMH-366 FOC 4TH QTR FY09
2) SQUADRON RELOCATES TO NEW RIVER POST CH-53K TRANSITION. HMH-362/363 WILL BE REPLACED BY A SINGLE CH-53E SQUADRON FROM THE EAST COAST.

****Basing plans are subject to change and further environmental review****

MARINE HEAVY LIFT SQUADRON GEO-LOCATION



Basing plans are subject to change and further environmental review

CH-53 Transition Task Force
Cross Functional Team (CFT) Working Issues

CFT 1 (DOCTRINE & TRAINING)

- **Completed**
  - DC (A)- approved stand up of transition task force for the CH-53
- **Ongoing**
  - CH-53D/53E Sustainment and transition to CH-53K
  - ATS Alignment & Integration
  - POA&M for HMH-463 Cadre
  - Sim laydown and alignment
- **Long Term**
  - CH-53K transition strategy including WestPac transition strategy

CFT 2 (ORGANIZATION & PERSONNEL)

- **Completed**
  - Standup of HMH-366
- **Ongoing**
  - Stabilization of VMX-22 (53 OT mission)
  - Cadre of HMH-463
  - Manpower strategy for transition to CH-53K
- **Long Term**
  - CH-53K transition strategy

CFT 3 (MATERIAL & FACILITIES)

- **Completed**
  - Stand up of HMH-366
- **On-going**
  - Cadre of HMH-463.
  - Stabilization of VMX-22.
  - Review of IMC process IOT reduce work in process (WIP) at the depot.
  - CH-53K RILSD and FIT CONOPS and manpower requirements.

CFT 3 (MATERIAL & FACILITIES Continued)

- **In-Service Sustainability**
  - CH-53D engine and rotor blade upgrades
  - SLAP/SLEP
- **Long Term**
  - 53K Transition Strategy.
    - MilCon Requirements.
    - Sundown planning for D&E.

53 TTF CHARTER: 01 Jun 07

TTF DATES:

LAST: 3-5 Feb 09

NEXT: 20-22 Oct 09 / Feb 10 (Dates TBD)

MARINE LIGHT ATTACK HELICOPTER (HMLA) PLAN

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
TOTAL SQUADRONS/UNIT PMAA											
AC AH-1W	8-18	8-18	8-18	8-18	8-18	7-18	5-18	4-18	3-18	1-18	0-0
AC UH-1N	6-9	5-9	5-9	3-9	1-9	0-0	0-0	0-0	0-0	0-0	0-0
RC AH-1W	1-18	1-18	1-18	1-18	1-18	1-18	1-18	1-18	1-18	1-18	0-0
RC UH-1N	1-9	1-9	1-9	1-9	1-9	1-9	0-0	0-0	0-0	0-0	0-0
AC AH-1Z	0-0	0-0	1-18	1-18	1-18	2-18	4-18	5-18	6-18	8-18	9-18
AC UH-1Y	2-9	3-9	4-9	6-9	8-9	9-9	9-9	9-9	9-9	9-9	9-9
RC AH-1Z	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	1-18
RC UH-1Y	0-0	0-0	0-0	0-0	0-0	0-0	1-9	1-9	1-9	1-9	1-9

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
PAA PLAN											
AC/RC PMAA											
AH-1W/UH-IN	162-63	162-54	162-54	162-27	162-18	144-9	108-0	90-0	72-0	36-0	0-0
AH-1Z/UH-1Y	0-18	0-27	18-36	18-63	18-72	36-81	72-90	90-90	108-90	154-90	180-90
TOTAL AC/RC TACTICAL	**162-81**	**162-81**	**180-90**	**180-90**	**180-90**	**180-90**	**180-90**	**180-90**	**180-90**	**180-90**	**180-90**
FRS PTAA											
AH-1W/UH-IN	17-10	15-9	15-8	15-6	15-0	15-0	15-0	12-0	12-0	0-0	0-0
AH-1Z/UH-1Y	4-6	8-9	8-9	10-10	15-10	15-10	15-10	18-10	18-10	18-10	18-10
TOTAL FRS PTAA	**21-16**	**23-18**	**23-18**	**25-16**	**30-10**	**30-10**	**30-10**	**30-10**	**30-10**	**18-10**	**18-10**
PDAA											
AH-1W/UH-IN	3-0	3-0	2-0	2-0	2-0	2-0	2-0	0-0	0-0	0-0	0-0
AH-1Z/UH-1Y	4-3	4-3	4-3	4-3	4-3	4-3	4-4	4-4	4-4	4-4	4-4
TOTAL PDAA	**7-3**	**7-3**	**6-3**	**6-3**	**6-3**	**6-3**	**6-4**	**4-4**	**4-4**	**4-4**	**4-4**
POAA											
HH-1N	3	3	3	3	3	3	0	0	0	0	0
UH-1Y	0	0	0	0	0	0	6	6	6	6	6
TOTAL POAA	**3**	**3**	**3**	**3**	**3**	**3**	**6**	**6**	**6**	**6**	**6**
BAA/PIPE											
AH-1W/UH-IN	0-5	0-5	0-5	0-5	0-5	0-5	0-0	0-0	0-0	0-0	0-0
AH-1Z/UH-1Y	0-0	0-0	0-0	0-0	0-13	0-13	0-13	0-13	0-13	0-13	0-13
TOTAL BAA/PIPE	**0-5**	**0-5**	**0-5**	**0-5**	**0-18**	**0-18**	**0-13**	**0-13**	**0-13**	**0-13**	**0-13**
PMAA PER HMLA (W/N)	**15-9**	**15-9**	**13-9**	**13-9**	**12-9**	**12-9**	**12-0**	**12-0**	**12-0**	**13-0**	**0-0**
PMAA PER HMLA (Z/Y)	**0-9**	**0-9**	**8-9**	**18-9**	**16-9**	**16-9**	**16-9**	**16-9**	**16-9**	**16-9**	**18-9**
TOTAL PAA	**184-101**	**184-101**	**202-110**	**202-110**	**202-110**	**202-110**	**202-110**	**202-110**	**202-110**	**202-110**	**202-110**
TOTAL PURCHASED	**226-123**	**226-123**	**226-123**	**226-123**	**226-123**	**226-123**	**226-123**	**226-123**	**226-123**	**226-123**	**226-123**

GENERAL NOTES:

1) IN FY09, ONE RC HMLA DEACTIVATED AND TWO AC HMLA ACTIVATED.
2) IN FY11, ONE AC HMLA ACTIVATED.
3) TOTAL PROGRAM BUY IS 123 UH-1Y AND 226 AH-1Z.
4) SQUADRONS FLIGHTLINE ENTITLEMENT WILL DROP BELOW PAA FOR AH-1 DURING 202K EXPANSION WHILE AH-1W AIRFRAMES ARE INDUCTED FOR REMANUFACTURING INTO AH-1Z.
5) VARIANCE IN TOTAL AIRFRAME NUMBERS VERSUS PAA DUE TO BAA/AA CALCULATIONS.

MARINE LIGHT ATTACK HELICOPTER (HMLA) PLAN

CURRENT FORCE:

7 AC SQDN X 18 AH-1W/9 UH-1N
1 AC SQDN X 18 AH-1W/9 UH-1Y
1 RC SQDN X 18 AH-1W/9 UH-1N
1 FRS X 15 AH-1W/14 UH-1N
2 AH-1Z/6 UH-1Y
SAR 3 X HH-46E
3 X HH-1N

FORCE GOAL:

9 AC SQDN X 18 AH-1Z/9 UH-1Y
1 RC SQDN X 18 AH-1Z/9 UH-1Y
1 FRS X 18 AH-1Z/10 UH-1Y
SAR 6 X UH-1Y

		FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	PMAA																																											
MAG-39																																												
HMLAT-303 **(1/2)**	18 AH-1/10 UH-1		Z					V																																				
HMLA-367	18 AH-1/9 UH-1	Y			V													RELOCATE TO HAWAII																											
HMLA-369	18 AH-1/9 UH-1		Y			V																								Z			V											
HMLA-169	18 AH-1/9 UH-1				Y			V																		Z			V														
HMLA-267	18 AH-1/9 UH-1					Y	Z						V	V																														
HMLA-469 **(3)**	18 AH-1/9 UH-1													Y			V									Z			V														
MAG-26/29																																												
HMLA-567 **(4)**	18 AH-1/9 UH-1													Y			V																	Z			V						
HMLA-467	18 AH-1/9 UH-1																	Y			V															Z			V				
HMLA-167	18 AH-1/9 UH-1																		Y			V															Z			V			
HMLA-269	18 AH-1/9 UH-1																			Y			V															Z			V		
MAG-24																																												
HMLA-367	18 AH-1/10 UH-1	RELOCATE FROM CONUS																														Z			V								
RESERVES																																												
HMLA-773	18 AH-1/9 UH-1																										Y			V													Z	
SAR																																												
SAR	6 UH-1Y																											Y		V													

Y = YANKEE TRANSITION BEGINS

Z = ZULU TRANSITION BEGINS

B = SIMULTANEOUS TRANSITION

V = TRANSITION COMPLETE

GENERAL NOTES:

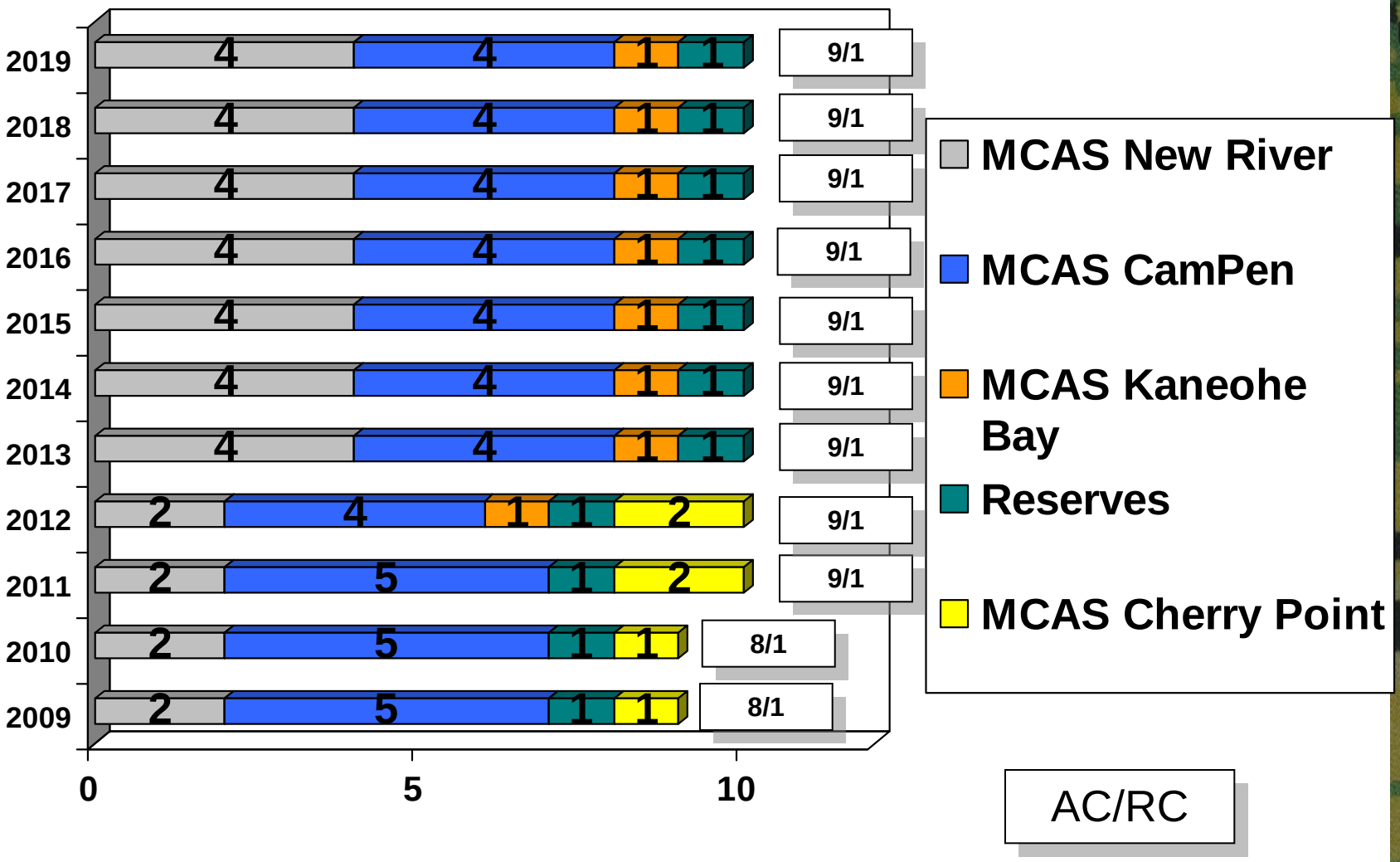
~ TRANSITION PLAN REFLECTS INCREASE IN PROCUREMENT OBJECTIVE (123 UH-1Y AND 226 AH-1Z) TO SUPPORT 9 AC AND 1 RC HMLAS BY FY11.

SPECIFIC NOTES:

1. HMLAT-303 UH-1Y RFT 2ND QTR FY08, AH-1Z RFT 2ND QTR FY10.
2. ANTICIPATE HMLAT-303 PTAA: ~FY10 FOR UH-1Y AND ~FY16 FOR AH-1Z.
3. HMLA-469 ACTIVATED 1 JUNE 09. ONE YEAR IOC TO FOC.
4. HMLA-567 STAND-UP AS AC HMLA IN FY11. WILL SERVE AS EAST COAST TTU INITIALLY.

****Basing plans are subject to change and further environmental review****

MARINE LIGHT ATTACK SQUADRON GEO-LOCATION



Basing plans are subject to change and further environmental review

UH-1Y/AH-1Z Transition Task Force
Cross Functional Team (CFT) Working Issues

CFT 1 (DOCTRINE & TRAINING)

- **Completed**
  - HMLA-467and 469 activation / HMLA-775 decommissioning
  - HMLA-773 assumed Category 3 and 4 legacy training (Aug 08)
  - HMLAT-303 UH-1N sundown plan (Jun 08)
  - UH-1Y IOC (Sep 08)
  - 1st UH-1Y deployment (Jan 09)
- **Ongoing**
  - C-5 & C-17 load platform manuals
  - Simulator lay-down and alignment
  - Preparing for first full UH-1Y squadron deployment (Fall 09)
  - MARFORPAC UH-1Y transition on schedule
- **Long Term**
  - HMLA-567 FY 11 stand-up
  - East Coast transition to UH-1Y
  - Fielding plan for AH-1Z
  - HMLA 1st MAW / WestPac laydown

CFT 2 (ORGANIZATION & PERSONNEL)

- **Completed**
  - FRS PTR/throughput validation
  - 202K endstrenth plus up for H-1 program
- **Ongoing**
  - Manpower strategy for Zulu OPEVAL requirements
  - Monitor HMLA-367/ 369 transition manning and training
  - Manage HMLA-469 stand-up manpower growth to FOC
  - Monitor population growth and contract maintenance support (CMS) within FRS to ensure requirements are being met
  - Reserve integration initiatives
  - Monitor MARU training requirements to facilitate transition
- **Long Term**
  - Assist H-1 community with reorganization initiatives that would better support Yankee and Zulu training throughput.

CFT 3 (MATERIAL & FACILITIES)

- **Completed**
  - Maintenance Publication Verification Plan UH-1Y
  - Contract Maintenance Support (CMS) for FRS
  - Performance Based Logistics (PBL) strategy/plan
  - Maintenance publication verification plan
- **Ongoing**
  - AH-1Z pub verification
  - OOMA baseline for Zulu database
  - SE/IMRL requirements for 202K squadrons
  - Damage Limits and Tolerance (DL&T)/structural repair manual
  - Funded, PMA program update
  - NDI requirements
  - Intermediate and depot requirements
- **Long Term**
  - 1st MAW Site Survey – Futenma
  - 1st MAW EA Completion (4Q FY09)
  - 2d MAW EA Completion (2Q FY10)

H-1 UPGRADES CHARTER: 01 Oct 03

TTF DATES

- LAST: July 09
- NEXT: Oct 09

Issues:

- UH-1Y, AH-1Z Delivery schedule
- OPEVAL Phase II AH-1Z way ahead
- Logistic and material supportability
- Cost growth and affordability plan

MARINE HELICOPTER SQUADRON ONE (HMX-1) PLAN

MARINE HELICOPTER SQUADRON ONE (HMX-1) PLAN

CURRENT FORCE VH-3D X 11
VH-60N X 8
CH-46E X 7
CH-53E X6

FORCE GOAL: VXX x TBD
MV-22B X 8
CH-53K X 6

		FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19				FY20			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	POAA																																												
HMX-1 QUANTICO	8 VH-3D																																												
	6 VH-60N																																												
	6 CH-46E																													M							V								
	5 CH-53E																																												

M = MV-22B TRANSITION BEGINS
V = TRANSITION COMPLETE

LONG RANGE PLANNING: CH-46 OT ELEMENT REMAINS IN PLACE TO CONT FOT&E.
CH-53E TO CH-53K TRANSITION PROJECTED NO EARLIER THAN FY17

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
AIRCRAFT TYPE/POAA											
VH-3D	8	8	8	8	8	8	8	8	8	8	8
VH-60N	6	6	6	6	6	6	6	6	6	6	6
CH-46E	6	6	6	6	6	6	6	4	0	0	0
CH-53E	5	5	5	5	5	5	5	5	5	5	5
VXX	0	0	0	0	0	0	0	0	0	0	0
MV-22B	0	0	0	0	0	0	0	2	8	8	8
TOTAL HMX-1 POAA	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**27**	**27**	**27**

RMD-802 TERMINATES VH-71 PROGRAM AND RESTARTS VXX PROGRAM IN FY11.
~ 2 MV-22 DELIVERED FY17; 2 CH-46E PHASED OUT FY18

****Basing plans are subject to change and further environmental review****

HMX-1 Transition Task Force
Cross Functional Team (CFT) Working Issues

CFT 1 (DOCTRINE AND TRAINING)

- **Completed**
  - Cockpit Upgrade Program training transition plan
    - Engineering Developmental Tool as trainer
    - Accelerate APT upgrade
- **Ongoing**
  - Cockpit Upgrade Program installation acceleration
  - HMX-1 Strategic Outlook Study
    - Phase II underway
  - Initial Capability Document
    - Supports SecDef vision of VXX "New Start" in FY11
- **Long Term**
  - Update Strategic Outlook Study

CFT 2 (ORGANIZATION AND PERSONNEL)

- **Completed**
  - Test team/transition team structure agreed upon
  - Enlisted manpower requirements agreed upon
- **Ongoing**
  - Identifying pilot structure to support VXX new start
  - Identifying enlisted structure to support VXX new start
  - Increase recruiting efforts for Communication Systems Officer billets
  - Continue efforts to utilize reserve pilots to provide mission support
  - Reduce numbers of first term maintainers
- **Long Term**
  - Staff pilot/maintainer positions to goal

CFT 3 (MATERIAL AND FACILITIES)

- **Completed**
  - New facility space utilization agreements in place
  - Move in schedule built
  - Ramp "test pour" successful
- **Ongoing**
  - Parking plan for space limited facility
  - Aircraft ramp being poured (Jan 2010 contracted completion)
  - White House Communications Agency IT services installs
  - Environmental assessment update
- **Long Term**
  - HMX-1 University
  - Co-locate all training devices and classrooms in one central facility

HMX-1 TRANSITION TASK FORCE CHARTER: 02 FEB 05

TTF DATES:

LAST: Jan 09

NEXT: Nov 09

Issues:

- Ramp completion date could affect squadron facility transition plan
- CH-46E to V-22 aircraft transition
- Pilot/maintainer training issues as squadron transitions to V-22
- Pilot/maintainer recruiting pool as squadron transitions to V-22

MARINE SEARCH AND RESCUE (SAR) PLAN

MARINE SEARCH AND RESCUE (SAR) PLAN

CURRENT FORCE: 3 X HH-46, 3 X HH-1N **FORCE GOAL:** 6 X UH-1Y

		FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	POAA																																											
MCAS CHERRY POINT																																												
VMR-1	3 HH-46E																											Y	V															
MCAS YUMA																																												
	3 HH-1N																											Y	V															

E = HH-46E TRANSITION
D = DEACTIVATION
Y = YANKEE TRANSITION
V = TRANSITION COMPLETE

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
SAR PAA PLAN											
SAR POAA											
HH-46E	3	3	3	3	3	3	0	0	0	0	0
HH-1N	3	3	3	3	3	3	0	0	0	0	0
UH-1Y	0	0	0	0	0	0	6	6	6	6	6
TOTAL SAR PAA	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**

****Basing plans are subject to change and further environmental review****

Section 7 --- Marine Fixed Wing Aviation Plan

Marine Fixed Wing Aviation Plan	7-2
TACAIR Integration Update	7-3
TACAIR Legacy to JSF Transition Plan	7-4
Marine Aerial Refueler / Transport (VMGR) Plan	7-8
Marine Electronic Attack (VMAQ) Plan	7-12
Marine Operational Support Aircraft (OSA) Plan	7-15

Marine Fixed Wing Aviation Plan

Missions

MARINE FIGHTER/ATTACK SQUADRON (VMFA): Support the MAGTF commander by destroying surface targets and enemy aircraft, and escort friendly aircraft, day or night, under all weather conditions during expeditionary, joint or combined operations.

MARINE ALL-WEATHER FIGHTER/ATTACK SQUADRON (VMFA-AW): Support the MAGTF commander by providing supporting arms coordination, conducting multi-sensor imagery, and destroying surface targets and enemy aircraft day or night, under all weather conditions during expeditionary, joint, or combined operations.

MARINE ATTACK SQUADRON (VMA): Support the MAGTF commander by destroying surface targets, and escort friendly aircraft, day or night, under all weather conditions during expeditionary, joint or combined operations.

MARINE REFUELING TRANSPORT SQUADRON (VMGR): Support the MAGTF commander by providing aerial refueling, assault support, conducting intelligence, surveillance, reconnaissance, target acquisition, indirect and direct fires adjustment, battlefield damage assessment and destroying surface targets day or night under all weather conditions during expeditionary, joint, or combined operations.

MARINE ELECTRONIC ATTACK SQUADRON (VMAQ): Support the MAGTF commander by conducting airborne electronic warfare, day or night, under all weather conditions during expeditionary, joint, or combined operations.

MARINE UNMANNED AERIAL VEHICLE SQUADRON (VMU): Conduct reconnaissance, surveillance, target acquisition, indirect fires adjustment, battlefield damage assessment (BDA) and support the rear area security plan during expeditionary, joint or combined operations.

MARINE FIGHTER TRAINING SQUADRON (VMFT): Provide adversary F-5 support to the Fleet Replacement Squadron (VMFAT-101), Fleet Squadron Core readiness training, and Weapons and Tactics Instructor (WTI) course support.

MARINE FIGHTER/ATTACK TRAINING SQUADRON (VMFAT): Conduct combat capable fighter/attack training for selected aircrews in the Joint Strike Fighter F-35B aircraft and legacy F/A-18.

MARINE ATTACK TRAINING SQUADRON (VMAT): Conduct combat capable attack training for selected aircrews in the AV-8B and provide technical training for aviation maintenance personnel.

OPERATIONAL SUPPORT AIRCRAFT (OSA): Provide time-sensitive air transport of high priority passengers and cargo to, within, and between theaters of war.

Legacy Aircraft

EA-6B:

USMC EA-6B operational capability will be sustained through 2019. The community will reorganize into three operational squadrons of seven aircraft each, and a FRS with six aircraft. The FRS will be RFT in second quarter FY10. We will also begin the transition to the ICAP III version of the Prowler with first aircraft deliveries in April 2010, and completing the transition in 2012. This structure is intended to remain until the FRS decommissions during 2016,and an operational squadron decommissions each successive year, with the last squadron decommissioning by the end of 2019. At that time, F-35B inherent capabilities, next generation jammer technology and UAS EW payloads will fulfill the venerable EA-6B ICAP-III's role.

F-18 A-D, AV-8B:

The USMC currently has twelve active VMFA/VMFA(AW) squadrons and one reserve VMFA. Two active and two reserve squadrons have been placed into cadre status to support the manpower needs of JSF transition. These squadrons will be reconstituted with the F-35B. There are currently seven active VMAs comprised of fourteen AV-8Bs aircraft apiece.

New Aircraft Test and Evaluation Updates

JSF (F-35B)

DEVELOPMENTAL TEST: Ongoing. Block I commences 2nd Qtr of FY09. First STOVL operations Fall 2009, Block II commences 2nd Qtr of FY10. Block III commences 2nd Qtr of FY11.

OPERATIONAL TEST/OPEVAL: Commences 2nd Qtr of FY12. First CQ period July-August 2012.

•*New Aircraft Test and Evaluation Updates (CONT)*

INITIAL OPERATING CAPABILITY: Will be achieved during CY 12, when the first squadron receives its complement of aircraft with required support equipment, technical publications, trained maintenance personnel and trained aircrew. (10 aircraft with 6 aircraft capable of deploying at sea or ashore).

KC-130J

DEVELOPMENTAL TEST: Complete 15 Sep 03.

HARVEST HAWK: In response to an Urgent Universal Need, the USMC is integrating a bolt-on/bolt-off ISR/weapon mission kit for use on existing KC-130J aircraft. This mission kit is designed to re-configure any KC-130J aircraft rapidly into a platform capable of performing persistent targeting ISR from a AN/AAQ-30 Targeting Sight System mounted on the aft portion of the left hand external fuel tank. Additionally, the mission kit will enable the aircraft to deliver high volumes of both precision and suppressive fires from Hellfire, Griffin, and Viper Strike munitions as well as a 30mm cannon in the future. This mission kit is designed as a complementary capability that takes advantage of the aircraft's extended endurance and will not detract from its ability to perform its primary mission of aerial refueling. IOC is anticipated for the fourth quarter of FY09. Each active component Marine Air Wing will receive three Harvest Hawk kits for a total POR of nine systems. Harvest Hawk capability is not currently planned for the reserve component.

TACAIR Integration Update

TACAIR INTEGRATION (TAI)

A revised Memorandum of Agreement was signed in March 2008. It replaces capabilities-based scheduling (CBS) with global force management (GFM) as the principal tool used in ensuring the most equitable schedule for DoN TACAIR. In addition, the MOA calls for the creation of a five-year consolidated schedule (three year execution, two year planning) updated at the annual TACAIR integration team (TAIT) conference.

The Marine Corps has three squadrons integrated into Navy Carrier Air Wings (CVWs), while the Navy has one VFA squadron integrated into the Marine Corps Unit Deployment Program (UDP.) This provides a Marine Corps "net gain" of two squadrons. With the growth of a fourth VMFA to a CVW, the Marine Corps will move to a net gain of three squadrons starting in FY12.

F/A-18 SERVICE LIFE MANAGEMENT PROGRAM (SLMP)

The health of our F/A-18 inventory is critical to the success of TAI and the Department of the Navy's TACAIR support to the warfighter. This aircraft is also critical to the success of the MAGTF.

The current Center Barrel Replacement Plus (CBR+) program will extend the life of the Lot 17 and below aircraft (421 total) to 1.0 Wing Root Fatigue Life (WRFLE).

In November 2007, Commander, Naval Air Forces (CNAF) and DC(A) released a message outlining a program to better manage our use of Hornet service life. Under this program, service life is managed for each individual aircraft enabling a more comprehensive and efficient approach to aircraft service life preservation. In addition, the Service Life Assessment Program (SLAP) will determine investments required to extend the F/A-18 A+/C/D to 10,000 Flight Hours. Earlier phases of this program extended the catapult and landing limits of the A+/C/D to 2700 and 14,500 respectively (1500 catapults and 17,000 landing for the F/A-18D).

These continuing efforts are critical to preserving the inventory bridge to F-35B IOC in 2012.

TACAIR LEGACY TO JSF TRANSITION PLAN

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
TOTAL SQUADRONS											
FA-18A+/C	8	8	8	8	8	8	7	6	6	6	5
FA-18D	5	5	5	5	4	3	3	2	1	0	0
AV-8B	7	7	7	7	7	6	5	5	4	3	2
F-35B	0	0	0	1	2	3	5	7	9	11	13
FA-18 FRS	1	1	1	1	1	1	1	1	1	1	1
AV-8B FRS	1	1	1	1	1	1	1	1	1	1	0
F-35B FRS	0	1	1	1	1	2	2	2	3	3	3
F-5N/F	1	1	1	1	1	1	1	1	1	1	1

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
PAA PLAN											
AC/RC PMAA											
FA-18A+/C	96	96	96	96	96	96	84	72	72	72	60
FA-18D	60	60	60	60	48	36	36	24	12	0	0
AV-8B	98	98	98	98	98	84	70	70	56	42	28
F-35B	0	0	0	6	19	26	49	77	94	114	137
F-5N/F	13	13	13	13	13	13	13	13	13	13	13
TOTAL AC/RC TACTICAL	**267**	**267**	**267**	**273**	**274**	**255**	**252**	**256**	**247**	**241**	**238**
FRS PTAA											
FA-18A/C	18	18	21	21	21	19	19	18	17	15	10
FA-18B/D	17	17	17	17	17	15	15	15	15	15	10
AV-8B	14	14	14	14	10	10	10	8	8	6	0
TAV-8B	14	14	14	14	10	10	10	8	8	6	0
F-35B	0	1	10	12	18	28	32	34	48	54	60
TOTAL FRS PTAA	**63**	**64**	**76**	**78**	**76**	**82**	**86**	**83**	**96**	**96**	**80**

- Operational commitments, contingency plans, and service life expenditure rates may change T/M/S turnover sequence

TACAIR LEGACY TO JSF TRANSITION PLAN

CURRENT FORCE:

7 AC VMFA SQDN x 12 F/A-18 A/C

5 AC VMFA(AW) SQDN x 12 F/A-18D

1 RC VMFA SQDN x 12 F/A-18C

7 AC VMA SQDN x 14 AV-8B

1 FRS x 28 AV-8B/TAV-8B

1 FRS x 36 F/A-18 B/C/D

FORCE GOAL:

14 AC VMFA SQDN x 10 F-35B

7 AC VMFA SQDN x 16 F-35B

3 RC VMFA SQDN x 10 F-35B

3 FRS SQDN x 20 F-35B

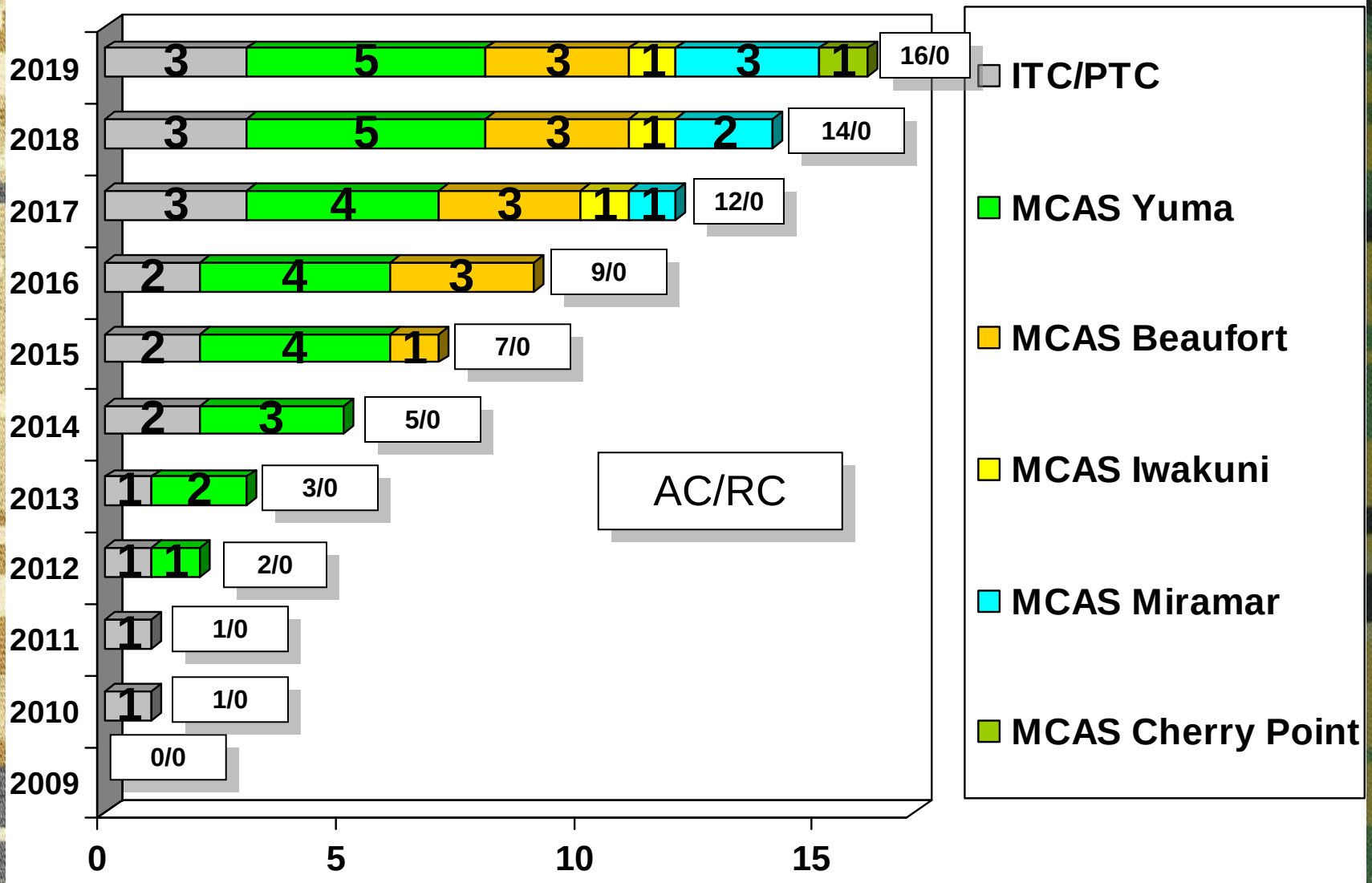
		FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	PMAA																																											
MAG-31 / Eglin AFB																																												
VMFAT-501	20 F-35B							N																																				
MAG-13																																												
VMFA-332	10 F-35B									C				B																														
VMFA-212	10 F-35B													C				B																										
VMFA-3	10 F-35B															T					B																							
VMFA-4	10 F-35B																					T			B																			
VMFA-10	10 F-35B																																	T			B							
MAG-31																																												
VMFA-5	10 F-35B																		T						B																			
VMFAT-502	20 F-35B																				N																							
VMFA-6	10 F-35B																									T			B															
VMFA-7	10 F-35B																									T			B															
VMFAT-503	20 F-35B																																N											
MAG-12																																												
VMFA-8	16 F-35B																													T			B											
MAG-11																																												
VMFA-9	10 F-35B																													T			B											
VMFA-11	10 F-35B																																	T			B							
VMFA-12	10 F-35B																																					T			B			
VMFA-14	10 F-35B																																									T			B
MAG-14																																												
VMFA-13	10 F-35B																																								T			B
RESERVES																																												

Note: JSF transition continues beyond FY19 to include the reserves.

B = Transition complete, initial complement of aircraft, equipment, and trained personnel assigned
C = Commencement of transition from a Cadre status
N = New squadron, applies to F-35B FRS squadrons; VMFAT-501, VMFAT-502, and VMFAT-503
T = Commencement of transition from a legacy TACAIR squadron

****Basing plans are subject to change and further environmental review****

F-35B SQUADRON GEO-LOCATION



Basing plans are subject to change and further environmental review

JSF Transition Task Force
Cross Functional Team (CFT) Working Issues

CFT 1 (DOCTRINE AND TRAINING)

- **Completed**
  - Aircrew training requirements and flow
  - Beddown and transition plan (updated)
  - Transition Pilot selection 1st Board, 2nd Board Aug 09
- **Ongoing**
  - 1000 series T&R development
  - 2000-6000 series T&R development
  - Transition Pilot selection 3rd Board
  - DT/OT&E execution and preparation
- **Long Term**
  - IOC Readiness preparation with NAVAIR
  - L Class/CVN ship integration

CFT 2 (ORGANIZATION AND PERSONNEL)

- **Completed**
  - MCBUL 5400 issued for VMFAT-501
  - MMR&A coordination for standup of VMFAT-501
- **Ongoing**
  - Personnel security clearance processing
  - Manpower transition template for conversion from legacy squadrons to F-35B
  - Standup of VMFAT-501
- **Long Term**
  - JSF transition career path mitigation
  - 1st operational squadron STOVL IOC (CY 12)

CFT 3 (MATERIAL AND FACILITIES)

- **Completed**
  - Record of Decision to commence building Joint Integrated Training Center at Eglin AFB (Jan 09)
  - Facilities plans for MCAS Yuma, MCAS Beaufort, and MCAS Iwakuni
- **Ongoing**
  - EIS East and West Coast for basing decisions (09-10)
  - MilCon planning for MCAS Yuma, MCAS Beaufort, and MCAS Iwakuni
  - USMC Pilot Training Center ready for training (FY14)
  - Deployable ALIS CONOPS and development
- **Long Term**
  - Maintenance CONOPS development
  - Global Sustainment planning

F-35B CHARTER: 14 August 2003

TTF DATES

- LAST: 5-8 May 09
- NEXT: 1 QTR FY10

TTF FY09 Decision Points

- Full Mission Simulator/ALIS Delivery Plans
- Performance Based Logistics plan
- LRIP IV Full Rate production, LRIP V Request for Proposal
- Training syllabus 2000-6000 level approval

MARINE AERIAL REFUELER/TRANSPORT (VMGR) PLAN

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
PAA PLAN											
AC/RC PMAA											
KC-130J	38	45	47	47	47	49	54	60	66	69	69
KC-130T	24	24	24	24	24	20	15	9	3	0	0
TOTAL AC/RC PMAA	**62**	**69**	**71**	**71**	**71**	**69**	**69**	**69**	**69**	**69**	**69**
TOTAL PAA	**63**	**70**	**72**	**72**	**72**	**70**	**70**	**70**	**70**	**70**	**70**

NOTE: PMAA FOR AC VMGR SQUADRONS IS PLANNED TO INCREASE TO 15 (+3) IN FY11.
PRECISE TIMELINE IS TBD BASED ON PROCUREMENT PACE OF THE KC-130J PROGRAM OF RECORD (POR).
TOTAL AIRCRAFT INVENTORY (TAI) IS 79 KC-130J AIRCRAFT.
PDAA IS 1 KC-130J AIRCRAFT.
PIPELINE/ATTRITION AIRCRAFT INTRODUCED BEGINNING IN FY19.

MARINE AERIAL REFUELER/TRANSPORT (VMGR) PLAN

CURRENT FORCE: 2 AC SQDN X 12 KC-130J
1 AC SQDN X 11 KC-130J
2 RC SQDN X 12 KC-130T

FORCE GOAL: 3 AC SQDN X 15 KC-130J
2 RC SQDN X 12 KC-130J

UNIT/LOCATION	PAA	FY10 1 2 3 4	FY11 1 2 3 4	FY12 1 2 3 4	FY13 1 2 3 4	FY14 1 2 3 4	FY15 1 2 3 4	FY16 1 2 3 4	FY17 1 2 3 4	FY18 1 2 3 4	FY19 1 2 3 4	FY20 1 2 3 4
MAG-11 MIR												
VMGR-352	12 KC-130J	P										
MAG-12 IWK	11 KC-130J											
VMGR-152												
MAG-14 CPT												
VMGR-252	12 KC-130J	P										
MAG-36 FUT												
VMGR-152	9 KC-130J	P			RELOCATES TO IWAKUNI							
MAG-49 WLG												
VMGR-452 STW	12 KC-130T	RETIRE AS KC-130JS DELIVER										
VMGR-452 STW	KC-130J						J	V				
MAG-41 FTW												
VMGR-234	12 KC-130T	RETIRE AS KC-130JS DELIVER										
VMGR-234	KC-130J								J	V		

J = KC-130J TRANSITION BEGINS
V = TRANSITION COMPLETE
P = PMAA INCREASES TO 15

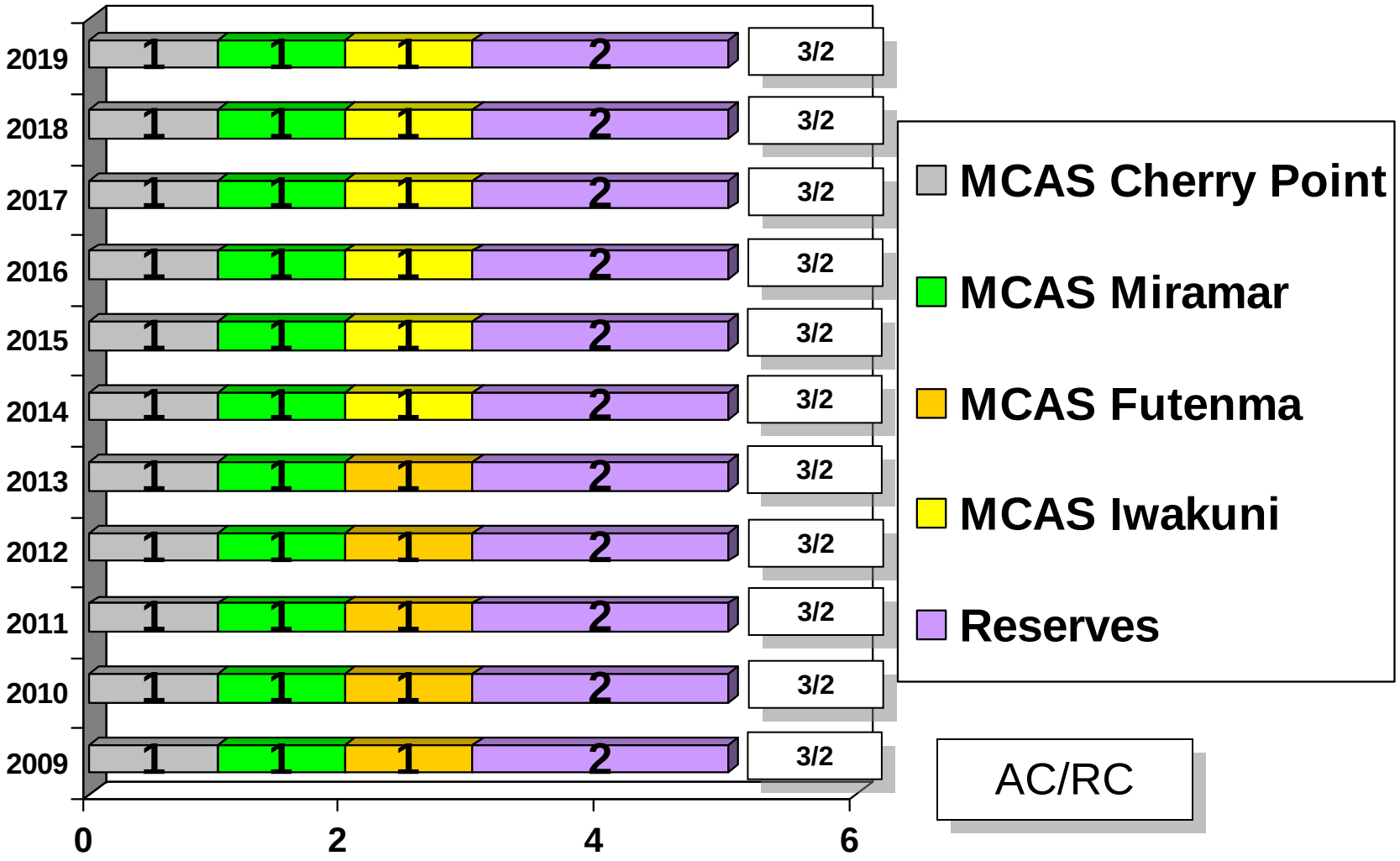
GENERAL NOTES:
~ TRANSITION PLAN AS DEPICTED IS DC(A) APPROVED BY LOCATION AND UNIT.

TOTAL SQUADRONS		FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
AC KC-130J		2-12	1-12									
AC KC-130J		1-13	2-15	3-15	3-15	3-15	3-15	3-15	3-15	3-15	3-15	3-15
RC KC-130T		2-12	2-12	2-12	2-12	2-12	1-9					
RC KC-130T							1-12	1-12				
RC KC-130J							1-3	1-8	1-8	1-12		
RC KC-130J									1-6	1-8	2-12	2-12

NOTE: PROGRAM OF RECORD IS 51 ACTIVE COMPONENT AND 28 RESERVE COMPONENT KC-130J AIRCRAFT. REQUIREMENT IS FOR 3 AC SQUADRONS OF 15 AIRCRAFT (PMAA), 2 RC SQUADRONS OF 12 AIRCRAFT (PMAA) PLUS 1 OT KC-130J AIRCRAFT AT VX-20 AND 9 KC-130J PIPELINE/ATTRITION AIRCRAFT.

****Basing plans are subject to change and further environmental review****

MARINE AERIAL REFUELER/TRANSPORT SQUADRON GEO-LOCATION



Basing plans are subject to change and further environmental review

KC-130J Transition Task Force
Cross Functional Team (CFT) Working Issues

CFT 1 (DOCTRINE AND TRAINING)

- **Completed**
  - KC-130J pilot training (sim only) established (CHPT) – 6 Jun 06
  - KC-130 FRS deactivated – 14 Sep 06
  - KC-130T pilot training (sim only) established (Ft Worth) – 1 Jan 07
  - Interservice Executive Order for collocated KC-130J maintenance training at Little Rock (LR) AFB signed – 7 Nov 07
  - Withdrawal from the ITRO agreement for consolidated USAF C-130J pilot training at JMATS, LR AFB – 16 May 08
  - KC-130F/R pilot training terminated (VMGR-152) – 1 Jun 08
  - KC-130J pilot training expanded to include Miramar – 1 Oct 08
- **On-going**
  - POA&M for converting maintenance training from legacy to KC-130J & moving to Little Rock AFB (LRAFB) in FY10
  - POA&M for KC-130T maintenance training at Ft Worth
  - POA&M to combine KC-130J enlisted aircrew into a single MOS (Crewmaster)
- **Long Term**
  - POA&M for reserve component KC-130J transition

CFT 2 (ORGANIZATION AND PERSONNEL)

- **Completed**
  - MCBUL 5400 FRS deactivation MSG DTG 031944Z APR 06
  - KC-130J T/O review conference conducted – Feb 08
  - 1st MAW KC-130J T/O changeover – 1 Oct 08
  - KC-130J ATU assigned to ATS East – 1 Oct 08
  - KC-130J ATU OIC assigned as the KC-130J Model Manager
  - KC-130J NATOPS Program Manager assigned to the KC-130J ATU
- **Ongoing**
  - Active Component PMAA increase implementation NLT 1 Oct 09
  - POA&M to combine KC-130J enlisted aircrew into a single MOS (Crewmaster)
  - Tactical Systems Operator sustainment and drawdown
- **Long Term**
  - KC-130J aircrew and maintainer distribution throughout the fleet – M&RA
  - KC-130 Tactical Systems Operator sundown
  - KC-130 Loadmaster and Crew Chief sundown

CFT 3 (MATERIAL AND FACILITIES)

- **Completed**
  - Cherry Point KC-130J sim operational – 6 Jul 06
  - CNATTMARU training aircraft operational – 10 Aug 06
  - Miramar KC-130J sim operational – Mar 07
  - Futenma KC-130J sim operational – Aug 08
  - Legacy KC-130F/R divestment – Feb 09
  - USMC barracks repair/renovation at LR AFB – Aug 09
- **Ongoing**
  - 1st MAW KC-130J phased transition in progress through Nov 2010 (15 PMAA)
  - 2nd & 3rd MAW KC-130J PMAA increase to 15 PMAA – FY11
- **Long Term**
  - KC-130J Sim and facility MILCON for Stewart ANGB, NY
  - KC-130J Sim and facility MILCON for NAS JRB Ft Worth
  - VMGR-152 relocation to Iwakuni
  - KC-130J Sim relocation to Iwakuni
  - KC-130J support facilities at Iwakuni

KC-130J CHARTER: 14 Aug 03

TTF DATES

LAST: 12-14 May 09
NEXT: 7-9 Dec 09

TTF FY09 DECISION POINTS

Crewmaster

- Crewmaster implementation begins on 1 Oct 09
- APP - Coordinate with CNRFC N7 to leverage Navy Loadmaster syllabus for Crewmaster initial accession and conversion training
- KC-130J ATU – Develop in-house Crewmaster conversion syllabus for career KC-130J aircrew and an AD syllabus for 2nd tour aircrew

Harvest Hawk

- 3rd MAW to provide aircrew for initial training and deployment

MARINE ELECTRONIC ATTACK (VMAQ) PLAN

		FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	PMAA/PTAA																																											
MAG-14 NKT																																												
VMAQ-1	7 EA-6B	5				7				7				7				7				7				7				7				7				0				0			
VMAQ-2	7 EA-6B	5				7				7				7				7				7				7				7				7				7				7			
VMAQ-3	7 EA-6B	5				7				7				7				7				7				7				7				7				7				0			
VMAQ-4	5 EA-6B	5				0				0				0				0				0				0				0				0				0				0			
VMAQT-4	6 EA-6B	0				6				6				6				6				6				6				6				0				0				0			

VMAQ squadron stand down begins FY16 and is completed by FY19.
USMC EA-6B organizational structure per MROC DM will be FRS (6 a/c) and 3 operational squadrons (7 a/c each)

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
TOTAL SQUADRONS/UNIT PMAA											
AC EA-6B PMAA	4	3	3	3	3	3	3	3	3	2	1
AC EA-6B PTAA	0	1	1	1	1	1	1	1	0	0	0

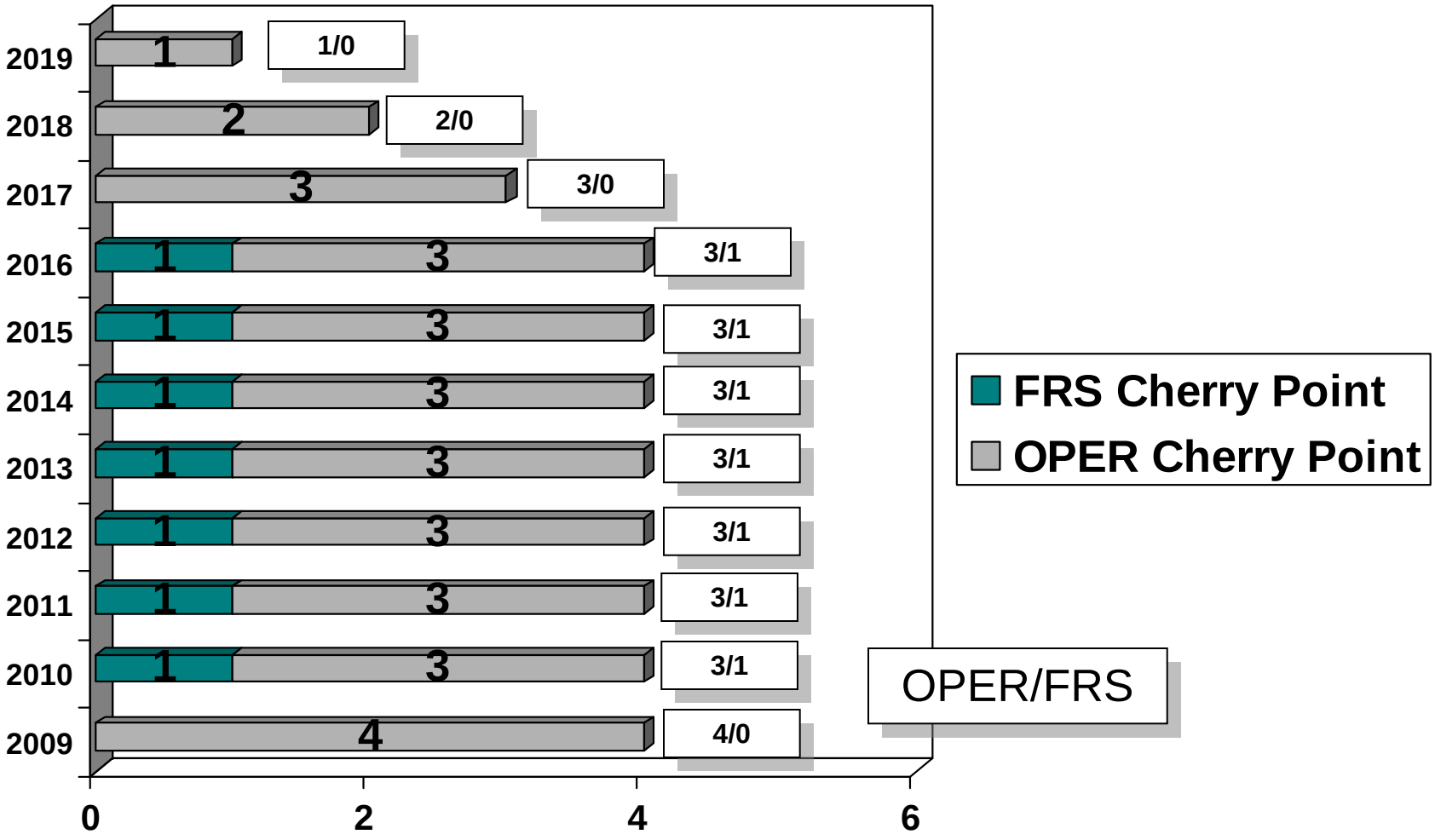
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
PAA PLAN											
AC PMAA/PTAA											
EA-6B PMAA	20	21	21	21	21	21	21	21	21	14	7
EA-6B PTAA	20	6	6	6	6	6	6	6	0	0	0
TOTAL AC PMAA/PTAA	20	27	27	27	27	27	27	27	21	14	7

		FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19			
SIMULATOR PLAN		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TYPE/LOCATION	DEVICE																																											
EA-6B NKT	OF/NT 2FI43	1												D																															
EA-6B NKT	2F185									1																																			
EA-6B NKT	WST 2F187													1																															
EA-6B NKT	1.50E+44					1																																						
EA-6B RJOI	WST 2F178	1																																										
EA-6B NKT	FS/WST 2F188					1																																						

D = Decommission

****Basing plans are subject to change and further environmental review****

MARINE ELECTRONIC ATTACK SQUADRON GEO-LOCATION



Basing plans are subject to change and further environmental review

EA-6B Transition Task Force
Cross Functional Team (CFT) Working Issues

CFT 1 (DOCTRINE AND TRAINING)

- **Completed**
  - EA-6B maintenance MOS generation for USMC will remain with CNATTU Whidbey Island
- **Ongoing**
  - EA-6B T&R manual is being staffed for DC/A signature
- **Long Term**
  - Move pilot and ECMO training to MCAS Cherry Point (FY10)

CFT 2 (ORGANIZATION AND PERSONNEL)

- **Completed**
  - Pilot and ECMO production requirements established
- **Ongoing**
  - Move MATSG-53 and VAQ-129 T/O's to 2d MAW / MAG-14
  - VMAQ T/O's at TFSD for approval and implementation
  - Redesignate VMAQ-4 as VMAQT-4 (Nov 09)
  - Establish CSS billets and structure to support selected course of action
- **Long Term**
  - Fleet redistribution of qualified EA-6B aircrew and maintainers throughout the active component squadrons – M&RA

CFT 3 (MATERIAL AND FACILITIES)

- **Completed**
  - EA-6B 2F185 simulator move from Whidbey Island to Pt. Mugu for upgrades
  - EA-6B 15E43 relocation funded IOT be operational aboard MCAS Cherry Point RFT 2nd QTR FY10
- **Ongoing**
  - 2nd MAW EA-6B simulator facility upgrades to house 2F185 and 15E43 EST completion – 4th QTR FY09
  - Determine facility requirements to support selected course of action
  - Establish 2 full ICAP III simulators aboard Cherry Point FY10
- **Long Term**
  - Establish POA&M for IMRL, SE and associated EA-6B gear transition from USN to USMC

TTF DATES

LAST: Mar 09
NEXT: Sep 09

(Monthly until POA&M established)

TTF FY10 DECISION POINTS

- FRS to be established at MCAS Cherry Point RFT 3rd QTR FY10
- ICAP III introduction schedule. First ICAP III aircraft arrives Mar 2010

MARINE OPERATIONAL SUPPORT AIRLIFT (OSA) PLAN

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
POAA PLAN											
UC-12F/B	5	2	0	0	0	0	0	0	0	0	0
UC-12RA	6	9	11	11	11	11	11	11	11	11	11
UC-35C/D	12	12	12	12	12	12	12	12	12	12	12
C-20G	1	1	1	1	1	1	1	1	1	1	1
C-9	2	2	2	2	0	0	0	0	0	0	0
C-40	0	0	0	0	2	2	2	2	2	2	2
TOTAL	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**

MARINE OPERATIONAL SUPPORT AIRLIFT (OSA) PLAN NEW

CURRENT FORCE: 12 UC-35C/D
11 UC-12B/F/W
1 C-20G
2 C-9B

FORCE GOAL: 12 UC-35ER
11 UC-12W
1 C-20G
2 C-40

UNIT/LOCATION	PAA	FY10 1 2 3 4	FY11 1 2 3 4	FY12 1 2 3 4	FY13 1 2 3 4	FY14 1 2 3 4	FY15 1 2 3 4	FY16 1 2 3 4	FY17 1 2 3 4	FY18 1 2 3 4	FY19 1 2 3 4	FY20 5 6 7 8
MCAS CHERRY PT												
VMR-1	2 UC-35D											
	2 C-9B											
	2 C-40A					T						
MCAS NEW RIVER												
VMR DET NR	2 UC-12B											
	2 UC-12RA	T										
MCAS BEAUFORT												
VMR DET BFT	1 UC-12B											
	1 UC-12RA			T	**							
MCAS MIRAMAR												
VMR DET MIR	2 UC-35D											
	1 UC-12F											
	1 UC-12RA			T	**							
MCAS YUMA												
VMR DET YUMA	2 UC-12B											
	2 UC-12RA			T	**							
MCAF K-BAY												
VMR DET K-BAY	1 C-20G											
MCAS FUTENMA												
VMR DET FUT	3 UC-35D											
	1 UC-12F											
	1 UC-12RA			T	**							
MCAS IWAKUNI												
VMR DET IWA	2 UC-12F											
	2 UC-12RA	T	*									
NAF ANDREWS												
VMR DET AND	3 UC-35D											
	1 UC-12B											
	1 UC-12RA	T										
NAS JRB NO												
VMR DET BC	2 UC-35B											
	1 UC-12B											
	1 UC-12RA	T										

T = Transition * MAB 5/09 decision to transition VMR Det Iwakuni prior to VMR Det Yu ** Transition plan subject to acquisition of Block II aircraft.

****Basing plans are subject to change and further environmental review****

Marine OSA Transition

Today → **Tomorrow**

C-9B →  →  → **C-40A**

UC-12B
UC-12F →  →  → **UC-12W**

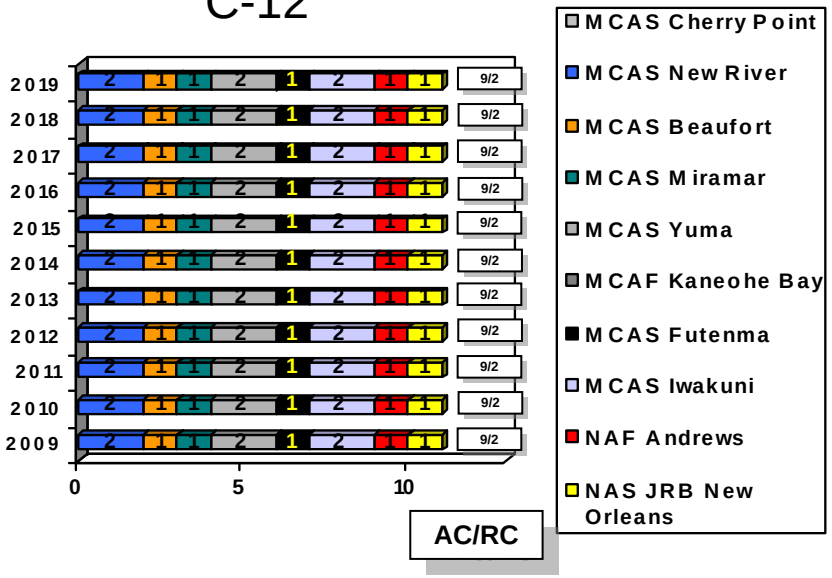
C-20G
UC-35C
UC-35D →   →  → **UC-35RA(ER)**

TBD

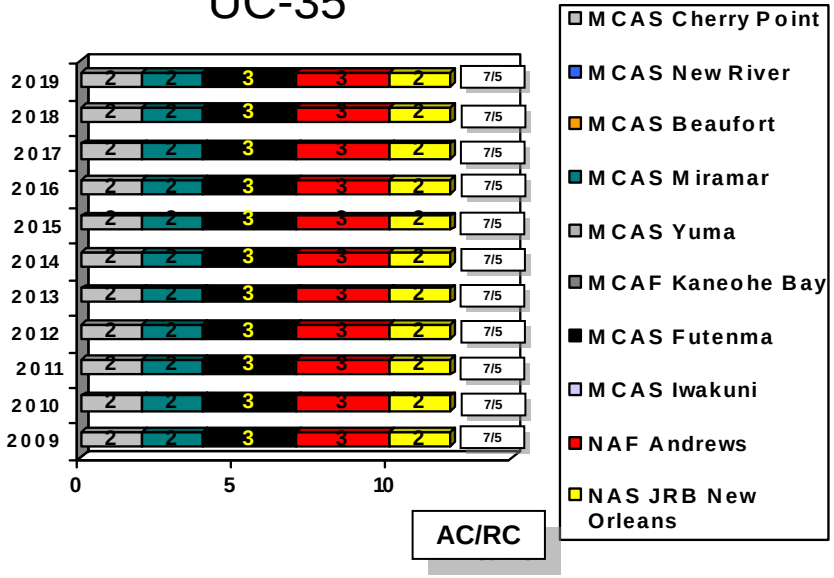
Marine OSA: Reduce from six TMS to three TMS

MARINE OPERATIONAL SUPPORT AIRCRAFT GEO-LOCATION

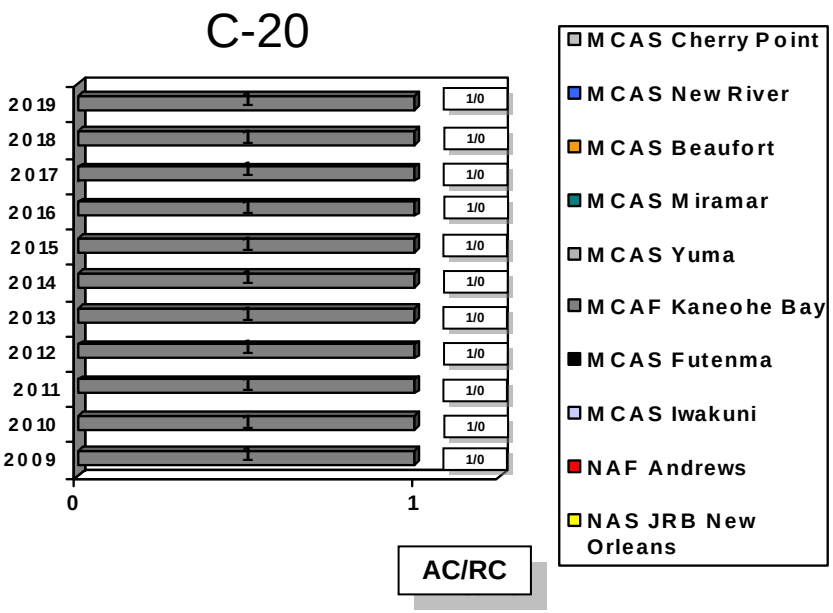
C-12



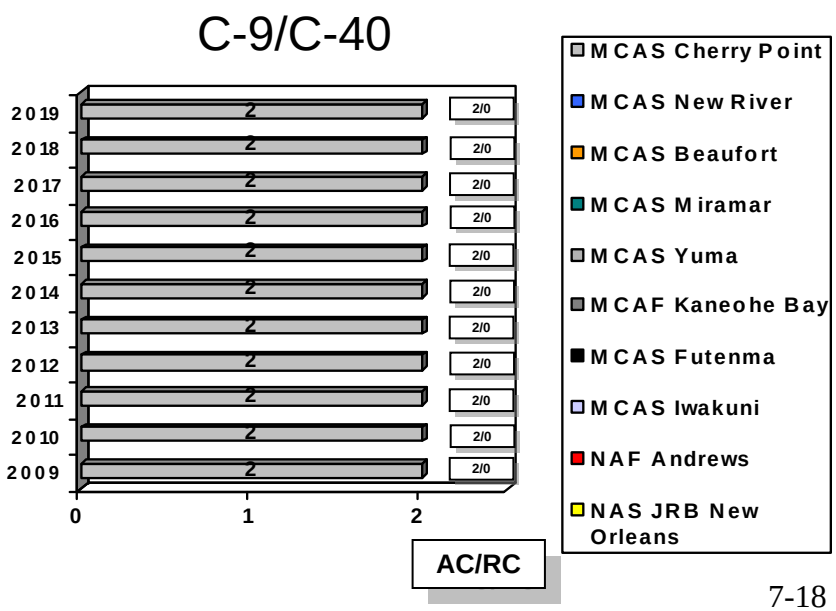
UC-35



C-20



C-9/C-40



Section 8 --- Tactical Air Control Party (TACP)

TACP Manpower and Equipment	8-2
TACP Manning Update	8-3
TACP Equipment Update	8-6

Tactical Air Control Party Manpower and Equipment

Manpower

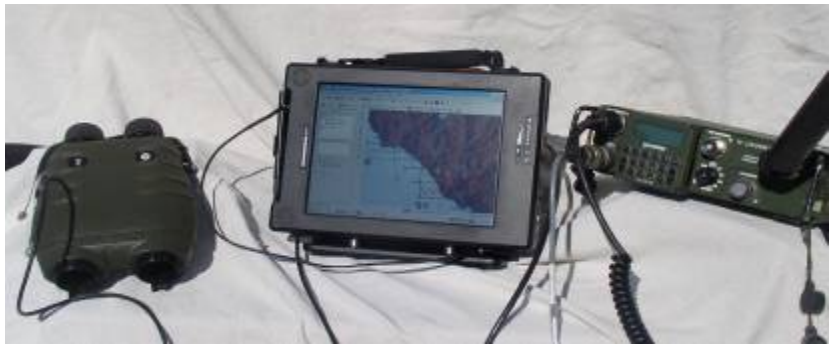
Due to aviation integration requirements, the USMC has increased the number of Joint Terminal Attack Controllers (JTACs) and begun the production of Joint Fires Observers (JFOs) to provide terminal controllers at each maneuver company and a qualified observer at the platoon level. The resulting increase of JTACs and production of JFOs allows aviation's precise firepower to be employed throughout the distributed battlefield.

The 2012 Uncompensated Review Board's (URB) approval of three Forward Air Controllers (FACs)/three JTACs per battalion (BN), coupled with an assigned secondary MOS and career path for JTACs, defines the path forward for the BN TACP composition.

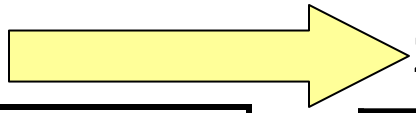
Equipment

In 2002 and 2005, Urgent Universal Need Statements (UUNS) were submitted requesting the most current equipment available to support the deployed TACP teams. Subsequent to the second UUNS, the Marine Corps Equipment Review Group developed a capability set (equipment) for all Marine Corps TACPs based on the requirements defined in the UUNS. This action provided the basis for standardizing, expanding and institutionalizing the TACP suite throughout the Marine Corps.

The equipment within the TACP suite is separated into three capability areas; target location, designation and handoff (TLDH); situational awareness and night vision; and communications.

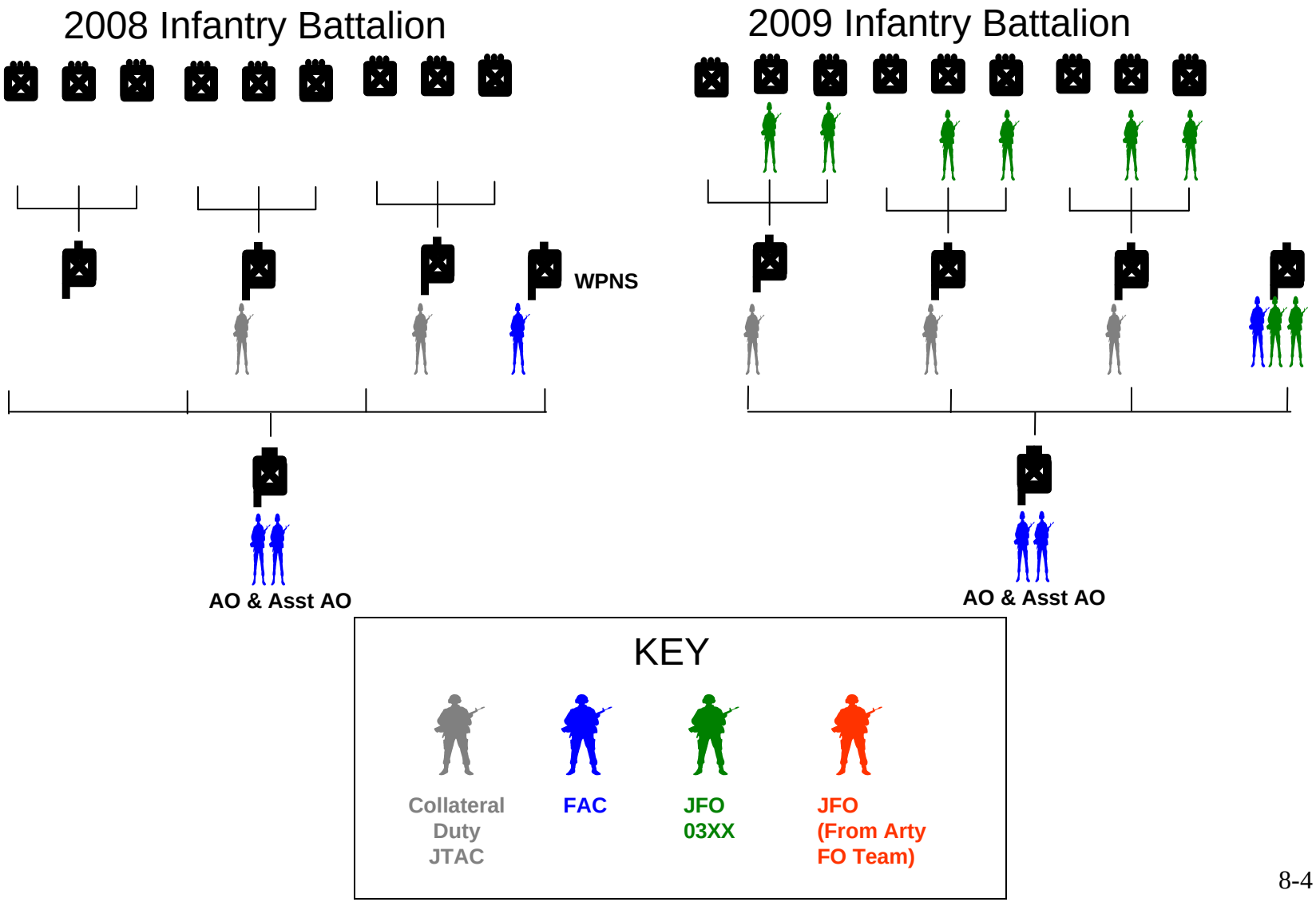


Driving the 2012 URB Increase

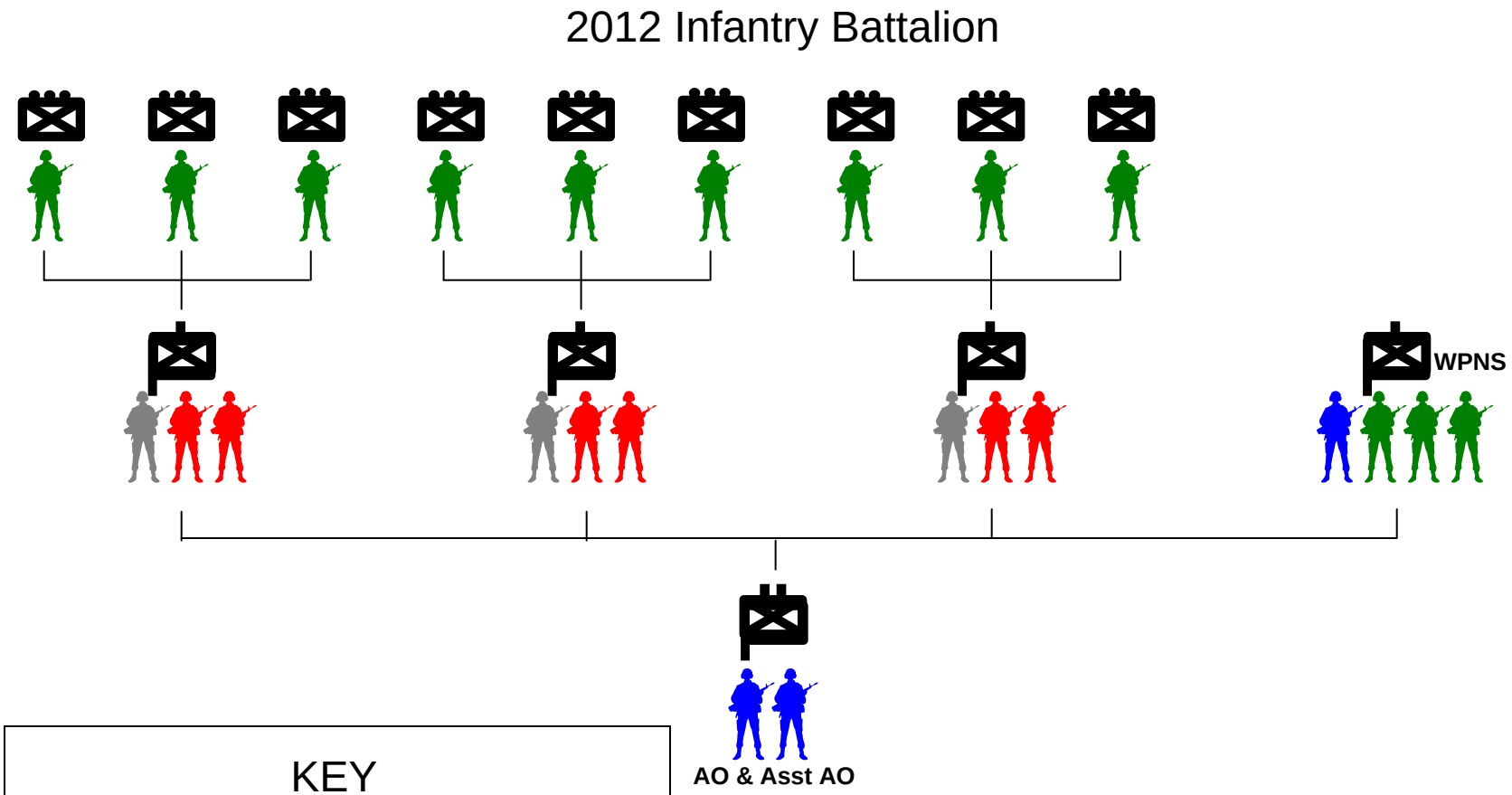


	2008	2012 (202K)
Who serves as JTACs?	Any ground combat arms SNCO or above	0861 Sgts and above
Type of duty	Collateral Duty	Primary duty with MOS billet fill requirement and separate line number on unit T/Os
BN TACP Makeup	(1) Air Officer (AO) (1) Assistant Air Officer/FAC (1) FAC (2) JTACs	(1) AO (1) Assistant AO/FAC (1) FAC (3) JTACs No reduction of aviators or FAC production
JTAC Requirement	A/C: 169 R/C: 62 Total Force: 231 JTACs routinely replaced annually	A/C: 213 R/C: 72 Total Force: 285 JTACs to serve in billet for 3 yrs
FAC Requirement	A/C: 196 R/C: 52 Total: 248	A/C: 207 R/C: 55 Total:262

2008 vs 2009 JTAC/FAC/JFO BN T/O



2009-2012 JTAC/FAC/JFO ENDSTATE



Tactical Air Control Party Equipment Update

Capability: Target Location, Designation and Handoff System (TLDHS)

TLDHS Blk II Strikelink

Strikelink is software that runs on a ruggedized computer tablet that enables FACs/JTACs to communicate digitally with two versions of the AV-8B, four versions of the F/A-18, and the F-16 Block 40. The Precision Strike Suite-Special Operations Forces software is loaded on the fielded computer tablets. Block II began fielding in Dec 07, is approximately 40% complete, and is scheduled to be finished in December 2011.

Common Laser Range Finder (CLRF)/Vector 21

The Vector 21 (which is fielded with a Defense Advanced GPS Receiver (DAGR) and PVS-14) is a laser range finder that can provide a target location within 50m, day and night. The Vector 21 began fielding in 2005 and was completed in July 2009.

Portable Laser Designator Rangefinder (PLDR)

The PLDR is the replacement for the interim laser designator, the Ground Laser Target Designator II (GLTD), and began fielding in Jan 08. Approximately 42% of systems are fielded; delivery is scheduled to be complete in November 2010. The PLDR provides a laser designation capability out to 5000m at a lighter weight than the GLTD II and antiquated Modular Universal Laser Equipment (MULE).

Infrared Zoom Laser Illuminator Designator (IZLID) 1000

The IZLID 1000 is a long-range infrared (IR) laser for pointing and marking used by forces on the ground and in the air. It completed fielding in July 2009.

Capability: Situational Awareness and Night Vision

AN/PVS-14

The AN/PVS-14 provides extended range night vision capability. It is issued as a component of the Vector 21.

Thermal Laser Spot Imager (TLSI)

The Kollsman TLSI with Enhanced Targeting Sight provides the capability to see the laser spot generated by the FAC/JTAC's laser designator or a self-lasing aircraft as well as providing thermal imaging capability. Fielding was completed in September 2009.

Thermal Imager

The Kollsman Long Range Thermal Imager provides the FAC/JTAC a long range target location capability for both day and night operations. Fielding to the operating forces was completed in May 2009.

Video Scout (VS)

VS is a system procured in response to an UUNS and further expanded based on DoD ISR Task Force efforts. It provides the capability to view near-real-time video feed from unmanned aircraft systems or aircraft equipped with targeting pods. The system has the capability to record (and later manipulate) video feeds and contains a map based video recall features while being fully self-contained (terminal, receiver and antenna all in one piece of equipment vice numerous cable connections). The Video Scout will replace the ROVER in the TACP suite. The first fifty systems are operating in OEF and OIF. Fielding is at 30% with a scheduled completion date of October 2010.

Tactical Air Control Party Equipment Update (cont.)

Capability: Communications

AN/PRC-117F

Primary TACP radio. Provides UHF, VHF and SatCom capability. Ongoing Fielding throughout the Marine Corps.

AN/PRC-148

Similar capabilities of PRC-117 but in much smaller hand-held version. Ongoing fielding throughout the Marine Corps.

AN/PRC-150

Provides HF capability utilized for tactical air/helicopter request nets. Ongoing fielding throughout the Marine Corps.

Dual-channel headset

Will provide FACs/JTACs ability to monitor 2 channels and keep hands free to operate other fire support equipment. Materiel solution identified and contract review is currently in process.

Equipment Summary

The planned distribution of the TACP Suite is to all FACs and JTACs in Infantry, Tank, LAR and Reconnaissance battalions and MARSOC. Supporting establishment schoolhouses will receive varying quantities of the equipment within the suite based on student ratios and plans of instruction. The current requirement is for 332 “suites” of equipment. Each individual item is fielded separately and compiled into the TACP “suite” by the Air Officer at the battalion level.

Dual Channel Headset

Starting in July fiscal year (FY) 09, 1500 dual channel headsets will Be fielded to the Operating Forces. Primary focus will be OEF and OIF.

AN/PRC-152

FY10 initiative. Replace all TACP PRC-148s with PRC-152s and gives the FAC and JTAC the same tactical radio fielded to the maneuver elements.

Future Initiatives

Remote Video Viewing Terminal (RVVT)

POM 10 initiative. Forward Air Controllers have identified the need for a smaller, hand-held variant of the VideoScout system that is man-portable and optimized for 72-hour dismounted patrols. The RVVT Program of Record will focus on developing a smaller, lighter, and less-complex ISR terminal to be used by both FACs and JTACs. Full rate production scheduled for first quarter of FY 13.

True North Module (TNM)

FY 10 RDT&E initiative. Due to magnetic interference, the digital magnetic compass (DMC) within current target location systems does not allow the operator to generate the coordinates needed for precision munitions.

The TNM will focus on achieving a targeting solution without the DMC.

Lightweight Designator

Operating forces have identified a need for a light-weight designator and daytime marking system. Current systems are utilized in static locations or on Forward Operating Bases and are too large and complex for foot-mobile patrols. Currently seeking off-year FY11 initiative.

JETs

POM 12 initiative for the Joint Effects Targeting System. Divided into two efforts: Target Location and Designation System (TLDS) and Target effect Coordination System (TECS). Army PEO Soldier is the lead on the program. This will give the operator the capability to precisely locate, designate, and hand off mensurated coordinates through a digital network to fire support systems. Ultimately, the future targeting process will occur within one joint hand-held system. JETS is scheduled to be initial operations capable (IOC) in FY 16.

Section 9 --- Aircraft Survivability Equipment (ASE) Plan

Marine Assault Support ASE Plan	9-2
Marine Assault Support ASE Roadmap	9-3
Marine Fixed-Wing ASE Plan	9-4
Marine Fixed-Wing ASE Roadmap	9-5

Marine Assault Support ASE Plan

Rotary Wing/Tiltrotor ASE:

All forward deployed assault support aircraft are 100% equipped with upgraded missile warning systems and decoy dispensers

- CONUS aircraft upgrades ongoing, with priority given to deploying units
  - Ongoing efforts to complete MWS sensors upgrade to latest B(V)2 configuration (Improved Detection (Pd) in cluttered environments)
  - Estimate completion of B(V)2 CONUS MWS upgrade, FY-13

Advanced ASE suite

- Priority given to most-vulnerable aircraft
  - CH-53E, CH-46E, 53D: Improve MWS, CMDS and install DIRCM
  - Improvements began Nov 08 OCONUS and are ongoing
- Expedite all other assault support aircraft
  - H-1, V-22 and KC-130: Improve MWS, CMDS and develop light weight DIRCM
  - Improvements for MWS and CMDS began Nov 08 for MEU squadrons

MV-22:
TTP: Reevaluate for new systems
NEAR TERM: MWS software drop OFP 30.24, FF Flares development complete. FF Buckets installs ongoing.
MID TERM: Upgrade MWS to B(V)2, Complete FF Installation. Develop and install advanced ASE suite controller.
LONG TERM: Install IRMWS and DIRCM Jamhead.

H-1:
TTP: Reevaluate for new systems
NEAR TERM: MWS software drop OFP 30.24, FF Flares development underway for H-1 Upgrades. Additional FF dispenser development ongoing for AH-1W.
MID TERM: Upgrade MWS to B(V) 2. Install FF buckets. Develop and install advanced ASE suite controller.
LONG TERM: Develop and install IRMWS and DIRCM. Develop visually degraded environment solution.

CH-46:

TTP: Reevaluate for new systems
NEAR TERM: MWS software drop OFP 30.24, FF Flares development complete. FF Buckets installs ongoing. Flight test ongoing for IRMWS and DIRCM Jamhead. Engine IR suppression system testing ongoing.
MID TERM: Upgrade MWS to B(V)2, Complete FF bucket installs. Begin installation of IRMWS and DIRCM Jamhead. Develop and install advanced ASE suite controller.
LONG TERM: Complete installation of IRMWS and DIRCM Jamhead.

CH-53:

TTP: Reevaluate for new systems
NEAR TERM: MWS software drop OFP 30.24, FF Flares development underway. Additional FF dispenser development ongoing. Installation of IRMWS and DIRCM Jamhead ongoing
MID TERM: Upgrade MWS to B(V)2, FF ALE development & Install. Complete installation of IRMWS and DIRCM Jamhead. Develop and install Advanced ASE suite controller.
LONG TERM: Complete installation of IRMWS and DIRCM Jamhead. Develop visually degraded environment solution.

KC-130:

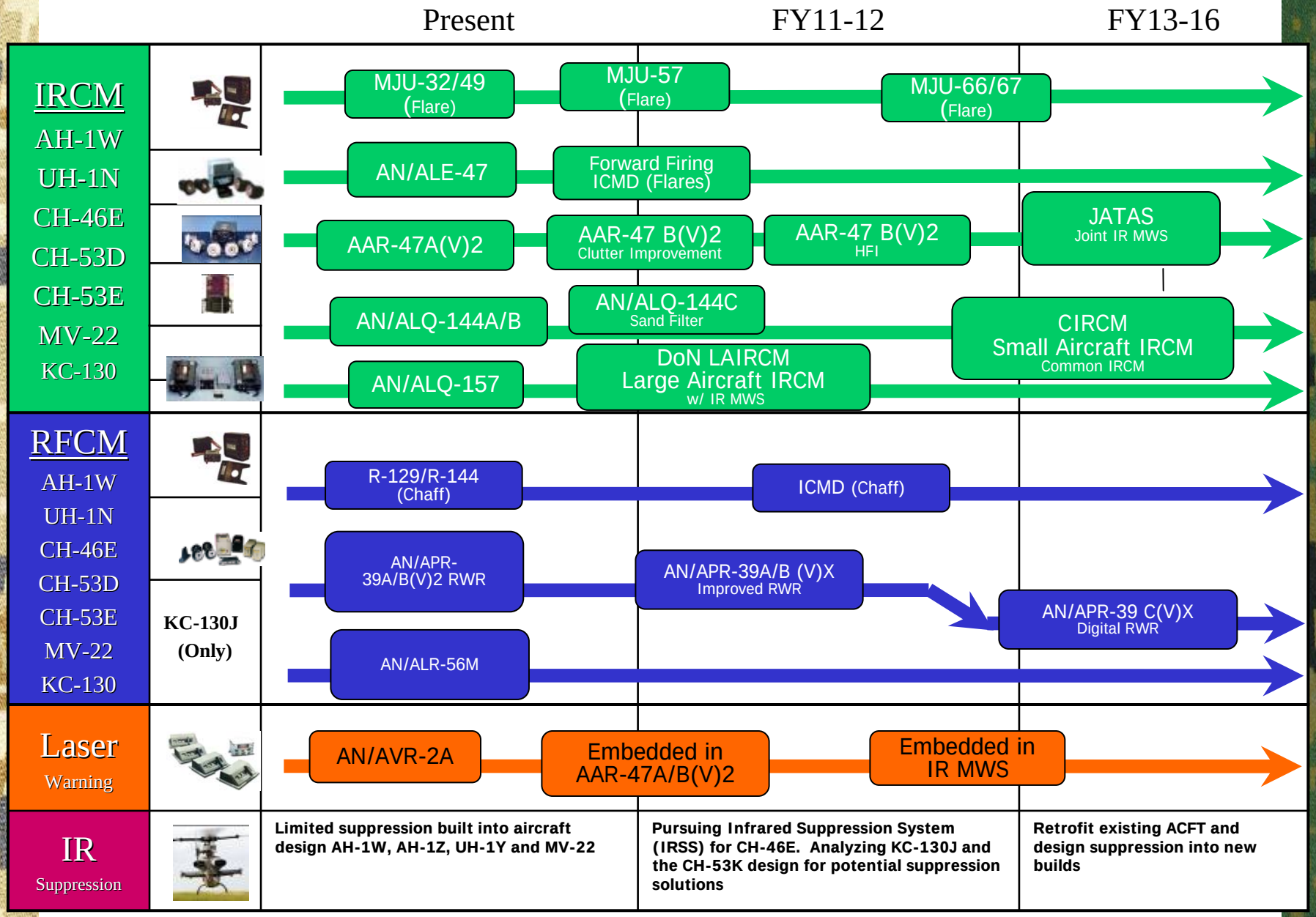
TTP: Reevaluate for new systems
NEAR TERM: MWS software drop OFP 30.24, DECM mods ongoing for KC-130T. FF Flare efforts ongoing for T and J.
MID TERM: Upgrade MWS to B(V) 2, Potential for IRMWS and DIRCM Jamhead.
LONG TERM: Install IRMWS and DIRCM Jamhead.

Chaff/Flares:

TTP: Reevaluate techniques for advanced threats, future AOR
NEAR TERM: MJU-57 now available for (KC-130), Testing MJU-50/206 for near term fielding.
MID TERM: Evaluating foreign multi-spectral device for USMC use.
LONG TERM: Develop techniques for using flares and DIRCM for imaging threats

NEAR TERM: Present
MID TERM: FY11-12
LONG TERM: FY13-16

Marine Assault Support ASE Roadmap



Marine Fixed-Wing ASE Plan

Fixed-Wing ASE:
Fixed Wing Aircraft are 100% equipped with defensive ECM systems, decoy dispensers and RF warning systems.

•Advanced ASE suite
- – Priority given to most vulnerable aircraft
  - • F/A-18 and AV-8B: Upgrade CMDS to ALE-47 configuration and explore DRFM.
- – All platforms are evaluating mission data files for maximum effectiveness.

F/A-18:

TTP: Reevaluate for new systems
NEAR TERM: Explore feasibility of replacing ALQ-126B with DRFM.
MID TERM: Sustain ALR-67V2 for DMSM or upgrade to ALR-67V3.
LONG TERM: None.

AV-8B:

TTP: Reevaluate for new systems
NEAR TERM: Install ALE 47. Explore feasibility of replacing ALQ-126B with DRFM.
MID TERM: Continue ALE-47 installs. Sustain ALR-67V2 for DMSM or upgrade to ALR-67V3.
LONG TERM: Complete ALE-47 integration in H6.0 block.

UC-35D:

TTP: Continued use of current TTP.
NEAR TERM: UDM effectiveness testing.
MID TERM: Acquisition of AAR 57/ALE 47 system for remaining 6 aircraft.
LONG TERM: None.

NEAR TERM: Present
MID TERM: FY11-12
LONG TERM: FY13-16

EA-6B:

TTP: Reevaluate for new systems
NEAR TERM: Upgrading to ALE-47 counter measure systems.
MID TERM: Explore advanced jamming PODs.
LONG TERM: None.

F-35B:

TTP: Continue development of TTPs
NEAR TERM: Evaluate for DRFM.
MID TERM: Advance Countermeasures development.
LONG TERM: None.

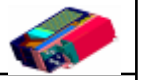
Chaff/Flares:

TTP: Reevaluate techniques for advanced threats, future AOR
NEAR TERM: Reevaluating all Mission Data files for most effective dispense patterns.
MID TERM: Evaluating Foreign Multi-Spectral device for USMC use.
LONG TERM: Develop techniques for using flares and DIRCM for imaging threats.

UC-12W:

TTP: Development of TTP.
NEAR TERM: None.
MID TERM: DT-C2 Test.
LONG TERM: Add forward firing ALE 47 dispenser.

Marine Fixed-Wing ASE Roadmap

		Present	FY11-12	FY13-16
IRCM F/A-18 AV-8B EA-6B F-35B UC-35D UC-12W		AN/ALE-39/47	MJU-63/65 (Flare)	ICMD (Flare)
		AN/ALQ-126B	ASPJ (Block I IDECM)	DRFM (Block IV IDECM)
		ALQ-126B and ALQ-162 imbedded in ALQ-164 (Sta. 4 only AV-8B)		
		ALQ-99 (ICAP II)	ALQ-218 (ICAP III)	
RFCM F/A-18 AV-8B EA-6B F-35B		R-129/R-144 (Chaff)	ALE-50/55 (Currently Navy Hornets)	
		AN/ALR-67V(2) (F/A-18 and AV-8B)	AN/ALR-67V(3) (Currently Navy Hornets)	
	F-35B (Only)	Distributed Aperture System (F-35B)		
Laser Warning		None		
IR Suppression		**Suppression and signature information classified for F/A-18 and F-35B.**	**AV-8B and EA-6B not currently suppressed.**	

Section 10 --- Marine Unmanned Aircraft System (UAS) Plan

Marine Unmanned Aircraft System (UAS) Plan	10-2
USMC Family of Systems (FoS) UAS Schedule	10-3
Group 1 UAS Fielding	10-4
Group 3 UAS Fielding	10-5
Shadow/Group 4 UAS Fielding	10-6
UAS TTF	10-8

Marine Unmanned Aircraft System (UAS) Plan

Unmanned aircraft systems (UAS) enable Marines to increase the effectiveness of our air-ground team by placing more unmanned aviation platforms into roles traditionally allocated to manned aviation assets, expanding the reach, persistence and utility of Marine aviation in support of the MAGTF. They will continue to widen and add depth to our aviation support by capitalizing on current and future technologies. Future UAS will expand to provide support in other Marine aviation functions beyond aerial reconnaissance. Doctrinal publications currently under revision include MCWP 3.42-1 *Unmanned Aircraft Systems* and the *CONOPS for USMC UAS Family of Systems (FoS).*

•* Note: while the aircraft themselves are now properly termed "unmanned *aircraft systems*," or UAS, the VMU squadrons which employ these systems are still to be called "unmanned *aerial vehicle*" squadrons.

Concepts

Marine aviation and ground commanders will rely on UAS from every level of our Family of Systems (FoS) to preserve manned aviation assets and shape the battlespace. Battalion level-units will use the smaller Group 1 systems as an organic reconnaissance and surveillance capability. The VMU squadrons will employ the larger and more-complex Group 3 and 4 systems via a common Ground Control Station (GCS) to provide task-organized support to various MAGTFs. Greater capability will be resident in the Group 4 system, and it will include such support as targeting, strike, intelligence collection, electronic attack, data networking, and communications relay.

Capabilities

Aerial reconnaissance is currently being supported by each UAS capability through electro-optical and infrared (EO/IR) full-motion video data that is fed to the warfighter via secure network or down-linked via systems such as VideoScout and OSRVT.

Command and control is currently being augmented through a radio relay capability with our Shadow UAS. The development and addition of systems such as CORPORAL will increase access to command data networks. Additionally, the Marine Corps is a key participant in the joint proof of concept effort for increasing remote sense-and-avoid capabilities. Successful evaluation of this capability will lead to greater access to airspace in the vicinity of UAS training locations across DoD.

Electronic and kinetic attack capabilities will be incorporated in Group 3 and Group 4 systems. Weaponization efforts include the adaptation of current UAS for the carriage of smart munitions and electronic attack payloads as well as incorporating this capability into future design requirements.

Organization & Manpower

Organizational change is underway to provide more flexible and responsive UAS support to the MAGTF. Each VMU squadron has been reorganized to provide UAS detachment support to the fleet. In addition to the stand-up of VMU-3 in September 2008, the Marine Corps is also developing a reserve UAS capacity. Reserve VMU squadron (VMU-4) force laydown options are currently being evaluated.

Platforms

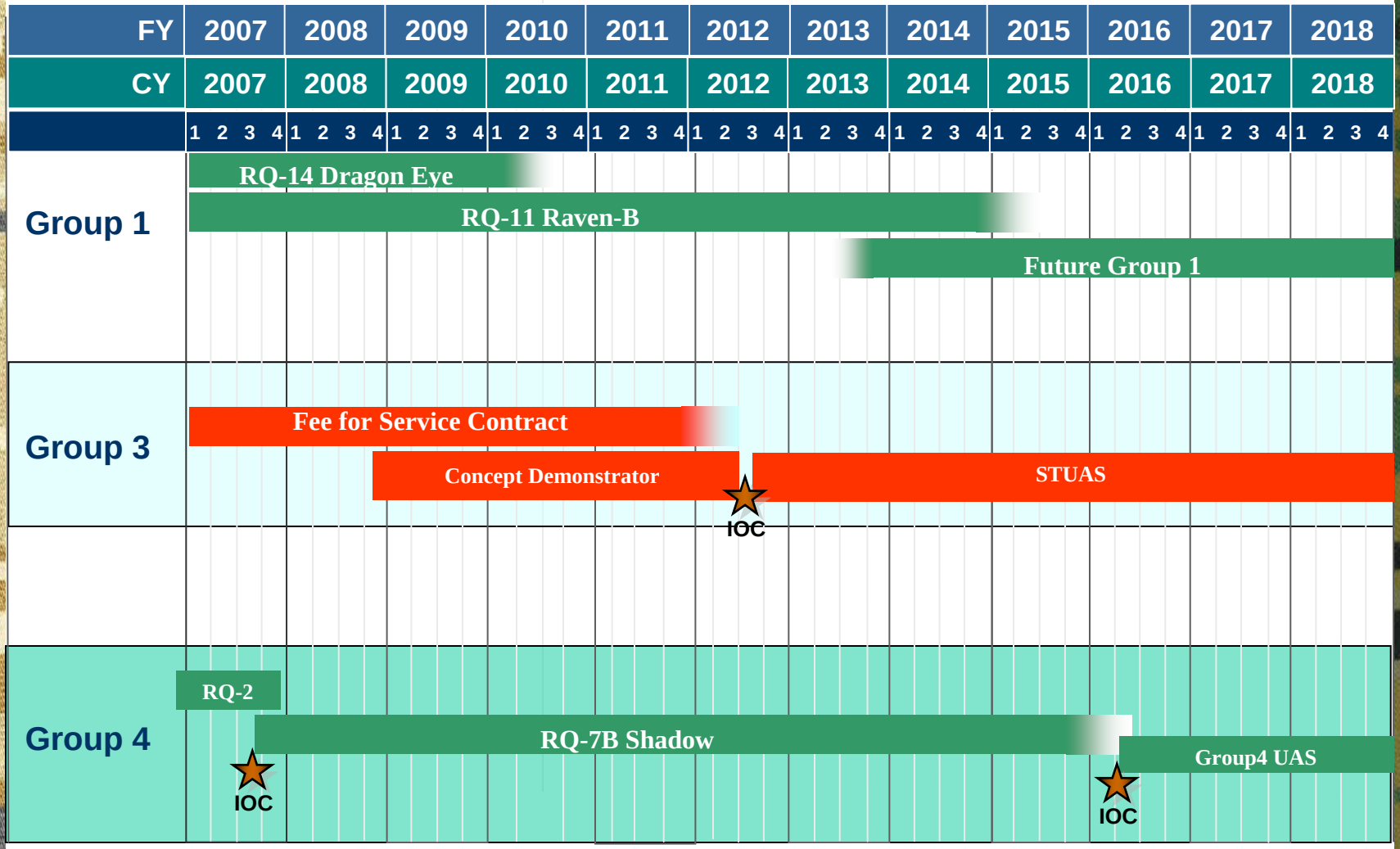
Current initiatives for development and procurement of UAS platforms include:

- Group 1 requirements continue to be met by joint programs such as RQ-11 Raven B and Wasp III.
- Group 3 program of record, IOC in 2012, will replace the ISR services currently provided by Boeing/Insitu using Scan Eagle.
- Group 4 is currently being filled by RQ-7B Shadow 200. We are partnering with the Army on procurement of 13 Shadow systems.
- Future Group 4 UAS program will provide a highly capable and expeditionary system after 2015.
- Cargo UAS concepts are being examined as a means of providing logistical support to company-sized forces in the most forward positions in a combat zone.

Joint UAS Categories

The Marine Corps has adopted the joint naming convention which categorizes all DoD UAS into *Groups* based on their characteristics of weight, speed, and altitude. Generally, the smallest UAS fall under Group-1 category and the largest fall under Group-5. This is an essential step toward increased standardization, and will contribute to the eventual acceptance by the civil authority for increased access to the National Airspace System. Previous terminology referring to the USMC FoS in terms of *Tiers* is now obsolete.

USMC Family of Systems (FoS) UAS Schedule



GROUP 1 UAS FIELDING

CURRENT FORCE: 55 x RQ-11 RAVEN-B SYSTEMS (MARCENT)
10 X RQ-11 RAVEN-B SYSTEMS (Training)
10 X RQ-11 RAVEN-B SYSTEMS (I MEF)
4 X RQ-11 RAVEN-B SYSTEMS (II MEF)
57 X RQ-14 DRAGON EYE SYSTEMS (I MEF)
19 X RQ-14 DRAGON EYE SYSTEMS (III MEF)
64 X RQ-14 DRAGON EYE SYSTEMS (II MEF)

GOAL: 55 SYSTEMS IN MARCENT
265 SYSTEMS IN OPERATIONAL FORCES
16 SYSTEMS TRAINING & TESTING
71 SYSTEMS IN MARFORRES

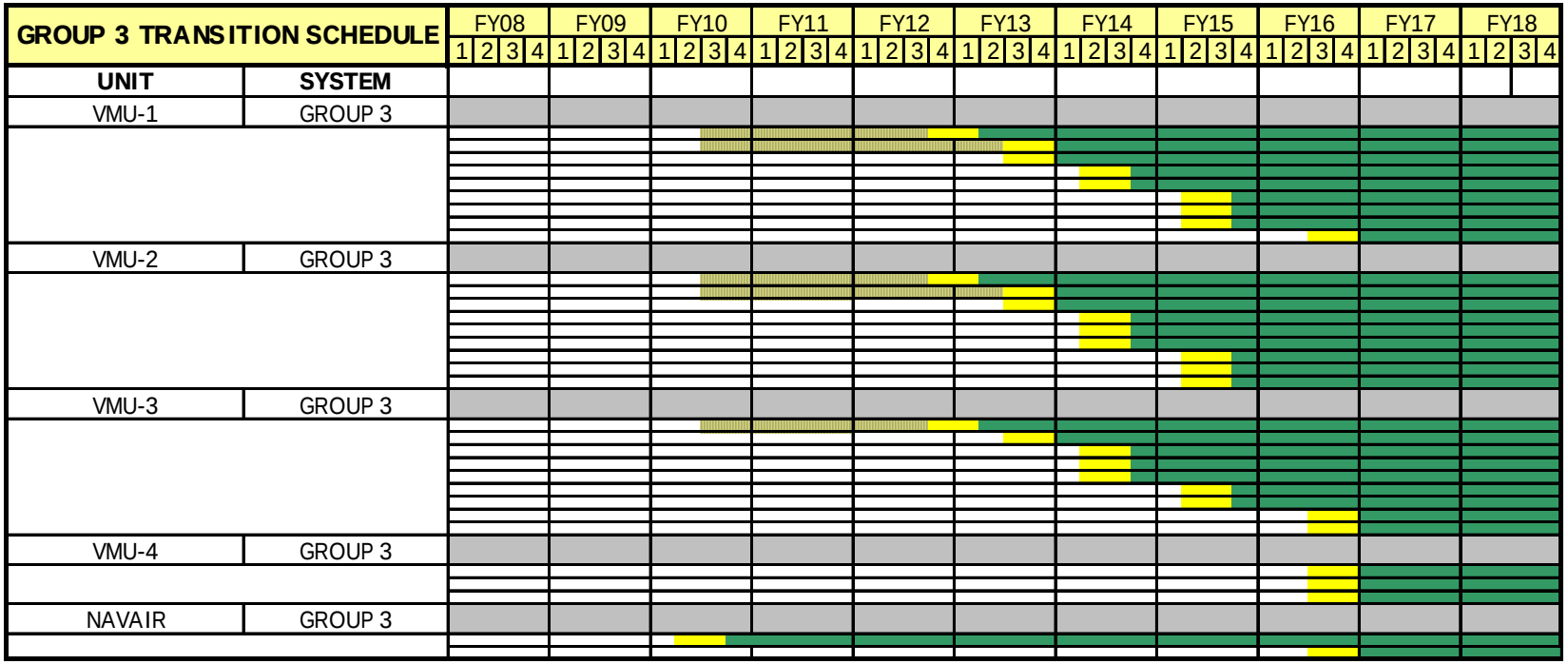
Group 1 FIELDING SCHEDULE		FY08				FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	**TOTAL SYSTEMS**																																											
I MEF	83	20				9				12				11				4																											
II MEF	94	20				27				12				10				4																											
III MEF	46					13				33																																			
MARFORRES	71									44				27																															
MARSOC	28	20				8																																						
SOI,TBS,MCSC,& MCAGTC	16	10				0				6																																		
MARCENT	55	55																																										
WRMR	3	3																																										

UAS FIELDING		FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
RQ-11 RAVEN-B	SYSTEMS	128	185	292	340	348	348	348	348	348	
	AIR VEHICLES	384	555	876	1020	1044	1044	1044	1044	1044	0

GROUP 3 UAS FIELDING

CURRENT FORCE:

UAS GOAL (3) AC SQDN x (9) GROUP 3 SYSTEMS/DETS
(1) RC SQDN X (3) GROUP 3 SYSYEMS/DETS
(2) GROUP 3 SYSTEMS TEST & EVAL



UAS INVENTORY		FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
GROUP 3 UAS	SYSTEMS			1	1	5	9	17	25	32	32	32
	AIR VEHICLES			4	4	20	36	68	100	128	128	128

GRP 3 TRANSITION	
GRP 3 OPERATIONS	

****Basing plans are subject to change and further environmental review****

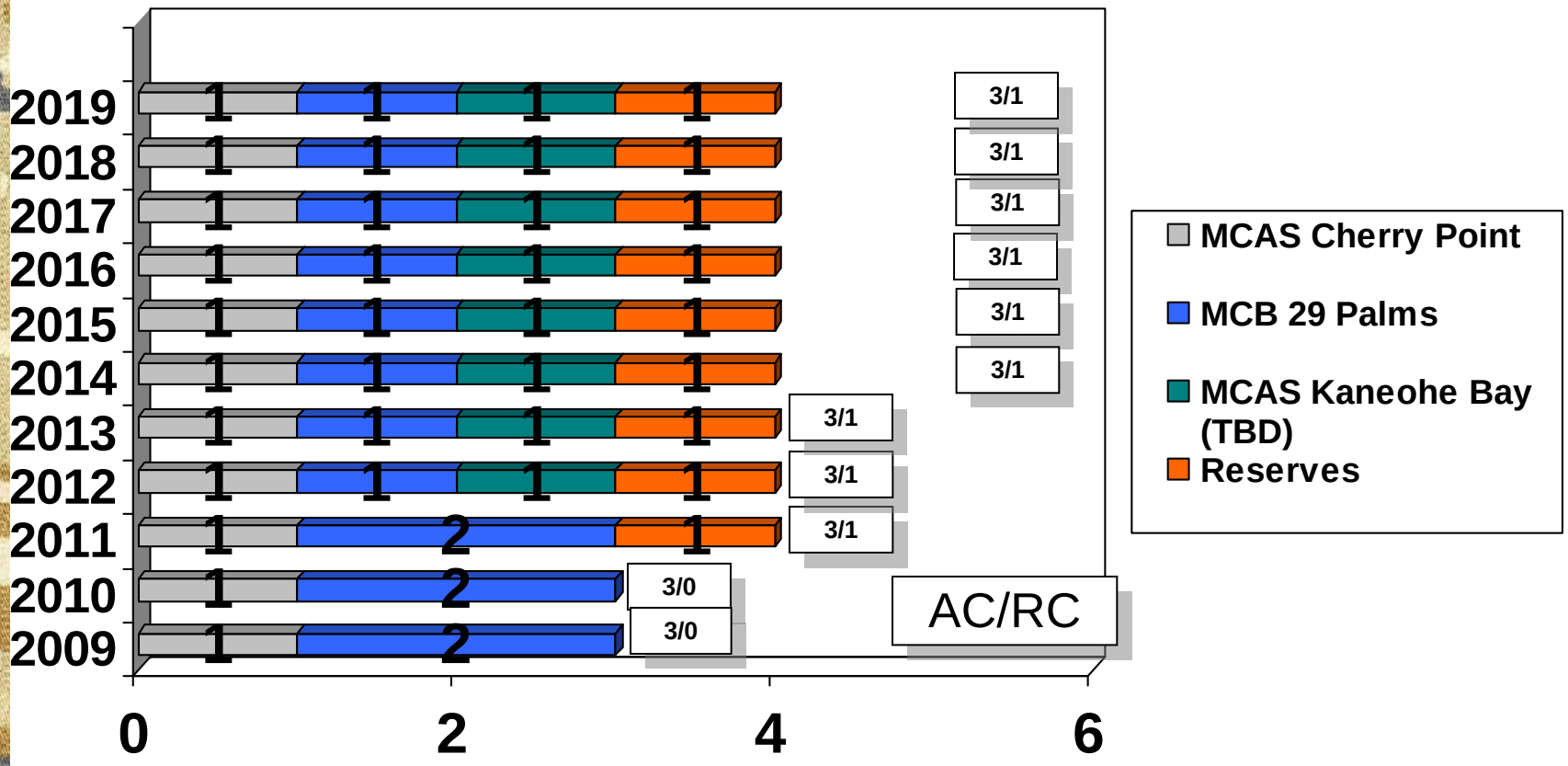
SHADOW/GROUP 4 UAS FIELDING

VMU-1		FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Twentynine Palms	#3											
	#1 (Reset)											
	#8											
VMU-2												
Cherry Point	#2											
	#5											
	#6											
VMU-3												
Twentynine Palms	#4											
	#7											
	#9											
VMU-4												
Location TBD	#11											
	#12											
	#13											
DEPLOYED OCONUS												
	#2 (OEF)											
	#4 (OEF)											
	#3 (OEF)											
NAVAIR T&E												
Patuxent River	#10											

UAS FIELDING		FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
RQ-7B SHADOW	SYSTEMS	4	8	11	13	13	13	13	13	13	13
	AIR VEHICLES	16	32	44	52	52	52	52	52	52	52
FUTURE GROUP 4 UAS	SYSTEMS									TBD	TBD
	AIR VEHICLES									TBD	TBD

****Basing plans are subject to change and further environmental review****

MARINE UNMANNED AIRCRAFT SYSTEM GEO-LOCATION



****Basing plans are subject to change and further environmental review****

UAS Transition Task Force
Cross Functional Team (CFT) Working Issues

CFT 1 (DOCTRINE & TRAINING)

- **Completed**
  - Legacy operators and maintainers transitioned to Shadow UAS via Mobile Training Teams
  - Established initial accession training at Ft. Huachuca and ITRO agreement finalized
  - Transformed VMU employment into three det squadron supporting varied MAGTF requirements
- **Ongoing**
  - Revision of MCWP 3-42
  - Updates to OPNAV 3710.7 to reflect UAS specific requirements
  - Formalizing Group-1 training and standards
  - Realign UAS Model Managers for ANTTP, UAS Model, and CRM
  - Access to National Airspace System
- **Long Term**
  - Develop training requirements for future Group-4 UAS

CFT 2 (ORGANIZATION & PERSONNEL)

- **Completed**
  - Reorganized VMU T/O into three Group-4 detachments and nine Group 3 detachments
  - Stood up a new squadron, VMU-3
  - Validated and refined Group-4 manning concept
  - VMU manpower study analyzing personnel sourcing and occupational fields
- **Ongoing**
  - Source, though the uncompensated review process, additional VMU structure to support Group-3 billets (STUAS)
  - Source structure for future VMU-4 personnel
- **Long Term**
  - Manpower / MOS requirements for UAS community

CFT 3 (MATERIAL & FACILITIES)

- **Completed**
  - Fielded seven of thirteen RQ-7B Shadow systems
  - NAMP changes identified for UAS
  - Facilities sourced for stand-up of VMU-3
  - Reset first RQ-7B Shadow UAS
- **Ongoing**
  - Determine means for importing UAS material readiness records into the existing aircraft readiness reporting system
  - Update NAMP to reflect UAS specific changes
  - Fielding last six RQ-7B systems
  - Field EOC for first Group-3 system (STUAS)
  - Field total of 32 Group-3 systems (STUAS)
  - Determine support requirements for STUAS
  - Determine support requirements for future VMU-4
  - Examine integration of UAS/VMUs into current readiness construct
- **Long Term**
  - Determine support requirements for Group-4 UAS
  - Integrating future UAS into MALS and MALSP II

TTF DATES

LAST: August 09

NEXT: February 10

Section 11 --- Weapons and Munitions Plan

Weapons & Munitions Plan 11-2

Weapons and Munitions Plan

Joint Air to Ground Missile (JAGM): The JAGM (USA lead service) will replace the aging inventory of Hellfire, TOW and Maverick missile systems with an enhanced range Precision Guided Munition (PGM) that is common to multi-service rotary- and fixed-wing aircraft and unmanned aircraft systems. The weapon will utilize a Tri-Mode Seeker (Semi-Active Laser (SAL), Millimeter Wave (MMW) Radar, and Imaging Infra-Red (IIR)) and multi-mode warhead to defeat hardened, armored, and non-traditional stationary and moving targets. The JAGM Acquisition Decision Memorandum was approved on 5 January 2008. JAGM will meet the USMC requirement for a FW/RW/UAS all- weather, forward-firing, low collateral damage missile. Expected USMC IOC for the JAGM is FY16.

AGM-114 HELLFIRE: A series of HELLFIRE product improvements provide interim measures to address capability gaps that JAGM will close when fielded. While the AGM-114M is no longer being produced, the AGM-114N HELLFIRE retains the "M" model's fragmentation capability and provides a thermobaric capability with improved blast/impulse and enhanced lethality across the non-traditional target set. The trajectory-shaping software provides a flatter trajectory for the AGM-114N-5 for a more perpendicular impact and better penetration on specific target sets. The AGM-114K-2A incorporates a steel fragmentation sleeve on the AGM-114K shaped-charge warhead. Both the AGM-114N and AGM-114K-2A are in theater in support of OIF/OEF. The AGM-114R will replace the AGM-114K, K2A and M with a dual mode warhead for rotary wing and UAS platforms. AGM-114R IOC is FY11.

Advanced Precision Kill Weapon System (APKWS): APKWS was originally an Army program with DoN interest; when APKWS was terminated in the Army's POM08 budget, the USMC established APKWS as a USMC program of record. APKWS will provide an economic solution to fill a capability gap between costly anti-armor precision-guided munitions and less-costly unguided general-purpose rockets. APKWS is an enhancement to the currently-fielded 2.75-inch aircraft rocket system. APKWS involves placing a laser seeker onto existing rocket warheads, thus providing an excellent, low cost, mid-range weapon well-suited for the MOUT environment. APKWS provides increased kills over the more expensive and limited inventory of guided missiles, while its small warhead size minimizes collateral damage. IOC for the APKWS on the AH-1W is first quarter FY11 with follow-on integration to all approved rocket delivery platforms including legacy fixed wing aircraft.

GAU-21: The GAU-21 is currently fielded on the CH-53E and is being fielded on the CH-46E, CH-53D, and UH-1Y. This weapon provides an improved .50 caliber defensive crew-served weapon system, common to all platforms, to replace the aging XM-218 and GAU-16 machine guns in the inventory. Legacy weapons are up to fifty years old, with declining safety, reliability and maintainability. The GAU-21 is enhancing the defensive fire capability for the CH-53D/E/K, CH-46E, and the UH-1Y platforms with improved reliability, lethality, and rate of fire, and is providing increased aircraft and aircrew survivability and safety. IOC for CH-53E Ramp- Mounted Weapons System (RMWS) was achieved fourth quarter FY04. CH-53D left and right door gun systems completed testing and were fielded in FY09. CH-46E/CH-53E left and right door gun systems are scheduled for FY10. Fielding for the UH-1Y is scheduled to begin in late CY09.

Small Diameter Bomb II (SDBII): The Small Diameter Bomb (SDB) Increment II is the second increment of a Miniature Munitions (MM) weapons system capability. The first increment - the SDB Increment I All-Up Round (AUR) - is a 250-pound class, precision-guided, adverse weather munition with an associated MM carriage system that will provide increased stowed kills per sortie. SDB Increment II leverages SDB I and will provide the USMC Joint Strike Fighter (JSF) with a standoff attack capability outside of point defenses against fixed and moving targets. SDB Increment II will utilize a Tri-mode seeker (SAL, MMW, IIR) to provide additional capability for the F-35 as an effective, day/night, adverse weather munition with a greater standoff capability. IOC for the SDB II in the F-35B (STOVL) is FY16/17.

Dual Mode Laser Guided Bomb (DMLGB): The DMLGB provides Marine aviation the immediate capability of a dual mode weapon. This new capability is required to provide flexibility and enhanced time-sensitive targeting for USMC fixed wing aircraft. GPS/INS and 1760 communication capability, added to the current LGB, provide improved sortie effectiveness and operational responsiveness at a reduced cost of operations. The GPS/INS will greatly enhance the legacy LGB performance. DMLGB was recently certified for use with AV-8B and F/A-18 aircraft.

Laser Joint Direct Attack Munition (LJDAM): The Laser Joint Direct Attack Munition (LJDAM) is a joint Air Force / Navy program which adds a laser guidance kit to the JDAM tail kits. The kit provides laser guidance to the INS/GPS-guided gravity bombs, converting them to an all-weather munition with added precision terminal capability.

Direct Attack Moving Target Capability (DAMTC): The DAMTC will be a follow-on weapon system that will upgrade the existing JDAM and GBU series of bombs. It will be a precision-guided GPS/INS and SAL seeker-capable weapon designed for a moving target threat. This weapon system will provide the warfighter with an enhanced dual mode-capable bomb. Expected IOC is FY10.

Laser-Guided Zuni (LGZ): The Laser-Guided Zuni is a proposed weapons program which would enhance the current inventory of 5.0" Zuni rockets with a laser capability. Much like the APKWS, the LGZ will involve placing a laser seeker onto existing Zuni rocket motors and warheads, providing an excellent, low cost, mid-range weapon well-suited for the MOUT environment. By using the existing stockpile of Zuni motors, warheads and the LAU-10 launcher, the fixed-wing and rotary-wing warfighter will be able to capitalize on a low-cost/ increased Ph/ low-collateral damage weapon system. This will allow increased kills per sortie, and provide a better weapons-to-target match against soft/moving target sets, preserving the high cost PGMs for hard target sets. If appropriate funding is secured, this weapon system could be fielded by FY12.

Under Development

MV-22 Osprey Interim Defensive Weapon System (IDWS) HQMC aviation is integrating an all-aspect, belly-mounted IDWS into the MV-22. The system is designed to provide all-quadrant suppressive fires, and will be operated by the crew chief/gunner from the aircraft cabin. The gunner will utilize a hand controller in conjunction with a video screen to control the weapon. The IDWS consists of a weapon turret, EO/IR sensor, gunner station, and associated weapons control/motor control units. A six-barrel 7.62mm GAU-17 will be mounted in the weapon turret in the aft hellhole and the EO/IR sensor ball will be mounted in the forward hellhole. The IDWS will be procured as a mission kit, easily transferable from one MV-22 to another. The IDWS is being procured jointly with the USAF CV-22 program. IOC is scheduled for early FY-10.

Harvest Hawk

Viper Strike: Viper Strike (VS) is a Stand Off Precision Guided Missile (SOPGM) evolved from the Army's Brilliant Anti-Armor (BAT) munition and is operational on the Army's SOCOM aircraft achieving operational success in OIF and OEF. It has a SAL seeker and is a precision low collateral damage weapon for use in cluttered urban environments. It is a threshold munition for the Harvest Hawk KC-130J. The VS SOPGM is managed from a Battle Management System (BMS) and tube launched from the KC-130J. It weighs 43 pounds with a twenty kilometer range and a CEP <1m against fixed and moving targets. VS will become a DoN POR when appropriate funding is secured. Harvest Hawk is IOC is 4QTR FY09.

Griffin Missile System: The Griffin missile, an element of SOPGM, was originally procured from Raytheon for fixed wing users. The Griffin is a GPS/INS with terminal SAL seeker missile system launched from the KC-130J. Griffin and VS use common launch tubes, and like the Viper Strike, the Griffin receives target location data before launch from the BMS. Unique capabilities of the Griffin missile system include a demonstrated off-axis shot capability and height-of-burst fuze. It weights 34 pounds per missile with a range of zero to six kilometers. Griffin will become a DoN POR when appropriate funding is secured.

AGM-114P HELLFIRE: The AGM-114P is an improved AGM-114K modified by JAMS which will provide the Harvest Hawk KC-130J an off-axis high altitude capability. The Army will provide the DoN 40 AGM-114P missiles by July 2010. The "P" will be made a POR for future procurement when appropriate funding is secured.

Section 12 --- Aviation Training System (ATS)

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Aviation Training System (ATS) Plan

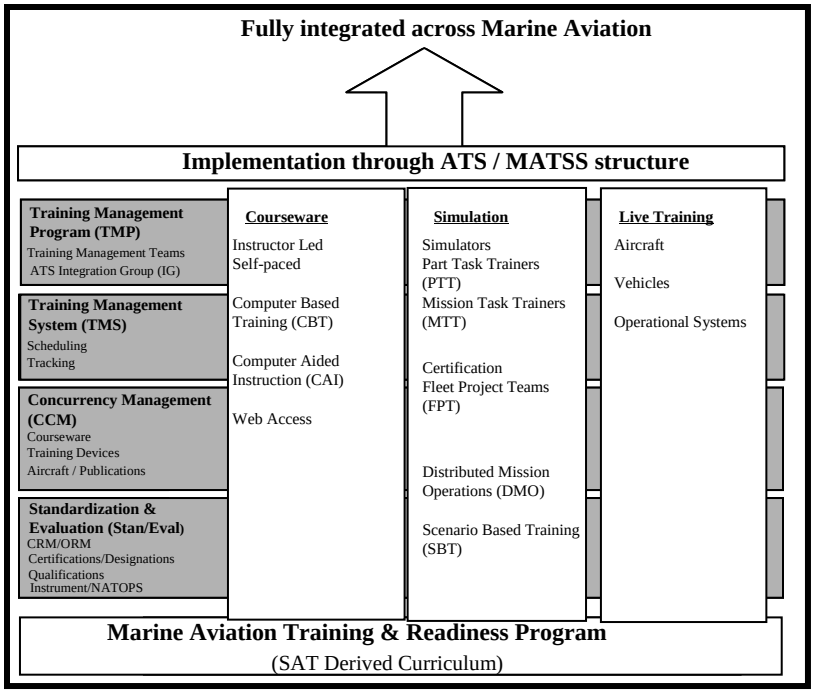
The demands of today's dynamic operational environment require Marine aviation to focus its training more effectively and efficiently in order to achieve and sustain the highest levels of combat readiness. We have realized the benefits of an integrated training system with platforms such as the MV-22 and KC-130J. Utilizing a "Systems Approach to Training (SAT)" and an organizational structure capable of supporting a training system which optimizes the efficient allocation of existing resources. Marine aviation strives to take systems-type training out of aircraft to free up operational assets to fly and fight. High fidelity systems will provide a consistent level load of standardized training from Fleet Replacement Squadrons to fleet aircrew.

Systems Approach to Training (SAT)

The Marine Corps adopted SAT as the official tool to assist schools (and units) in developing instruction that meets the Marine Corps' mission tasks. A comprehensive yet flexible process, Marine aviation uses a SAT-derived training and readiness (T&R) program of instruction (POI) to assist in identifying behaviors required for mission success. SAT is also used to select those critical behaviors for which instruction is required; develop the best objective-based instruction to teach those behaviors; evaluate student performance of the objectives and the ability of the entire training system to meet the stated objectives, and finally revise courses to meet those objectives. Because SAT requires systematic collection and careful analysis of data, it fosters objectively-based decisions and serves as a foundation to the Aviation Training System.

ATS Construct

The Aviation Training System (ATS) is the concept for integrating Marine aviation training processes and structures into a single, unified, and holistic system. ATS can be referenced in the governing policy MCO 3710.6. The mission is to develop a completely integrated training system across all of Marine aviation that links training cost with readiness. Developing a completely integrated training system requires institutionalizing processes that support our missions and provide on-time delivery of tactically relevant training.



Examples of ATS processes include: 1) SAT-based curriculum; 2) Increased use of networked simulation; 3) Concurrency Management; 4) Training System Certification and Accreditation; 5) Standardization and Evaluation; 6) Embedded Aviation Safety; 7) Data Collection and Analysis; and 8) Web-based Training Management. Training Continuum Integration (TCI) combines these processes into a systematic progression to provide relevant data and analysis and identify gaps in the training system for a particular T/M/S. The TCI construct was first initiated with MV-22 and shall grow to incorporate CH-53, H-1's, and other Marine aviation platforms as funding becomes available.

Implementation of ATS at each Marine aircraft wing is through the Marine Aviation Training System Site (MATSS). The goal for MATSS is to assist commanders in training their units and ease the training burden placed upon the operational forces. This effort is far more encompassing than just an increased use of flight simulators. Training devices will now be managed in the same manner in which aircraft are managed in a squadron. ATS includes aircrew, maintenance, command and control, and aviation ground support requirements and training. It will be one of the primary tools to achieve aviation-training requirements across the spectrum of T&R events.

To the greatest extent possible, common training (such as crew resource management (CRM), instrument ground school (IGS), mission planning systems, instructor qualification, back in the saddle (BITS) programs, etc.) will be facilitated/supported by MATSS to provide a dedicated medium, facility, and/or instruction to Marine aviation units.

As part of the ATS construct and policy, the training management process (TMP) provides a forum for the fleet to vet their issues, community-specific and common, via the chain of command and training management teams to the appropriate resource advocating agencies. Overall, ATS will significantly enhance the operational commander's situational awareness of their training and readiness status and issues of interest pertaining to the command.

MATSS Background and Timeline

MATSS New River, with the fleet introduction of the MV-22, was the designated prototype for the development of the ATS concept. Once validated with a single T/M/S, MATSS New River grew and incorporated other platforms, and thus ATS oversight expanded to the Wing level at 2dMAW. The MATSS construct is currently migrating to all of Marine aviation with the implementation of the ATS MCO 3710.6 and the ATS Transformation Task Force (TTF).

MATSS Phased Approach

	MATSS	Activation	IOC
2d MAW	• New River	Already Established	
	• Beaufort	Activated	Q4FY09
	• Cherry Point	Activated	Q4FY09
3d MAW	• Miramar	Activated	Q4FY09
	• Camp Pendleton	Activated	Q4FY09
	• Yuma	Activated	Q4FY09
1st MAW	• Iwakuni	Activated	Q4FY09
	• Futenma	Q4FY09	Q4FY10
	• Kaneohe Bay	Q4FY10	Q4FY11
4th MAW	• Fort Worth	Q4FY10	Q4FY10
	• Willow Grove	Q4FY10	Q4FY11

With increased USMC and Joint-level awareness for ATS and once fully implemented at FOC, the ability to leverage common solutions across the various platforms will result in significant cost savings, freeing funds for other requirements to enhance training across Marine aviation and the MAGTF.

Training System Development Guidance

Standing guidance for acquisition and operational forces is to pursue only the most promising developmental and mature technologies for training, avoid increased cost, and mitigate operational risks. Marine aviation through ATS manages the subsequent migration over the entire enterprise. Previously disjointed and costly stove-pipes only satisfied individual community needs. Now, ATS and its processes will systematically and logically impact regulations and policies governing training (e.g., T&R program manual) and other elements of DOTMLPF in a positive and responsive manner. Recommended changes will be staffed appropriately to HQMC. Because of fiscal necessity and responsibility, the path forward will be towards achieving common training systems and solutions within Marine aviation that meet the operational requirements of the fleet.

MCASMP Requirements

Marine Corps Aviation Simulator Master Plan (MCASMP) policy has been set by DC AVN since Dec 01. All new simulators will function as a system of tactically relevant networked trainers. All new simulator procurements shall be compatible with this Simulator Master Plan at a minimum. The following are standing requirements:

- CONUS bases: section of networked simulators
- OCONUS & reserve bases: minimum of one simulator
- Common Visual Data Base
- Tactical Environment Network (TEN) : threat, emitters, weapons flyouts, USMC & joint air & ground interoperability.
- Common hardware approach across all T/M/S and community simulators to ensure distributed/networked MAGTF and joint simulator training is possible.

The goals of MCASMP are to reduce overall procurement and sustainment training costs by procuring training devices and training media (courseware, curriculum, and syllabus) with common hardware and software systems in order to avoid the cost of developing new or platform unique type-systems.

Training Future/Summary

For Marine aviation, ATS is risk mitigation that represents a game-changing opportunity. Continued attention and accountability at all levels is required. All efforts are targeted at improving combat readiness and the preservation of assets and people leading to operational excellence.

Aviation Training System Plan

History

- July 2001 – Marine Aviation Training Systems Squadron established at MCAS New River
- December 2001 – Marine Corps Aviation Simulator Master Plan (MCASMP)
- September 2002 – Marine federation established with PMA-205
- August 2005 – ATS Transformation Task Force charter
- October 2007 – ATS Training Management Team charter
- October 2007 – MATSS Cherry Point, Beaufort, Miramar, Camp Pendleton activated.
- June 2008 – Marine Corps Order 3710.6 signed and distributed.
- September 2008 – MARADMIN 507/08 KC-130J ATU alignment under 2d and 3dMAW MATSS

ATS website- http://www.aircrewtrainingsystems.com

Resources

Resourcing the growth and expansion of training for Marine aviation requires a delicate balance. Many transitioning platforms have programmed funds for procuring new training devices and support. A snapshot in FY09 FYDP funding for legacy and transformational platforms shows emphasis towards better and more capable systems while looking to integrate better technologies:

- 55% tech refresh & visual upgrades on existing training devices
- 16.2% new procurement for legacy platforms
- 14.3% networking of training devices
- 3.6% courseware for T/M/S and MAWTS-1 (MCALMS)
- 2.8% TCI and concurrency management
- 1.1% curriculum development
- 7% other (PMA-205 Marine Corps department IPT support)

ATS Focus

- Provide operational commanders tools to achieve operational excellence through the use of a current, responsive, and relevant training systems for aircrew, maintenance, a ground support, and C2.
- Develop a holistic training system across the entire T/M/S training continuum which supports aircrew (pilot/NFO), enlisted aircrew, and maintenance.
- Develop concurrency management processes to ensure the training system (curriculum, courseware and training devices) remains relevant.
- Assist in the standardization of Marine aviation.
- Address training and safety issues through Systems Approach to Training-derived curricula and improved use of ORM/CRM principles through Risk Resource Management (RRM)
- Stand up Marine Aviation Training Systems Sites (MATSS) at MCASs to facilitate the ATS program.

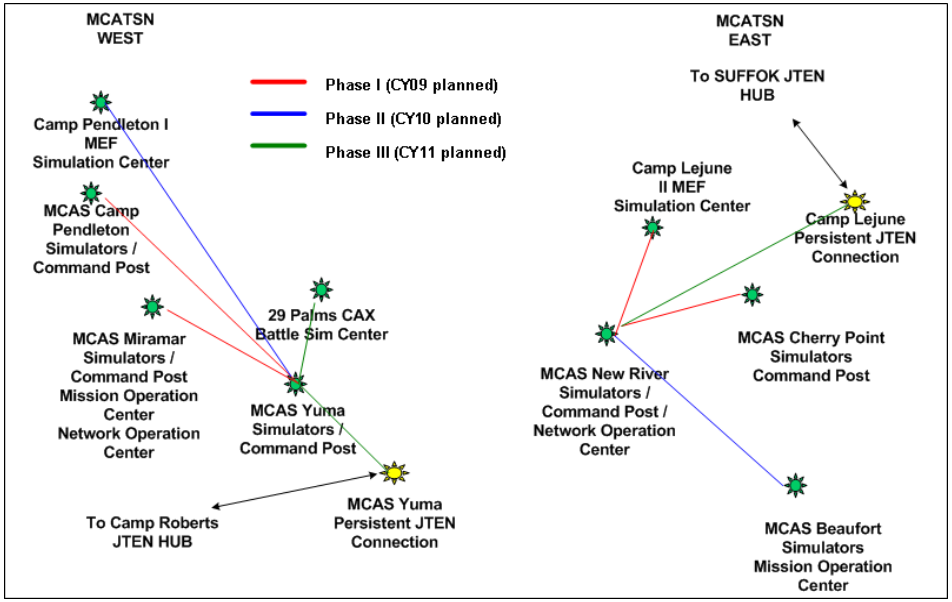
Marine Aviation Distributed Virtual Training Environment (ADVTE)

Networked Training

Networked training began with the execution of the Marine Corps Aviation Simulation Master Plan (MCASMP). Implementation began with a study for CONUS capability which concluded Nov 07. MATSS FOC will incorporate "command post" network hubs, which will be linked to other MATSS, MEF simulation centers, and to the Joint National Training Capability (JNTC) through nationwide network infrastructure. These command posts will be used to develop, plan, rehearse, execute and review scenario-based network training sessions for air-to-air (ACE), air-to-ground (MAGTF), for T&R credit, service-level, and joint exercise events.

Live/Virtual/Constructive (LVC) Goals

- Increased readiness using higher-fidelity networked simulators to support T&R and LVC training.
- Systems training capability outside of aircraft for section and division level training.
- Improved flight safety through enhanced CRM opportunities in networked training.
- Lower costs (in APN and OM&N).
- MAGTF integration.

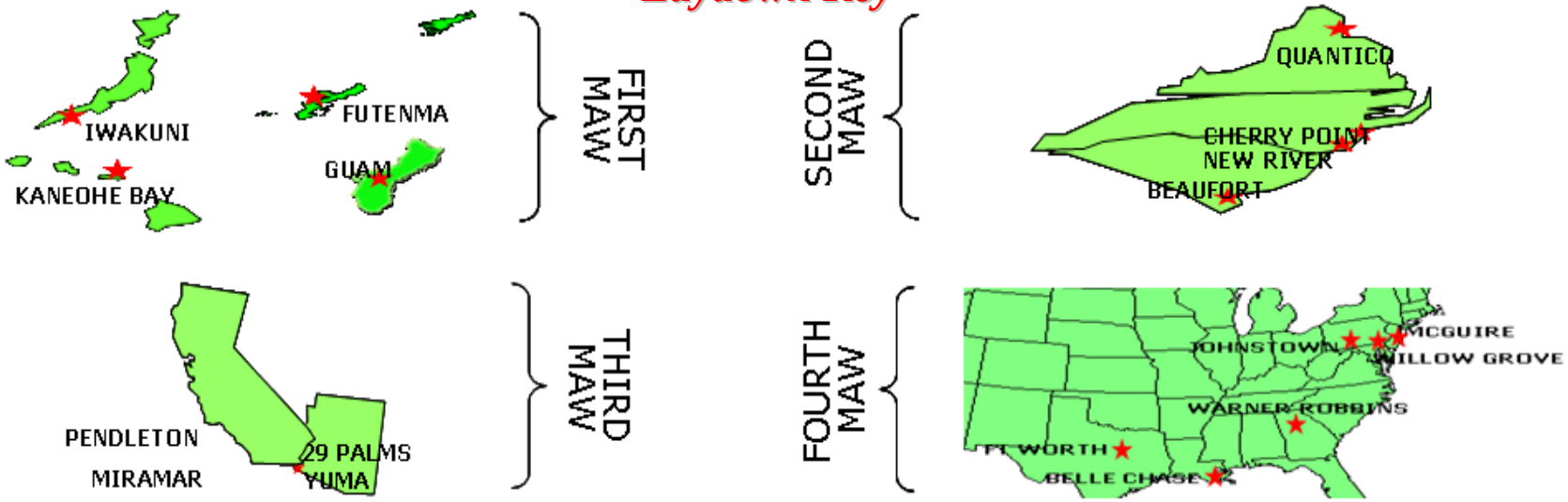


ADVTE LAN/WAN & Command Post STAND-UP

		FY09				FY10				FY11				FY12				FY13				FY14				FY15			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Cherry Pt / New River	LAN/WAN/CP					LAN				WAN/CP								ADVTE LIVE (JULY 2012) - CONUS											
Miramar / Pendleton	LAN/WAN/CP									LAN				WAN/CP															
Yuma / Beaufort	LAN/WAN/CP													LAN/WAN/CP															
WestPac / 4thMAW	Network Study									Network Capability Study (Pending)																			

LAN = LOCAL AREA NETWORK
WAN = WIDE AREA NETWORK
CP = COMMAND POST
ADVTE LIVE = LAN/WAN INSTALL AND COMMAND POST IMPLEMENTATION COMPLETE

Marine Corps Aviation Simulator Master Plan
Laydown Key



Black Font	= Existing Trainers	DMRT	= Deployable Mission Rehearsal Trainer
Blue	= Funded New Procurement	WST	= Weapons Systems Trainer
Gray	= Unfunded New Procurement	TTT	= Team Tactics Trainer
Green	= Transfer or Note	FFS	= Full Flight Simulator
*	= "E" Upgrade (FY17)	McG	= McGuire
CNS	= Communications Navigation Surveillance	FUT	= Futenma
ATM	= Air Traffic Management	IWA	= Iwakuni
APT	= Aircrew Procedures Trainer	FRF	= Futenma Replacement Facility
CFTD	= Containerized Flight Training Device	DEMIL	= Demilitarization
MCAT	= Marine Common Aircrew Trainer	TXFR	= Transfer
OFT	= Operational Flight Trainer	FMS	= Full Mission Simulator
TOFT	= Tactical Operational Flight Trainer	CMSPTT	= Cockpit Management System Part Task Trainer
NICLE	= Network Interactive Cockpit Learning	IMS	= Institutional Mission Simulator

Roadmap Legend

- Planned Contract Award
- Planned Upgrade Commencement
- Planned Initial Training Capability
- LAST REFRESH — Technical Refresh - Unfunded
- Contract Award
- Upgrade Commencement
- Initial Training Capability
- Ready For Training (F-35B)
- PSI Database Installed
- Not ADVTE Ready
- ADVTE Ready
- Trainer Down for Mod/Upgrade/Install
- Planned Device

Simulator Laydown 1st MAW

KANEOHE BAY
- CH-53D WST*
- CH-53D CFTD (3QFY13)*
- CH-53 Ext Trainer (4QFY11)
- CH-53 Desktop Trainer (2QFY12)
- MCAT (TBD)
- MCAT (TBD)
- MV-22 CFTD (2QFY14)
- MV-22 CFTD (2QFY14)
- MV-22 CFTD (4QFY15)
- NICLE (4QFY15)
- CMSPTT (4QFY15)
- MCAT (TBD)
- AH-1Z FTD (2QFY15)
- UH-1Y FTD (1QFY15)
- MCAT (TBD)
- CH-53K CFTD (1QFY19)
- CH-53K CFTD (2QFY19)

GUAM
- CH-53E CFTD (TBD)
- CH-53E CFTD (TBD)
- CH-53 Ext Trainer (TBD)
- CH-53 Desktop Trainer (TBD)
- MCAT (TBD)
- MCAT (TBD)
- MV-22 CFTD (2QFY13)
- MV-22 CFTD (2QFY13)
- NICLE (2QFY13)
- CMSPTT (2QFY13)
- MCAT (TBD)
- AH-1Z FTD (2QFY16)
- UH-1Y FTD (1QFY16)
- MCAT (TBD)

IWAKUNI
- ATC TOWER SIM
- F/A-18C OFT (DEMIL 1QFY11)
- F/A-18D APT
- KC-130J WST (TXFR From FUT TBD)
- MCAT (TBD)
- EA-6B ICAP II WST
- F/A-18D TOFT (3QFY10)
- F/A-18D TOFT (3QFY15)
- F-35B FMS (3QFY15)
- F-35B FMS (3QFY16)
- F-35B DMRT (4QFY14)
- F-35B DMRT (2QFY15)
- F-35B DMRT (2QFY19)
- AV-8B CFTD/DMRT (TBD)

FUTENMA / FRF
- ATC TOWER SIM
- CH-46E APT (DEMIL 4QFY14)
- KC-130J WST (TXFR to IWA TBD)
- CH-53E APT
- CH-53E CFTD (1QFY14)
- CH-53E CFTD (1QFY15)
- CH-53 Ext Trainer (3QFY12)
- CH-53 Desktop Trainer (3QFY12)
- MCAT (TBD)
- MCAT (TBD)
- MV-22B CFTD (4QFY12)
- MV-22B CFTD (4QFY12)
- MV-22B CFTD (TBD)
- NICLE (4QFY12)
- CMSPTT (4QFY12)
- MCAT (TBD)
- AH-1Z FTD (2QFY16)
- UH-1Y FTD (1QFY16)
- MCAT (TBD)

Simulator Laydown 2d MAW

NEW RIVER

- ATC TOWER SIM
- CH-46 APT (TFER to ChPt 2QFY10)
- MV-22 FFS
- MV-22 FFS
- MV-22 FFS
- MV-22 FTD
- MV-22 CFTD
- MV-22 CFTD (4QFY10)
- MV-22 ICLE
- MV-22 CMSPTT
- MCAT (TBD)
- AH-1W WST (DEMIL 4QFY19)
- UH-1N APT (TXFR to McG 4QFY14)
- AH-1Z FTD (2QFY14)
- AH-1Z FTD (2QFY17)
- UH-1Y FTD (2QFY13)
- UH-1Y FTD (2QFY13)
- MCAT (TBD)
- CH-53 WST
- CH-53 APT (CNS/ATM Upgrade 4QFY10)
- MCAT-P (Op Upgrade TBD)
- CH-53 Ext Trainer
- CH-53E CFTD (4QFY12)
- CH-53E CFTD (4QFY12)
- CH-53 MPTT (4QFY10)
- CH-53 Desktop Trainer (1QFY12)
- MCAT (TBD)
- MCAT (TBD)
- CH-53K WST (1QFY15)
- CH-53K CFTD (2QFY14)
- CH-53K CFTD (2QFY18)
- CH-53K CFTD (2QFY20)
- CH-53K CFTD (2QFY21)
- CH-53K CPT (2QFY15)
- CH-53K CPT (2QFY16)
- CH-53K CPT (2QFY18)

CHERRY POINT

- ATC TOWER SIM
- AV-8B WST
- AV-8B WST
- AV-8B WST
- KC-130J WST
- MCAT (TBD)
- EA-6B ICAP II OFT
- EA-6B ICAP II TTT
- EA-6B ICAP III APT
- CH-46 APT (TFER from NR 2QFY10)
- EA-6B ICAP III OFT (3QFY10)
  (TFER From Pt Mugu 2QFY10)
- EA-6B ICAP III TTT (1QFY10)
- (TFER From WI 2QFY10)
- RQ-7 UAS OFT (4QFY10)
- F-35B FMS (1QFY19)
- F-35B FMS (1QFY19)
- F-35B FMS (1QFY20)
- F-35B FMS (2QFY20)
- F-35B FMS (3QFY20)
- F-35B FMS (2QFY21)
- F-35B DMRT (3QFY20)
- F-35B DMRT (3QFY21)
- F-35B DMRT (2QFY22)
- F-35B DMRT (4QFY22)

BEAUFORT

- ATC TOWER SIM
- F/A-18C TOFT
- F/A-18C TOFT
- F/A-18D TOFT (4QFY09)
- F/A-18D TOFT (4QFY09)
- F-35B FMS (1QFY14)
- F-35B FMS (1QFY14)
- F-35B FMS (3QFY14)
- F-35B FMS (1QFY15)
- F-35B FMS (3QFY15)
- F-35B FMS (1QFY16)
- F-35B FMS (2QFY16)
- F-35B FMS (2QFY18)
- F-35B DMRT (3QFY16)
- F-35B DMRT (2QFY18)

QUANTICO

- ATC TOWER SIM
- VH-60N APT
- VH-3D APT
- VH-71A CPT (TBD)
- VH-71B OFT (TBD)

Simulator Laydown 3d MAW

MIRAMAR

- ATC TOWER SIM
- KC-130J WST
- MCAT (TBD)
- F/A-18C TOFT
- F/A-18C TOFT
- F/A-18D TOFT
- F/A-18D TOFT
- F/A-18C TOFT (2QFY10)
- F/A-18C TOFT (RFT 3QFY11) (TXFR From Atsugi)
- CH-46 WST (DEMIL 1QFY12)
- CH-53E WST
- CH-53E APT (CNS/ATM Upgrade 3QFY13)
- CH-53 Ext Trainer
- CH-53E CFTD (4QFY12)
- CH-53E CFTD (4QFY12)
- CH-53 Desktop Trainer (1QFY12)
- MCAT (TBD)
- MCAT (TBD)
- MV-22 CFTD (1QFY10)
- MV-22 CFTD (1QFY10)
- MV-22 CFTD (3QFY10)
- MV-22 CFTD (3QFY10)
- MV-22 NICLE (3QFY10)
- MV-22 CMSPTT (1QFY10)
- MCAT (TBD)
- F-35B FMS (4QFY17)
- F-35B FMS (4QFY17)
- F-35B FMS (2QFY19)
- F-35B FMS (2QFY19)
- F-35B DMRT (1QFY18)
- F-35B DMRT (1QFY18)
- F-35B DMRT (4QFY19)
- CH-53K CFTD (1QFY17)
- CH-53K CFTD (1QFY17)
- CH-53K CFTD (1QFY18)
- CH-53K CFTD (1QFY19)
- CH-53K CPT (2QFY16)
- CH-53K CPT (2QFY16)
- CH-53K CPT (2QFY17)

PENDLETON

- ATC TOWER SIM
- CH-46E WST (DEMIL 1QFY14)
- AH-1W WST (TFER to McG 1QFY17)
- AH-1W APT (TFER to BC 1QFY17)
- UH-1N WST (TXFR to WR 4QFY12)
- AH-1Z FTD
- UH1Y FTD
- AH-1Z FFS (3QFY10)
- UH-1Y FFS (1QFY10)
- MCAT (TBD)
- MV-22 CFTD (2QFY14)
- MV-22 CFTD (2QFY14)
- MV-22 NICLE (2QFY14)
- CMSPTT (2QFY14)
- MCAT (TBD)

YUMA

- ATC TOWER SIM
- AV-8B WST
- AV-8B WST
- F-35B FMS (2QFY12)
- F-35B FMS (3QFY12)
- F-35B FMS (1QFY13)
- F-35B FMS (2QFY14)
- F-35B DMRT (1QFY14)
- F-35B DMRT (3QFY14)
- F-35B DMRT (2QFY16)

29 PALMS

- RQ-7 UAS OFT (4QFY10)
- RQ-7 UAS OFT (4QFY10)

Simulator Laydown 4th MAW

MCGUIRE
- KC130T OFT (TXFR from WG 2QFY13)
- AH-1W APT (TFER from JNT 2QFY11)
- AH-1W WST (TXFR from CP 1QFY17)
- UH-1N APT (TFER from NR 4QFY14)
- AH-1Z FTD (2QFY18)
- UH-1Y FTD (2QFY14)
- MCAT (TBD)
- CH-53E CFTD (TBD)
- CH-53E CFTD (TBD)
- CH-53 Ext Trainer (TBD)
- CH-53 Desktop Trainer (TBD)
- MCAT (TBD)
- MCAT (TBD)

WARNER ROBBINS
- AH-1W APT (TFER from ATL 4QFY10)
- UH-1N WST (TFER from CP 4QFY12)
- AH-1Z FTD (2QFY18)
- UH-1Y FTD (2QFY14)
- MCAT (TBD)

TBD SITE
- MV-22 CFTD (4QFY13)
- MV-22 CFTD (4QFY13)
- NICLE (4QFY13)
- CMSPTT (4QFY13)
- MCAT (TBD)
- RQ-7 UAS OFT (4QFY10)
- F-35B FMS (1QFY23)
- F-35B FMS (3QFY23)
- F-35B FMS (2QFY24)
- F-35B DMRT (2QFY23)
- F-35B DMRT (4QFY23)
- F-35B DMRT (2QFY24)

FT WORTH
- KC-130T WST
- KC-130T CPT
- F/A-18C OFT (DEMIL 2QFY10)
- KC-130T APT (TFER from FUT 4QFY10)
- F/A-18C TOFT (3QFY10)
- KC-130J WST (TBD)

BELLE CHASSE
- AH-1W APT (TXFR from CP 1QFY17)
- AH-1Z FTD (2QFY18)
- UH-1Y FTD (2QFY14)
- MCAT (TBD)

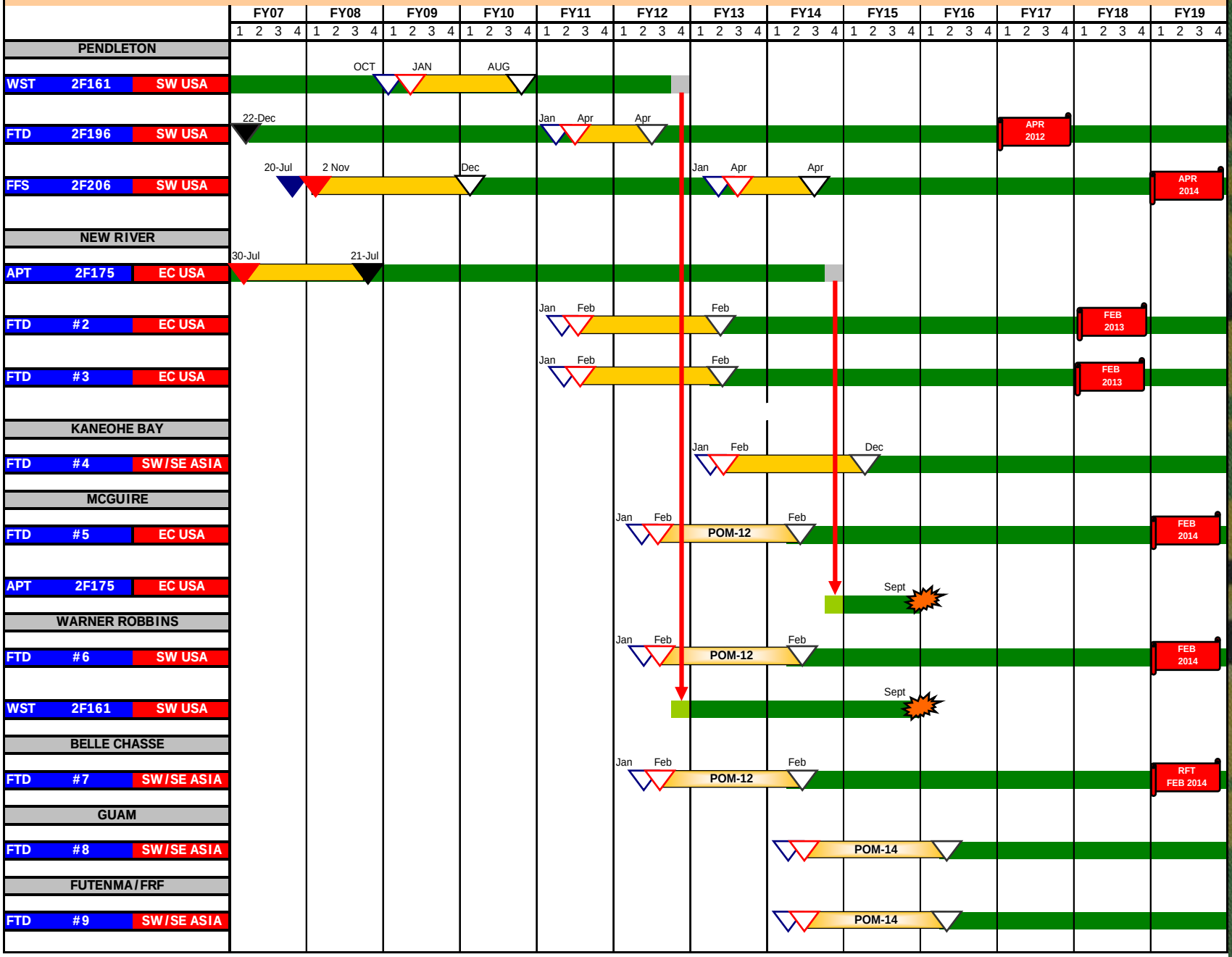
ATLANTA
- AH-1W APT (TXFR to WR 4QFY10)

JOHNSTOWN
- AH-1W APT (TXFER to McG 2QFY11)

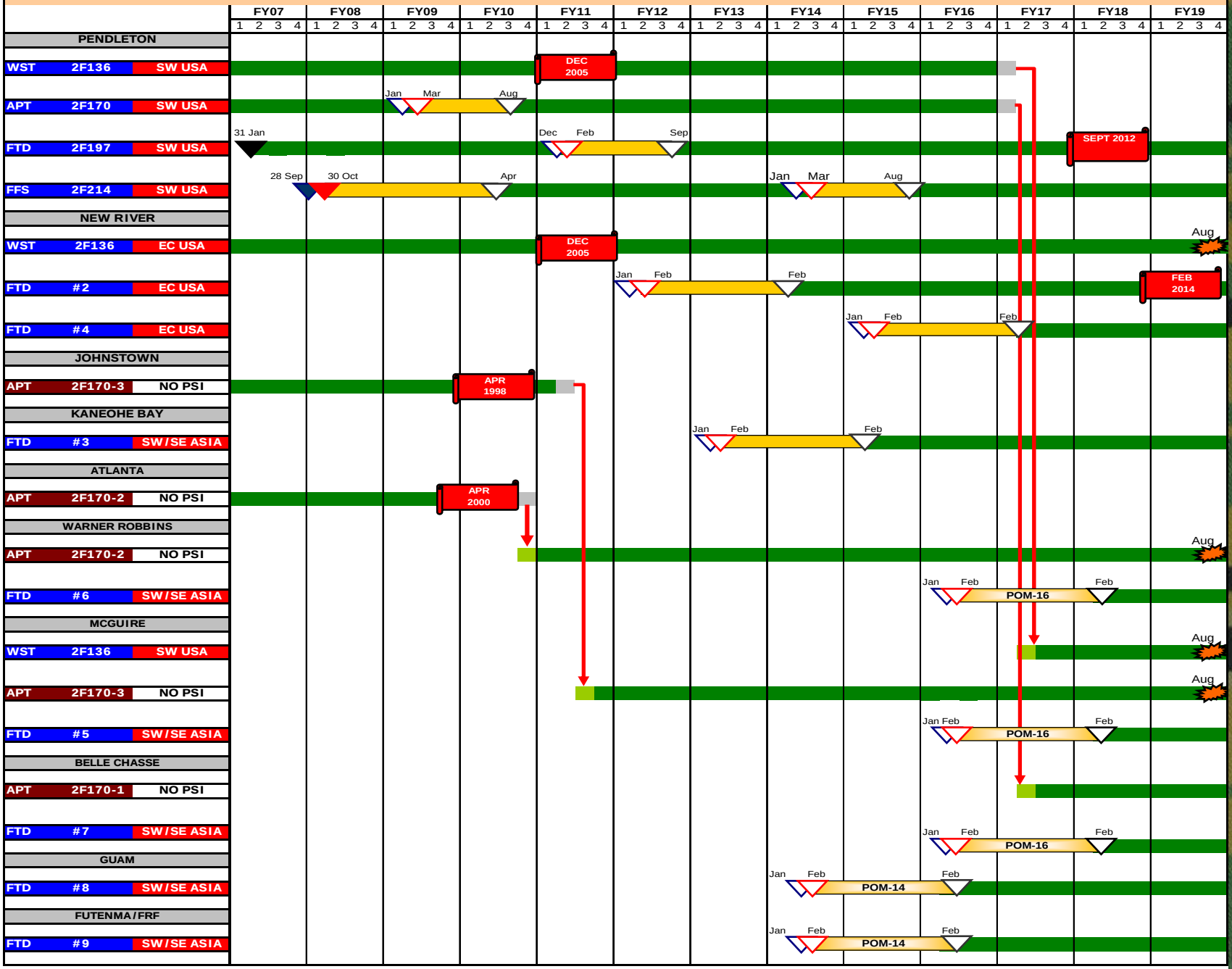
WILLOW GROVE
- KC130T OFT (TXFR to McG 1QFY13)

STEWART
- KC130J WST (TBD)
- MCATS (TBD)

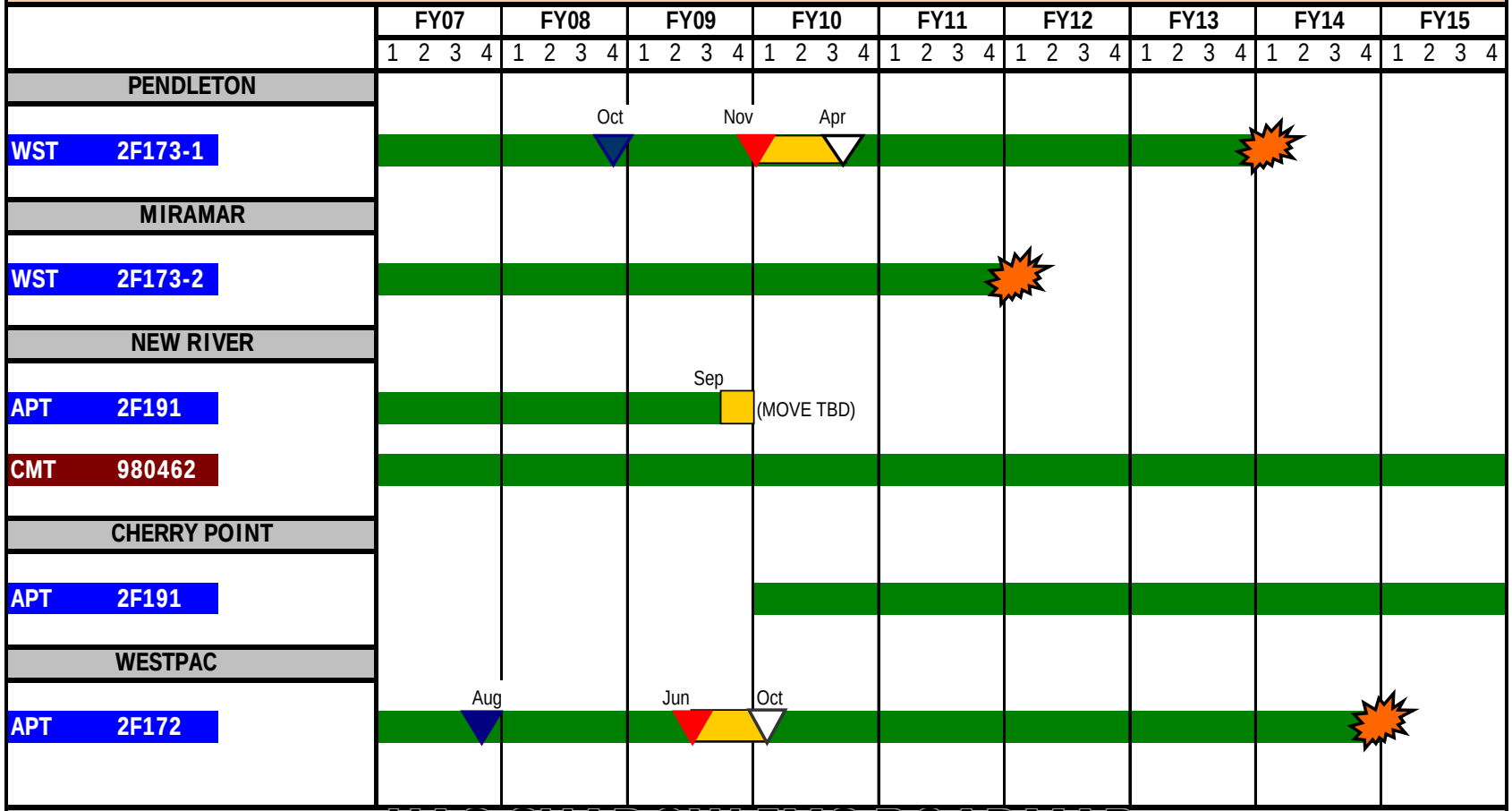
UH-1 AIRCREW ROADMAP



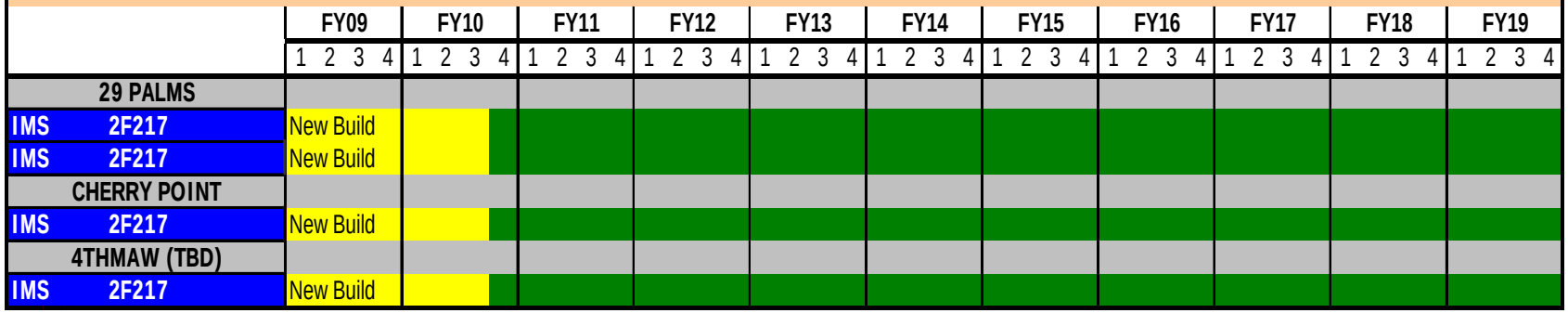
AH-1 AIRCREW ROADMAP



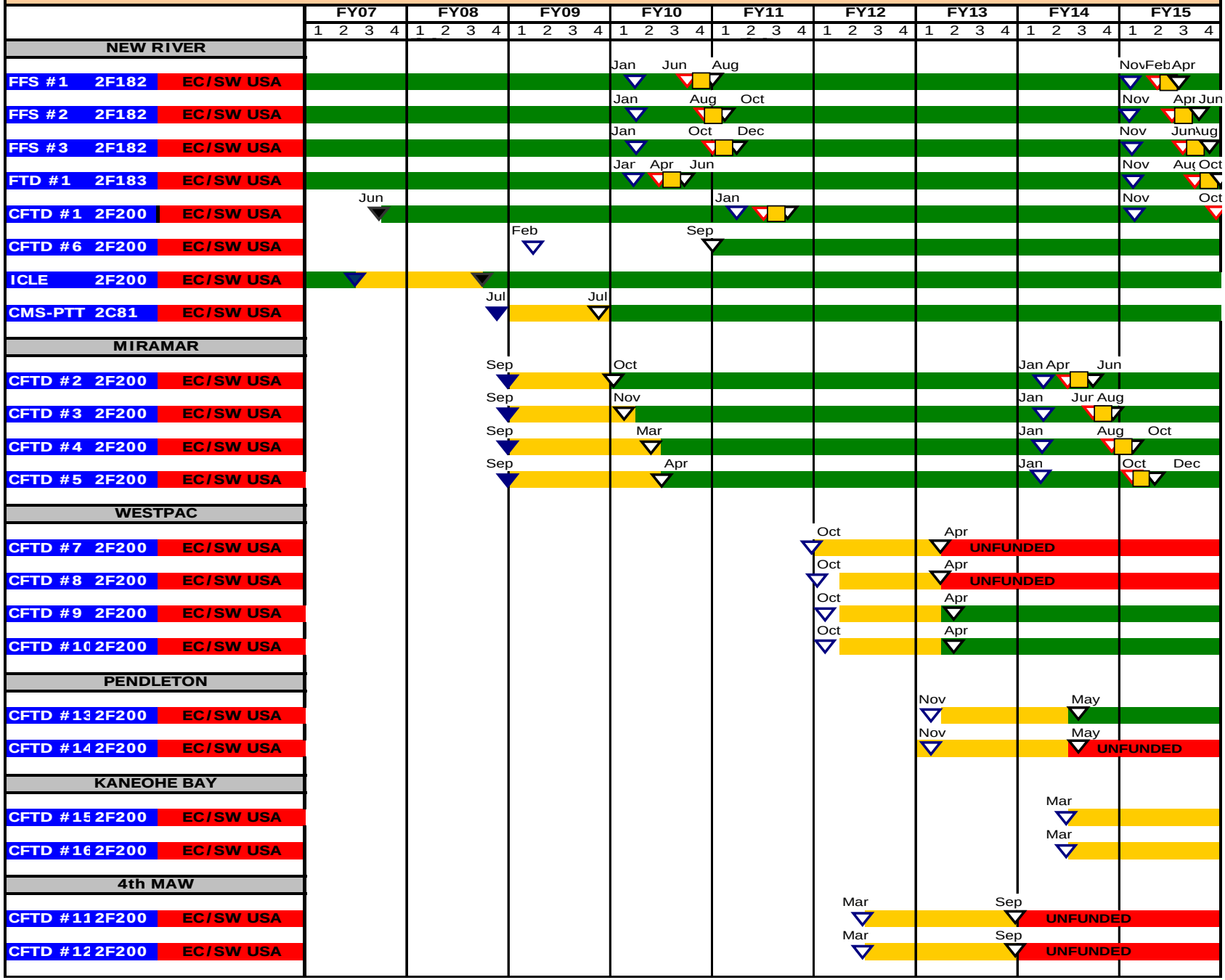
CH-46 AIRCREW ROADMAP



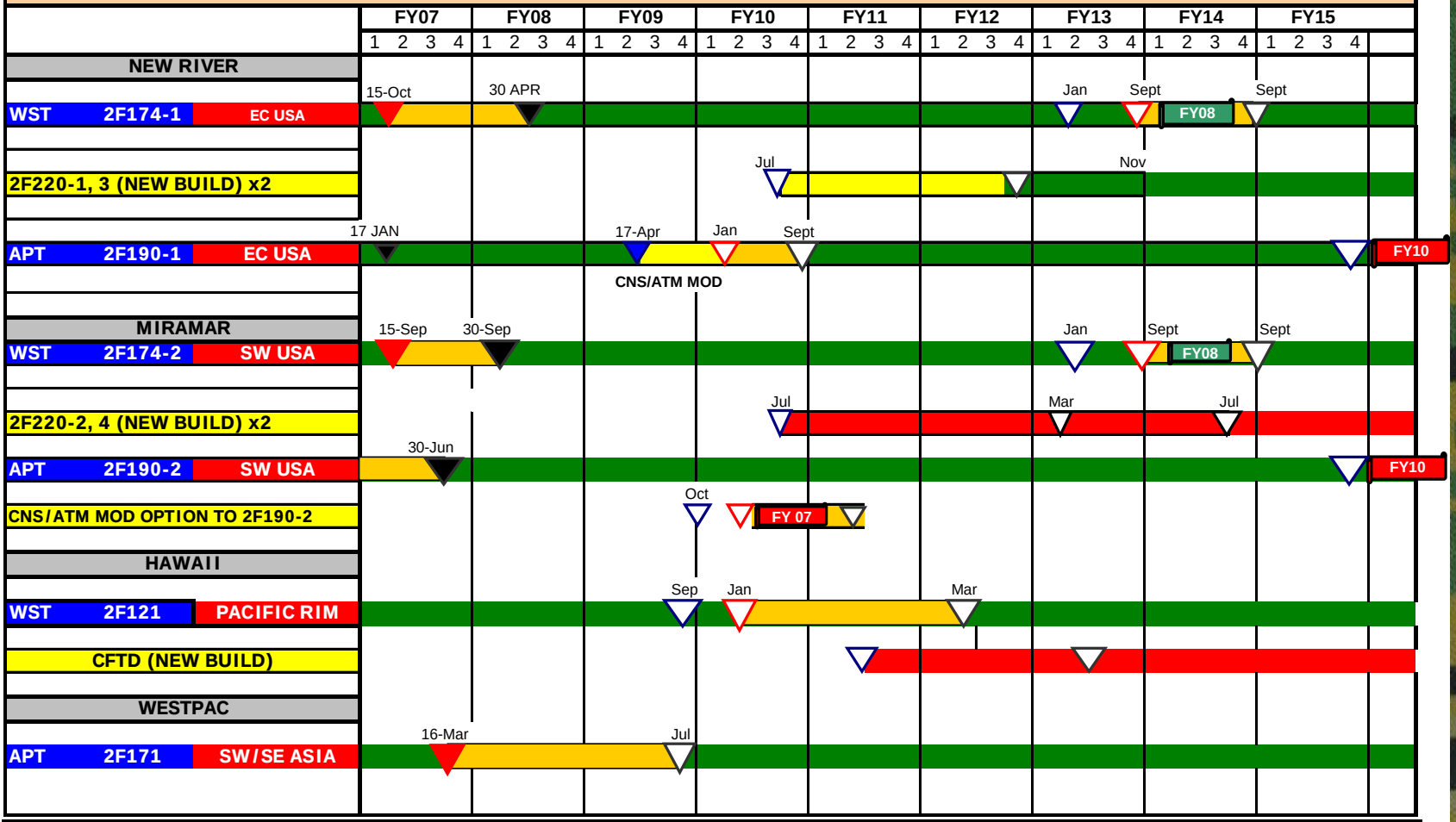
UAS SHADOW IMS ROADMAP



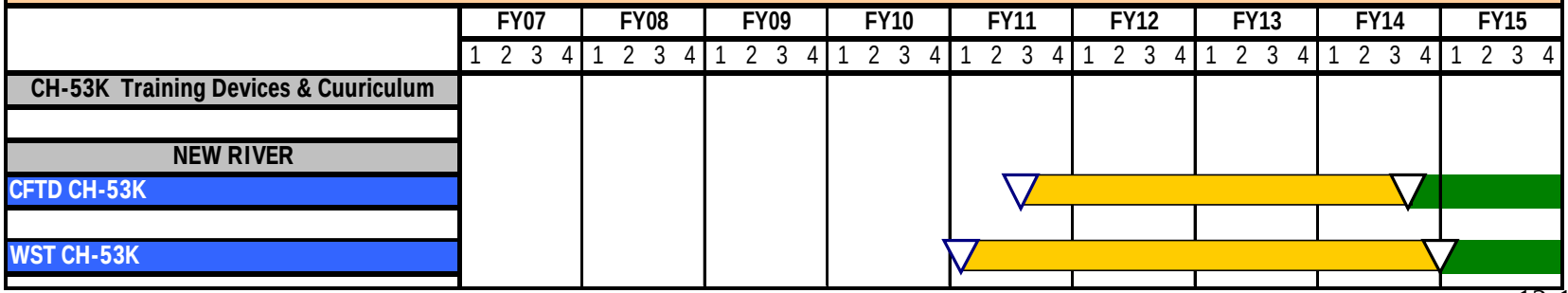
MV-22 AIRCREW ROADMAP



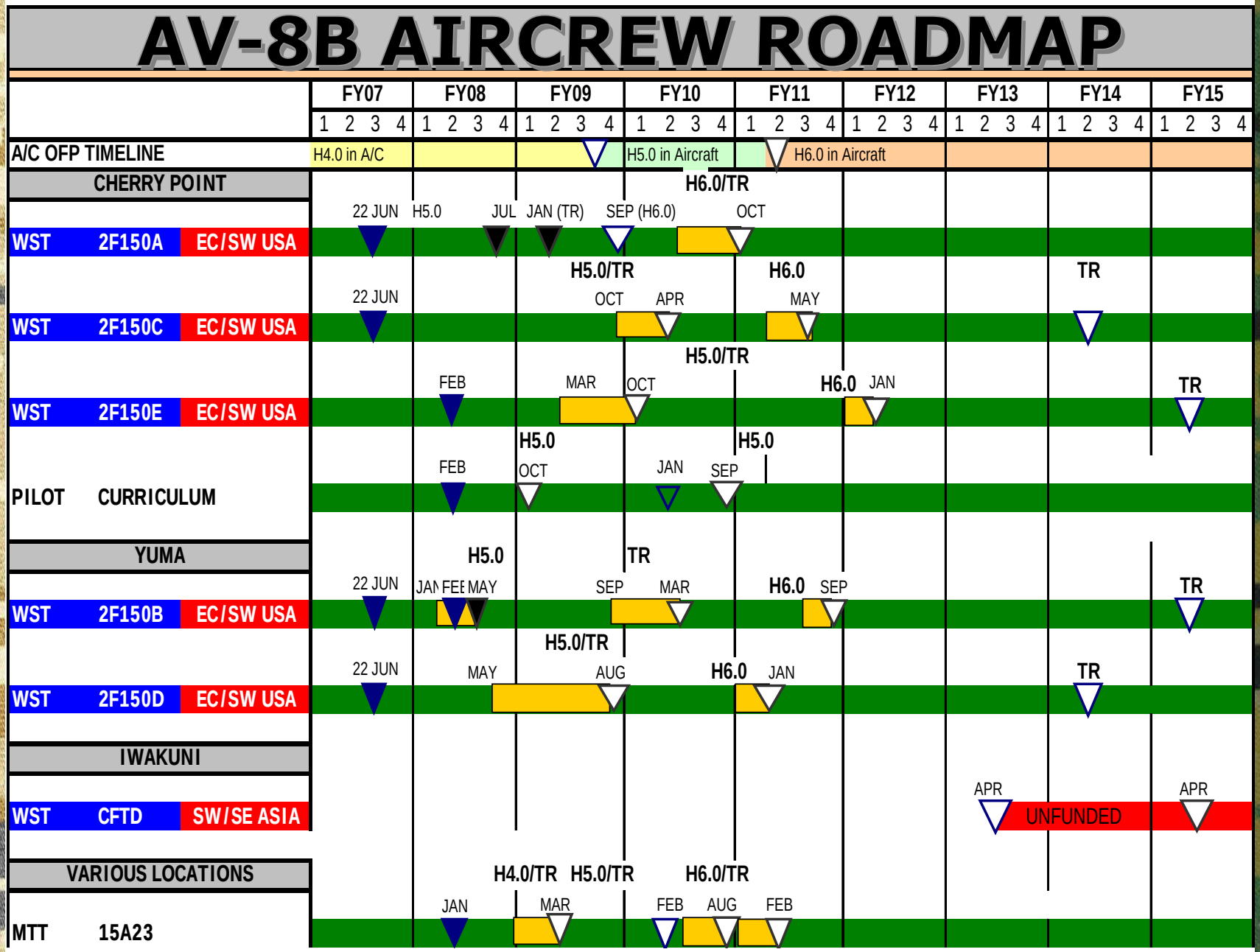
CH-53D/E Aircrew Roadmap



CH-53K Aircrew Roadmap



AV-8B AIRCREW ROADMAP



F/A-18 C-D AIRCREW ROADMAP - USMC

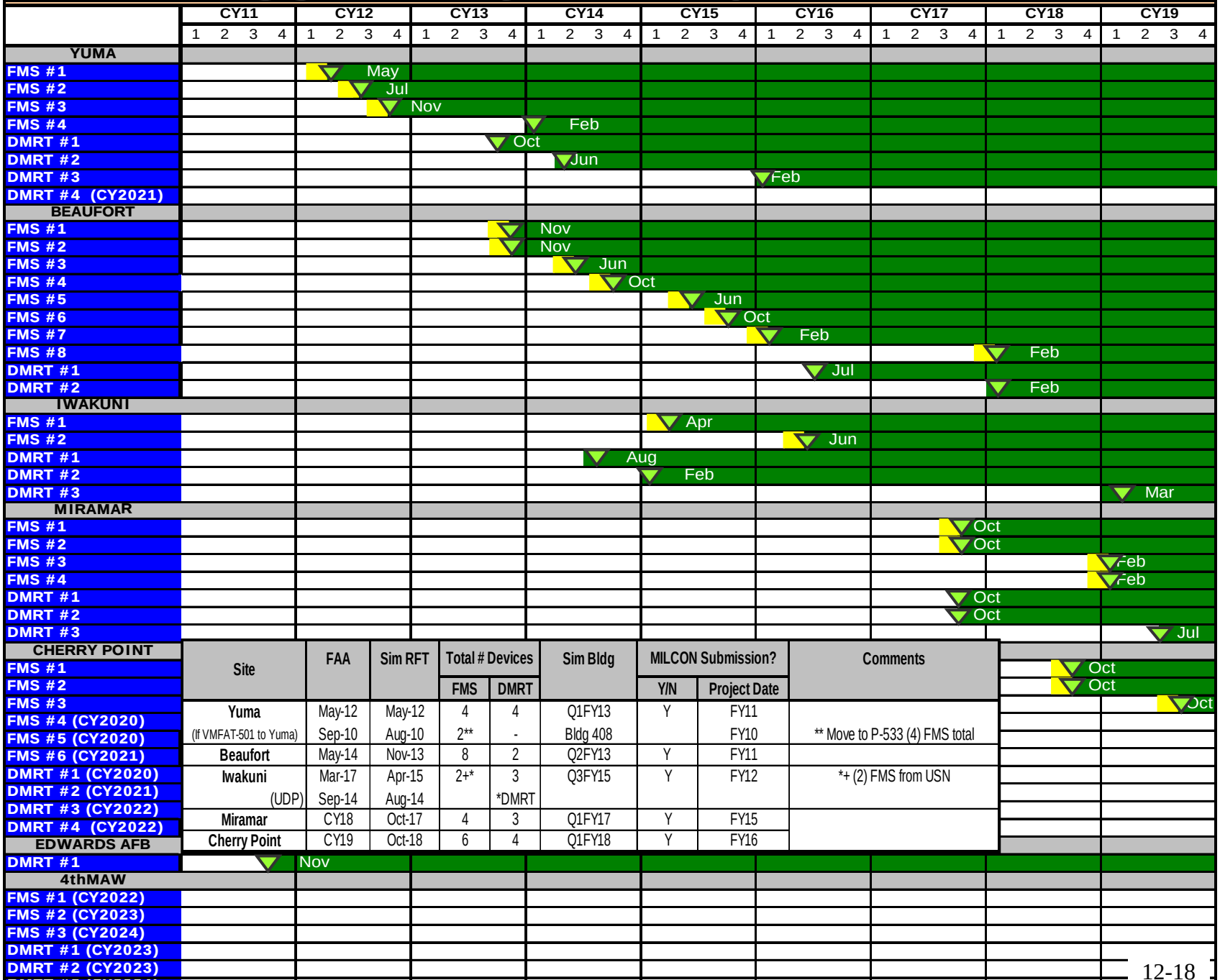
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
BEAUFORT									
FA-18C TOFT #28				JHMCS					
FA-18D TOFT #34		JHMCS							
FA-18D TOFT #36			JHMCS						
FA-18C TOFT #40				JHMCS					
IWAKUNI									
FA-18D TOFT #37			JHMCS						
FA-18D APT 2F192-1			Excess ??						
FA-18C TOFT #16	Move from Atsugi			JHMCS					
MIRAMAR									
FA-18D TOFT #30	JHMCS								
FA-18D TOFT #31	JHMCS								
FA-18C TOFT #32	JHMCS								
FA-18C TOFT #33	JHMCS								
FA-18C TOFT #38			JHMCS						
FA-18C TOFT #TBD									
FT. WORTH									
FA-18C TOFT #11			Excess??						
FA-18C TOFT #43									

- Distributed Mission Training capability for Miramar is a current reality. MATSS Beaufort will be capable in FY11.
- DMTs are planned (TBD) to link to other USMC simulators via the USMC ADVTE and/or Joint Tactical Experimentation Network (JTEN).

EA-6B AIRCREW ROADMAP - USMC

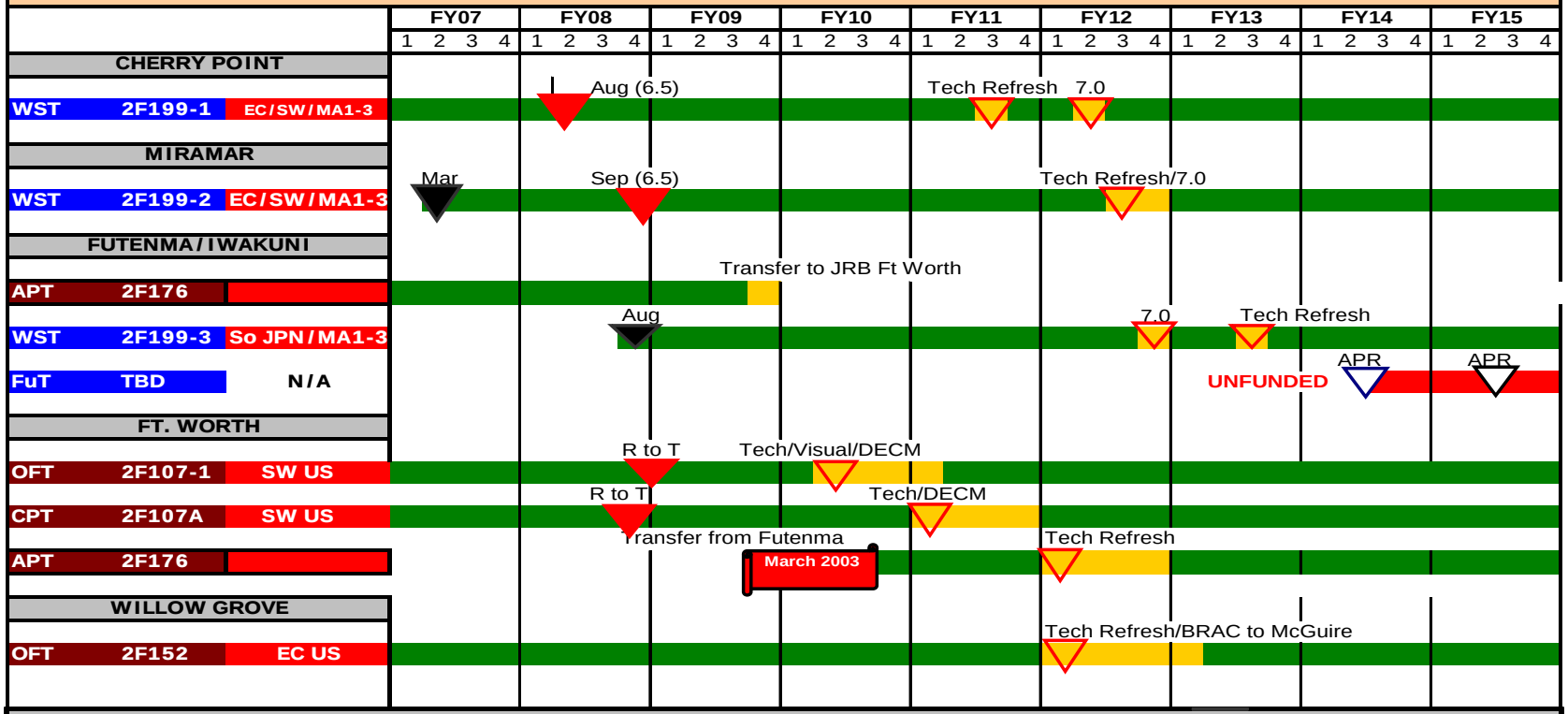
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
CHERRY POINT								
OF/NT ICAP II 2F143	BLK4						DISPOSAL?	
TTT ICAP II 15E22C	BLK4						DISPOSAL?	
OF/NT ICAP III 2F185	Pt Mugu	BLK4 REL CP FY10		BLK5	REF FY10			
WST ICAP III 2F188		BLK1-4		BLK5	REF FY12			
TTT ICAP III 15E43		BLK4		BLK5	REF FY11			
IWAKUNI								
WST ICAP II 2F178	BLK3 / 4 REH						DISPOSAL?	
NAS WHIDBEY ISLAND								
TTT ICAP III 15E43			REL CP FY10					
WST ICAP II / III 2F187		BLK4			REL CP?			

F-35B AIRCREW ROADMAP

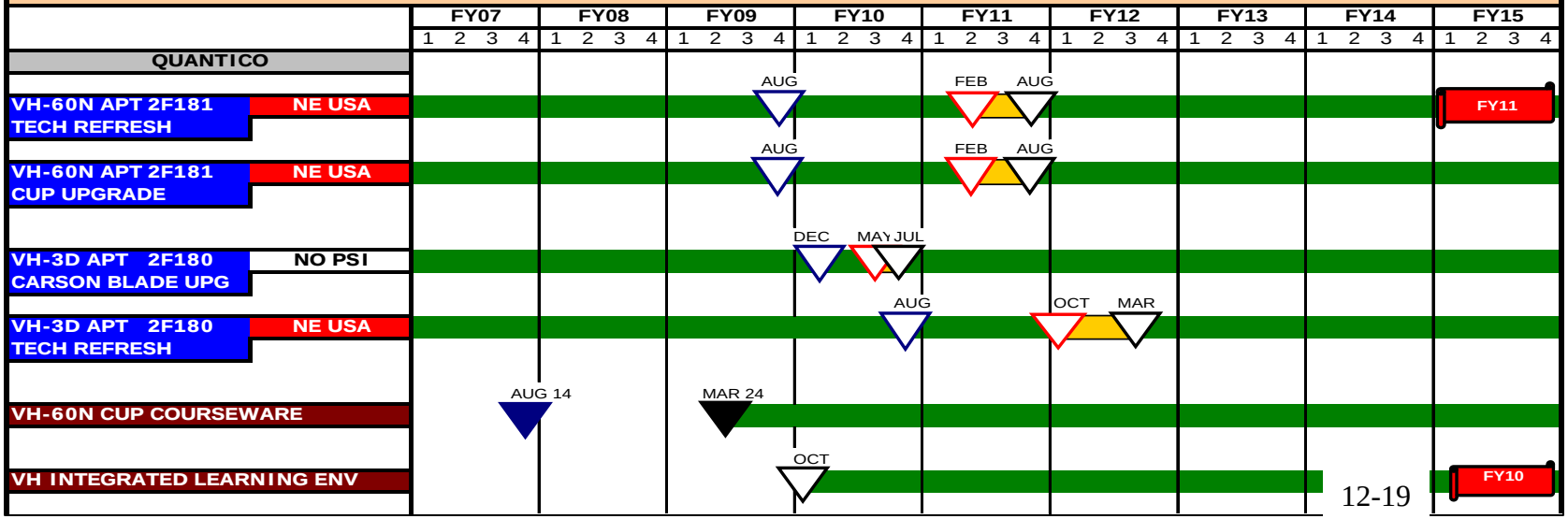


Site	FAA	Sim RFT	Total # Devices		Sim Bldg	MILCON Submission?		Comments
			FMS	DMRT		Y/N	Project Date	
Yuma	May-12	May-12	4	4	Q1FY13	Y	FY11	
(If VMFAT-501 to Yuma)	Sep-10	Aug-10	2**	-	Bldg 408		FY10	** Move to P-533 (4) FMS total
Beaufort	May-14	Nov-13	8	2	Q2FY13	Y	FY11	
Iwakuni	Mar-17	Apr-15	2+*	3	Q3FY15	Y	FY12	*+ (2) FMS from USN
(UDP)	Sep-14	Aug-14		*DMRT				
Miramar	CY18	Oct-17	4	3	Q1FY17	Y	FY15	
Cherry Point	CY19	Oct-18	6	4	Q1FY18	Y	FY16	

KC-130 AIRCREW ROADMAP



VH AIRCREW ROADMAP



Marine Common Aircrew Trainer Roadmap

- There is an increased emphasis for enlisted aircrew (EAC) T&R simulator training by the assault support communities. While it is driving an analysis for a "common" trainer, a single trainer cannot cover all training tasks for KC-130, CH-53, MV-22 and UH-1 in the T&R. The MCAT will be a family of trainers which together meet the training requirements for Marine aviation EAC across several platforms. Multiple smaller devices could be procured to capture some of the highly specific T/M/S T&R requirements not included in this common device.
- Assault support EAC trainer(s) should be tailored towards initial 1000-level T&R training codes and capable of conducting: aerial gunnery; hoist operations; hell-hole and external ops; confined-area landing training; shipboard operations; CRM training; all-weather operations; threat operations; day; night; night vision device; and other training events, all using personal flight gear. It will also cover:
  - Wind-loading, recoil, ballistics modeling, and impact assessment on weapons.
  - Autonomous or instructor-controlled routes,
  - Voice and audio network capability to front cockpit trainers through USMC Tactical Environment Network (TEN).
  - Enlisted aircrew recordable/debrief capability
  - 2000-6000 level Training and Readiness credit.

				FY08				FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19				FY20			
LOCATION	ACFT	TYPE	S/N	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
NEW RIVER	MCAT-P	APT	2H160	Prototype EAC/Gun SIM (CH46/CH53 Demonstrator)																																																		
NEW RIVER	MCAT	APT	2H16X-1																					EAC/Gun SIM																															
NEW RIVER	MCAT	APT	2H16X-2																					EAC/Gun SIM																															
MIRAMAR	MCAT	APT	2H16X-3																									EAC/Gun SIM																									
MIRAMAR	MCAT	APT	2H16X-4																									EAC/Gun SIM																									
NEW RIVER	MCAT	APT	2H16X-5																									EAC/Gun SIM																									
NEW RIVER	MCAT	APT	2H16X-6																									EAC/Gun SIM																									
MIRAMAR	MCAT	APT	2H16X-7																													EAC/Gun SIM																					
PENDLETON	MCAT	APT	2H16X-8																													EAC/Gun SIM																					
PENDLETON	MCAT	APT	2H16X-9																													EAC/Gun SIM																					
PENDLETON	MCAT	APT	2H16X-10																													EAC/Gun SIM																					
FUTENMA / FRF	MCAT	APT	2H16X-11																																	EAC/Gun SIM															
FUTENMA / FRF	MCAT	APT	2H16X-12																																	EAC/Gun SIM															
FUTENMA / FRF	MCAT	APT	2H16X-13																																	EAC/Gun SIM															
FUTENMA / FRF	MCAT	APT	2H16X-14																																	EAC/Gun SIM															
KANEOHE BAY	MCAT	APT	2H16X-15																																					EAC/Gun SIM												
KANEOHE BAY	MCAT	APT	2H16X-16																																					EAC/Gun SIM												
KANEOHE BAY	MCAT	APT	2H16X-17																																					EAC/Gun SIM												
KANEOHE BAY	MCAT	APT	2H16X-18																																					EAC/Gun SIM												
GUAM	MCAT	APT	2H16X-19																																								EAC/Gun SIM									
GUAM	MCAT	APT	2H16X-20																																								EAC/Gun SIM									
GUAM	MCAT	APT	2H16X-21																																								EAC/Gun SIM									
GUAM	MCAT	APT	2H16X-22																																								EAC/Gun SIM									
MCGUIRE	MCAT	APT	2H16X-23																																											EAC/Gun SIM					
MCGUIRE	MCAT	APT	2H16X-24																																											EAC/Gun SIM					
MCGUIRE	MCAT	APT	2H16X-25																																											EAC/Gun SIM					
WARNER ROBBINS	MCAT	APT	2H16X-26																																											EAC/Gun SIM					
BELLE CHASSE	MCAT	APT	2H16X-27																																																
TBD	MCAT	APT	2H16X-28																																															

• First two devices would deliver 30 months after contract award.

Section 13 --- Marine Aviation Logistics Plan

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Aviation Logistics: End-to-End AIRSpeed	13-3
Aviation Logistics: MALSP II	13-4
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Fixed Wing Aviation Logistics Plan	13-11

Aviation Logistics: Transformation Process

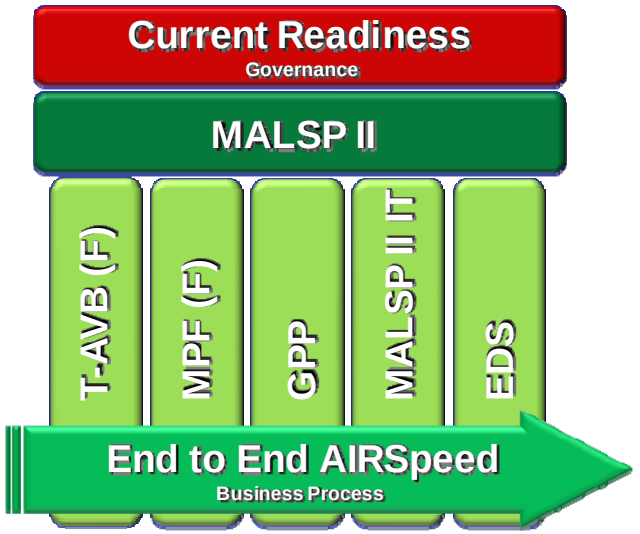
Marine aviation is transforming to meet the new, uncertain, operational theater and move towards current readiness. Marine aviation logistics (AVLOG) is aware of this changing environment, and is aligning its concept of operations carefully to ensure it is ready to meet and surpass current and future challenges.

AVLOG provides organizational and intermediate levels of aviation maintenance, supply, ordnance, and avionics in support of the ACE as a key component of the Marine Air Ground Task Force. AVLOG's strategy to continue to satisfy this requirement, as it evolves to meet the new challenges, is based on a new way of doing business – End-to-End (E2E) AIRSpeed.

E2E AIRSpeed is AVLOG's fundamental business process, being intrinsic to all current and near term initiatives. It is the process enabler of Marine Aviation Logistics Support Program (MALSP) II and its family of systems, and it is the foundational architecture to achieve current readiness.

E2E AIRSpeed is based on proven continuous process improvement (CPI) concepts. It will cut across and be disseminated throughout the entire AVLOG community, becoming fully ingrained in our organization so that it becomes *"the way we do business."* E2E AIRSpeed in its mature and fully deployed end state will achieve the MALSP II doctrine and current readiness goals and ultimately provide Marine aviation with the truly exceptional logistics system it demands.

AVLOG Transformation
E2E AIRSpeed ➡ MALSP II ➡ Current Readiness



Aviation Logistics: Transformation – E2E AIRSpeed

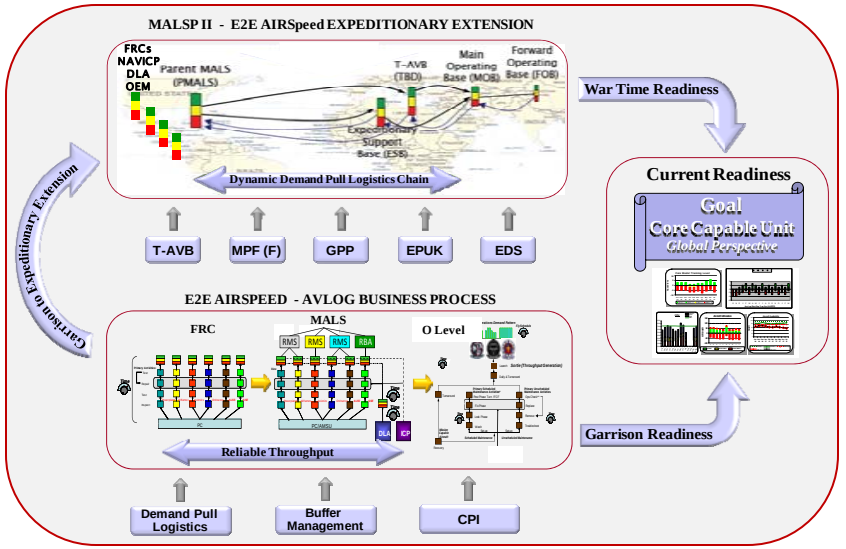
End-to-End (E2E) AIRspeed is AVLOG's fundamental methodology for conducting business. It is the key process enabler for MALSP II and current readiness. It is aligned to the long war concept, Marine Corps *Vision and Strategy 2025*, and the Maritime Strategy. It also supports Naval Aviation Enterprise (NAE), Marine Aviation Executive Readiness Board (MAERB) and type/model/series team goals.

E2E AIRSpeed began its journey as an integrated application of Theory of Constraints (TOC) and Lean Six Sigma (LSS) to improve the effectiveness and efficiency of the Marine Aviation Logistics Squadrons (MALS) and Navy Aircraft Intermediate Maintenance Detachments (AIMD). It has been very successful in achieving this goal, and its designed end state is providing highly reliable and effective logistics throughput to the operational squadrons.

Implementation of this new business process at the MALS & AIMDs was only the first step. E2E AIRSpeed is now evolving to take a holistic view of the entire Marine aviation logistics supply chain, whether garrison – flight line to depot artisan to NAE logistics providers – or deployed – forward operating base to en route support base (ESB) to parent Marine Aviation Logistics Squadron (PMALS). It will align and synchronize all supporting activities towards the common goal and provide Marine aviation with truly exceptional support.

E2E AIRSpeed is implemented to a carefully developed 'blueprint' based on the Theory of Constraints (TOC), demand-pull logistics and buffer management principles. It is underpinned by focused and aggressive continuous process improvement (CPI) applied through the entire Marine Corps, which seeks to identify and eliminate waste, variation and redundancy throughout the logistics chain.

E2E AIRSpeed - Synchronizing the Logistics Chain



E2E Airspeed is being deployed aggressively throughout the aviation enterprise. To date, one type/model/series has been completed and the second is at the planning phase. The goal is to complete all TMSs by FY2012.

Aviation Logistics: Transformation – MALSP II

MALSP has a history of excellence in supporting Marine aviation. It was the foundation of support for the Marine ACE during Operations Desert Shield and Desert Storm, and it has continued to support the ACE in Iraq and Afghanistan.

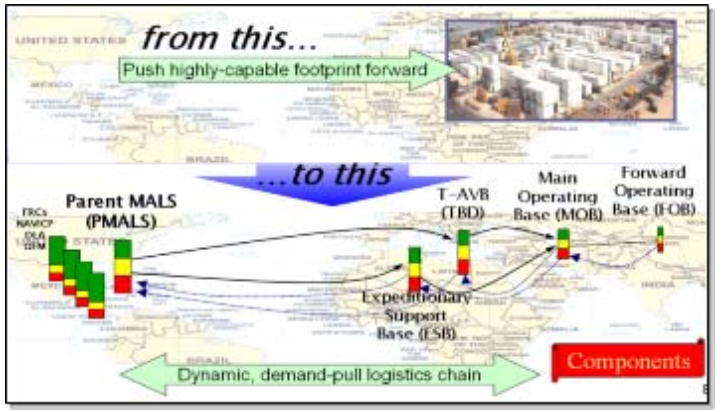
Marine aviation is facing new challenges. It has to maintain its capability to address major combat operations, but it must also evolve to deal with adversaries driven to use irregular, catastrophic, and disruptive methods to further their aim.

MALSP II is AVLOG's deployed logistics sustainment solution to meet these demanding and changing requirements. It supports the long war concept, Marine Corps *Vision and Strategy 2025*, and the Maritime Strategy. MALSP II will transform deployed aviation logistics, providing a responsive, agile and sustainable solution with a properly sized, forward operational footprint. This will ultimately ensure that the ACE is supported, whatever the role, whatever the threat, wherever the location.

MALSP II is based on E2E AIRSpeed, AVLOG's fundamental methodology for conducting business. It uses Theory of Constraints (TOC) demand-pull and buffer management principles vice the scheduled push system of its predecessor. TOC is used to develop a blueprint of the process which can be easily replicated throughout the enterprise. It is this design, underpinned by LSS and CPI strategies which creates the responsive, agile and sustainable solution needed to satisfy the new and ever evolving challenge.

The nodes in the MALSP II logistics chain will include the parent Marine Aviation Logistics Squadron (PMALS); en route support base (ESB); main operating base (MOB); and forward operating base (FOB). MALSP II's maintenance concept is to conduct all non-essential intermediate level maintenance at the PMALS and only deploy limited maintenance capability at forward nodes to mitigate situations which cannot be met by material buffers. During high intensity conflicts, the MALSP II logistics chain can be augmented with maintenance capability and material buffers from two roll-on / roll-off Aviation Logistics Support Ships (T-AVB), Maritime Pre-Positioning Force (Future) amphibious ships, and a global preposition (GPP) capability for aviation support equipment.

Transformation from Legacy MALSP to MALSP II



MALSP II is a critical logistics solution to maintain Marine Aviation capability. MALSP II ranked # 4 of 264 capability gaps for the MAGTF during the MAGTF Gap List (MGL) rack and stack process. To ensure the successful deployment of the solution, AVLOG engaged the MALSP II Project Office, the MARFORs and the wings to develop the "key" Mission Essential Tasks (METS) required for MALSP II IOC development and implementation. Seven METS were developed and subsequently approved by the AVLOG ESC. The METS have become the key milestones to the successful execution of MALSP II and are incorporated into an Integrated Master Plan. Current key activities include the MALSP II pilot, which formalizes the interface between ASL, the project office and the MARFORs/wings. The pilot itself is governed by the METS, and its timely completion is essential to the MALSP II IOC for FY2014.

MALSP II will transition to a program of record during the POM-12 process. This will ensure that the program receives crucial funding and the high level visibility needed to make certain it is developed and deployed to provide essential support to Marine aviation operating in an uncertain strategic environment.

Aviation Logistics: Transformation Enablers

Aviation Logistics Support Ship – T-AVB (F)

USMC aviation currently employs two dedicated Aviation Logistics Support Ships (T-AVBs). The ships provide dedicated sealift capability for the rapid movement of the USMC aviation intermediate level (I-level) maintenance facilities to sustain fixed and rotary-wing aircraft. The hull life for these two ships expires in 2019 and 2020 respectively, resulting in potential critical capability loss for Marine aviation. T-AVB (F) represents AVLOG's initiative to plan for and replace the two ships and ensure this critical capability is maintained. AVLOG's current TAV-B (F) activities are focused on validating funding requirements for POM 12.

Maritime Prepositioning Force – MPF (F)

MPF (F) is a critical element of the MALSP II family of systems, providing critical support to the forward-deployed MAGTF. Maintenance, repair, medical treatment, and supply operations will be conducted primarily from sea-based platforms. The MPF (F) will become, in essence, a floating support facility for the forces deployed and operating afloat and ashore. These ships are depicted as yellow blocks in the accompanying graphic.

Geographic Prepositioning Program – GPP

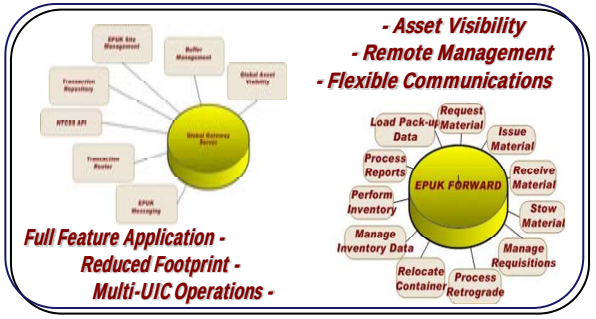
Forward geographic prepositioning of equipment is an HQMC initiative which is fully complementary to MALSP II and its family of systems. GPP uses main operating bases (red stars in accompanying graphic); forward operating sites (green stars), and a diverse array of more austere cooperative security locations (purple stars) to preposition equipment and supplies in critical regions and along key transportation routes. This concept is an important aspect of the MALSP II doctrine as it will ensure that equipment and supplies are available to support and sustain rapid deployment of the ACE.

AVLOG will fully embrace and support the GPP initiative and leverage its capability to enable the success of E2E AIRSpeed and MALSP II.

Aviation Logistics: Transformation Enablers

Expeditionary Pack Up Kit – EPUK

EPUK is the IT solution and management system for MALSP II. It is designed to provide global management of materials and equipment while maintaining electronic connectivity with the supporting MALS at dispersed geographic locations. HQMC aviation has contracted with Intermec Technologies, Phase IV Engineering and SPAWAR to design, develop and deliver a rugged EPUK capability to support this requirement. When fully developed, EPUK will integrate with other logistics management tools to provide complete visibility of aviation logistics demand, inventory levels, materials in transit, and retrograde shipments. It is a key capability to ensure MALSP II will achieve its goal of providing a responsive, agile and sustainable logistics solution.



Expeditionary Delivery System – EDS

The MALSP II doctrine demands a highly flexible and responsive delivery system for aviation maintenance repair facilities, parts, supplies and support equipment. The Expeditionary Delivery System (EDS) will satisfy this critical element of MALSP II with a delivery solution which is comprised of a stronger, light weight and modular family of containers and support packages. Key components of the system include standardization, scalability, right sized modules and International Organization for Standardization (ISO) compatibility, features which will facilitate organic lift and handling capabilities and ultimately satisfy the fundamental requirements for flexibility, agility and rapid response. AVLOG will participate in the evolution of EDS and leverage its concept to ensure its capability is an integral part of the overall MALSP II solution.

AVLOG Information Technology (IT) Strategy

AVLOG IT is developing, updating, and implementing doctrine to support AVLOG transformation enablers, as well as training and positioning personnel to meet future IT challenges. AVLOG IT is working with resource sponsors to sustain the strategy and maintain our current systems.

Aircraft Material Condition:

AIRCRAFT Material Condition:

The responsibility to maintain, preserve, and enhance the capability of aircraft rests with O-level squadrons and I-level activities that provide essential aviation logistics support. Professionally maintained and 'healthy' aircraft will promote safe operations and ensure maximum aircraft reliability, performance, and combat capability. To that end, aircraft material condition goals and a standardized policy of limiting outstanding maintenance discrepancies for each T/M/S aircraft are directed.

AIRCRAFT Material Condition Goals:

• Maintains all squadrons at 100% PMAA.
• Achieve category 'B' readiness goals for MC/FMC rates as specified in OPNAVINST 5442.4 (series).
• Adhere to depot level induction requirements.
• Increase priority of corrosion prevention and treatment.
• Ensure "A" status aircraft do not remain in non-flying status for more than sixty days (aircraft should be flown before sixty days elapse.)
• Require annual training for aircrew and maintenance personnel in corrosion identification and prevention.

Goals for Maximum Number of Awaiting Maintenance Discrepancies:

• F/A – 18 A/C/D, AV-8B, UH/AH-1……10
• CH-46E ……...15
• MV-22, KC-130J ……20
• KC-130F/R/T, CH-53-D/E……...25

RESET Program:

VISION:
Enhance the material condition of USMC aircraft and reduce the maintenance burden on our Marines using a holistic approach:
- Develop the process for requirements determination.
- Include specification development, budgeting, contracting, scheduling, and execution.
- Develop performance metrics, policy and plans.

CURRENT SITUATION: Source selection during Dec 08/ Jan 09 resulted in selection of two primary contractors, Defense Support Systems (DS2) and PKL Services (PKL):

Lot 1: F/A-18, EA-6B, AV-8B performed by DS2
Lot 2: KC-13J performed by DS2
Lot 3: AH-1W, UH-1N, CH-53D/E performed by PKL
Lot 4: CH-46E performed by PKL
Five year contract (Base contract plus nine six month options).

RESET PROGRAM ELEMENTS

PRESET: Will be performed on all aircraft (including operational spare aircraft) identified for deployment in support of OCO. PRESET will commence no earlier than 180 days prior to deployment and complete no later than 30 days prior to deployment. *(Event duration 14 days)*
IN THEATER SUSTAINMENT: Will be performed on all aircraft that are assigned OCONUS on extended rotation (more than 1 year) to ensure aircraft are maintained to "preset Condition" before their subsequent return to CONUS. *(Event duration 30 days)*
RECONSTITUTION: Will be performed on all aircraft returning from OCO have at least 60 days of consecutive land-based operations in those operational areas. The Reconstitution will commence no earlier than the first day upon return from deployment, and will be completed no later than 180 days from the date the aircraft returned to CONUS. *(Event duration 21 days)*
INDUSTRIAL / INTEGRATED LOGISTICS SUPPORT: Reestablish aircraft readiness baseline due to increased OIF utilization rates. Refurbish support equipment (SE) degraded in harsh OIF environment Reduce depot work in process. Standardize work load packages

Marine Aviation Logistics Support Program

Contingency Support Package (CSP) Descriptions :

Fly-In Support Package (FISP) – The FISP provides organizational-level remove-and-replace spare parts to support the initial 30 days' sorties at combat flying hour utilization rates. The FISP is deployed with the fly-in echelon (FIE) and/or flight ferry (FF) of the deploying ACE and is critical to enabling initial combat operations.

Peculiar CSP (PCSP) – Also a follow-on to the FISP, the PCSP is unique to the type/model/series aircraft (number and type) and combines with the CCSP to form the MALS intermediate-level capability. CCSPs and PCSPs combine to provide 90 days of combat flying hours depth of sustainment.

Common CSP (CCSP) – The follow-on to the FISP and/or RESP, the CCSP is the baseline core capability of the intermediate-level support of the deploying Marine Aviation Logistics Squadron (MALS). The CCSP is subdivided into fixed- and rotary-wing CCSPs.

Follow-On Support Package (FOSP) – The FOSP is a deployable intermediate-level capability that due to its size and footprint may be phased to a theater of operation, depending on mission requirements and mission duration.

Training Support Allowance (TSA) – The TSA is a thirty-day support package specifically tailored to support a Fleet Replacement Squadron. As such, the TSA does not deploy.

Remote Expeditionary Support Package (RESP) – The RESP combines with FISP spares and provides personnel, SE, and additional MFs tailored to sustain the ACE during the first thirty days of operations until the CSPs arrive in theater.

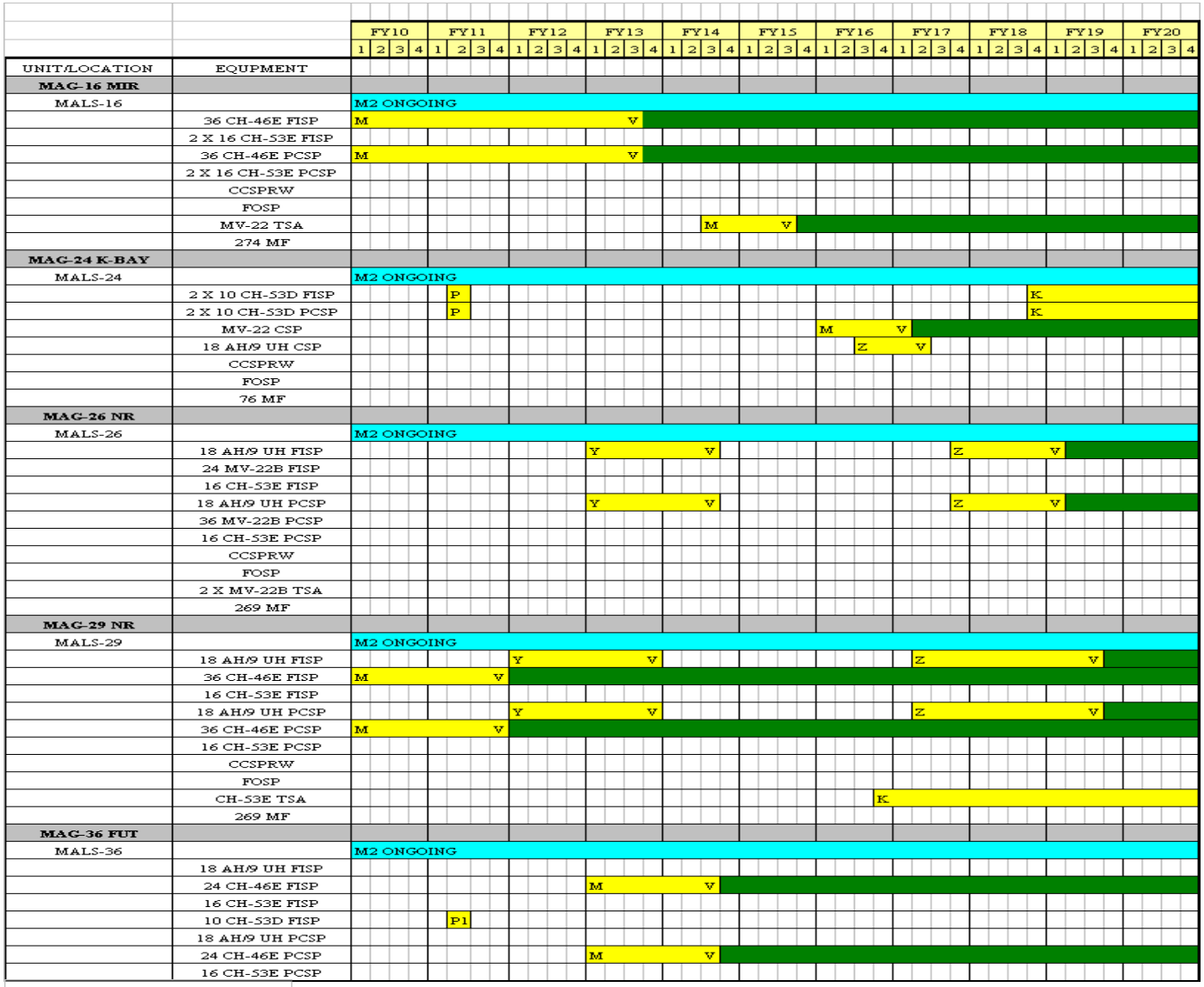
MALSP

CSPs identify aviation logistics support for Marine contingency requirements. CSPs provide the necessary people, support equipment (SE), mobile facilities (MFs) and spare/repair parts for each MAG/MALS. The spare/repair parts are computed at the combat utilization rate for a 90 day duration. CSPs ensure that adequate peculiar support is available for separate/sustained operational commitments when attached to a "host" MALS.

The Remote Expeditionary Support Package (RESP) is the most tailorable element of MALSP, consisting of the FISP, people, MF, and SE for a thirty-day duration. In order to capture the composition of a RESP, a workbook has been designed for each T/M/S aircraft. Each workbook will capture data that will enable planners to access quickly the 80% solution for current and future deployments alike. Each current readiness T/M/S team lead will be responsible for the input and upkeep of the respective RESP workbooks.

Pages 13-9 to 13-12 represent the T/M/S transitions and their respective CSP lay downs. It is critically important during our transformation to MALSP II that CSPs and the RESP concept leverage all AIRSpeed lessons learned to increase aviation readiness and the flexibility and effectiveness of aviation logistics support.

Rotary Wing Aviation Logistics Plan



Y= YANKEE TRANSITION BEGINS
Z = ZULU TRANSITION BEGINS
M = MV-22 TRANSITION BEGINS
K = CH-53K TRANSITION BEGINS
P = CH-53D PMAA INCREASE TO 16
P1 = SOURCE PMAA INCREASE
V = TRANSITION COMPLETE

Rotary Wing Aviation Logistics Plan (cont.)

		FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19				FY20			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
UNIT/LOCATION	EQUIPMENT																																											
MAG-36 FUT																																												
MALS-36																																												
	10 CH-53D PCSP					P1																																						
	CCSPRW																																											
	FOSP																																											
	269 MF																																											
MAG-39 PEN																																												
MALS-39		M2 ONGOING																																										
	2 X 18 AH/9 UH FISP	Y											V									Z							V															
	24 CH-46E FISP																						M						V															
	2 X 18 AH/9 UH PCSP	Y											V									Z							V															
	24 CH-46E PCSP																						M						V															
	CCSPRW	Y											V									Z							V															
	FOSP																																											
	AH/UH TSA	Z	V																																									
	279 MF																																											
MAG-41 FTW																																												
MALS-41		M2 ONGOING																																										
	12 CH-46E PCSP																									M							V											
MAG-49 WLG																																												
MALS-49		M2 ONGOING																																										
	12 CH-46E PCSP																	M			V																							
	6 CH-53E PCSP																																											
	3 X 6AH/3UH PCSP																					Y		V														Z					
	CCSPRW																																											

Y= YANKEE TRANSITION BEGINS

Z = ZULU TRANSITION BEGINS

M = MV-22 TRANSITION BEGINS

K = CH-53K TRANSITION BEGINS

P1 = SOURCE PMAA INCREASE

V = TRANSITION COMPLETE

M2 = MALSP II TRANSITION

Fixed Wing Aviation Logistics Plan

UNIT/LOCATION	EQUIPMENT	FY10 1 2 3 4	FY11 1 2 3 4	FY12 1 2 3 4	FY13 1 2 3 4	FY14 1 2 3 4	FY15 1 2 3 4	FY16 1 2 3 4	FY17 1 2 3 4	FY18 1 2 3 4	FY19 1 2 3 4	FY20 1 2 3 4
MAG-11 MIR												
MALS-11		M2 ONGOING										
	24 FA-18 FISP									S		
	36 FA-18 FISP									S		
	12 KC-130J FISP		P									
	24 FA-18 PCSP									S		
	36 FA-18 PCSP									S		
	12 KC-130J PCSP		P									
	CCSPFW									S		
	FOSP									S		
	FA-18A/B/C/D TSA											
	570 MF											
MAG-12 IWA												
MALS-12		M2 ONGOING										
	36 FA-18 FISP					S				V		
	14 AV-8B FISP								S	V		
	5 EA-6B FISP	P1										
	36 FA-18 PCSP					S				V		
	14 AV-8B PCSP								S	V		
	5 EA-6B PCSP	P1										
	CCSPFW					S				V		
	FOSP					S				V		
	414 MF											
MAG-13 YUM												
MALS-13		M2 ONGOING										
	2 X 14 AV-8B FISP			S							V	
	3 X 14 AV-8B PCSP			S							V	
	CCSPFW			S							V	
	FOSP			S							V	
	313 MF											
MAG-14 CP												
MALS-14		M2 ONGOING										
	3 X 5 EA-6B FISP	P1						E				
	2 X 14 AV-8B FISP										S	
	12 KC-130J FISP			P								
	3 X 5 EA-6B PCSP	P1						E				
	3 X 14 AV-8B PCSP										S	
	12 KC-130J PCSP			P								
	CCSPFW										S	
	FOSP										S	
	EA-6B TSA							E				
	AV-8B TSA										D	
	KC-130J TSA											
	547 MF											
MAG-31 BFT												
MALS-31		M2 ONGOING										
	24 FA-18 FISP					S					V	
	36 FA-18 FISP					S					V	
	24 FA-18 PCSP					S					V	
	36 FA-18 PCSP					S					V	
	CCSPFW					S					V	
	FOSP					S					V	
	F-35B TSA					S					V	
	381 MF											

S = JSF TRANSITION BEGINS
V = TRANSITION COMPLETE
P = AC KC-130J PMAA INCREASE TO 15
P1 = EA-6B PMAA INCREASE TO 7
D = DEACTIVATE
E = EA-6B SUNDOWN
M2 = MALSP II TRANSITION

Fixed Wing Aviation Logistics Plan (cont.)

UNIT/LOCATION	EQUPMENT	FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17				FY18				FY19				FY20			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MAG-36 FUT																																												
MALS-36		M2 ONGOING																																										
	12 KC-130J FISP					P																																						
	12 KC-130J PCSP					P																																						
	FOSP																																											
MAG-41 FTW																																												
MALS-41		M2 ONGOING																																										
	12 FA-18A PCSP																																											
	12 KC-130T PCSP																													J							V							
MAG-49																																												
MALS-49		M2 ONGOING																																										
	12 KC-130T PCSP																					J							V														

J = KC-130J TRANSITION BEGINS

V = TRANSITION COMPLETE

P = AC KC-130J PMAA INCREASE TO 15

M2 = MALSP II TRANSITION

Section 14 --- Marine Aviation Ground Support (AGS) Plan

Marine Aviation Ground Support Plan 14-2

Marine Aviation Ground Support Plan

MARINE WING SUPPORT SQUADRONS (MWSS):

Mission:

Provide essential Aviation Ground Support (AGS) to all components of the aviation combat element.

AGS:

Consists of ground support functions required (less aircraft supply, maintenance, and ordnance) for sustained air operations at air bases and forward operating bases. It is the critical component that gives Marine aviation its expeditionary capability. AGS is comprised of fourteen functions:

- Internal airfield communications
- Meteorological and Oceanographic (METOC) services
- Expeditionary airfield services (EAF)
- Airfield Rescue and FireFighting (ARFF)
- Aircraft and ground refueling
- Explosive ordnance disposal (EOD)
- Essential engineer services
- Motor transport (MT)
- Field messing facilities
- Routine and emergency sick call and medical functions
- Individual and unit training
- Chemical, Biological, Radiological, and Nuclear (CBRN) Defense
- Security services
- Air base commander functions

Currently there are three active Marine Wing Support Groups (MWSGs) and one reserve MWSG.

The MWSGs within 2nd and 3rd MAW have four deployable Marine Wing Support Squadrons (MWSS); the MWSG within 1st MAW has two MWSSs.

Our reserve component has three MWSSs.

Capability Enhancements:

- Operational, training, and equipment enhancements continue to keep AGS on par with evolving Marine Corps future operational and logistics concepts. Enhancements in these areas include:
- Reset and reconstitution of forces and equipment from Iraq will position the AGS community to better respond to OEF and other operational requirements, and home station training.
- Participation as the AGS element in Enhanced Mojave Viper exercises will provide improved pre-deployment training and enable truly integrated MAGTF training.
- Procurement of the Route Reconnaissance and Clearance (R2C) Set will enhance the ability of the MWSS to open and support FOBs, as well as enhance security capabilities.
- Expansion of AGS capability will include the establishment of an MWSS detachment to support MAG-24 and Marine aviation units operating in Hawaii and Guam. Expanded operations and training will eventually require the expansion of the MWSS detachment to a full squadron.
- Maritime Prepositioning Force capability sets enable the ACE commander to call upon measured AGS capabilities to support aviation operations ashore or from a seabase.
- Lightweight airfield surfacing lessens the logistical burden of the current AM-2 matting by approximately 50%.
- Advanced airfield lighting is a smaller, less maintenance- intensive self-contained system. We are exploring solar capabilities for improved efficiency and reliability.
- METOC is fielding the METMF(R) next generation and NITES-Next: modular, highly mobile weather sensing and forecasting systems to support all elements of the MAGTF.

Marine Aviation Ground Support Plan (cont.)

The Future of Aviation Ground Support

Marine Aviation Ground Support Plan

As the MAGTF projects power ashore during expeditionary operations, those units ashore will be operational for short periods of time requiring responsive logistical and aviation ground support (AGS). Reducing the time it takes to set up and provide AGS and logistics support ashore and capability to move on short notice will be key characteristics of future MWSSs.

ACE Maneuver

The ACE must have AGS capability to deploy rapidly and support the aviation requirements of the MAGTF and JTF commander. AGS capability must be measured; that is, precise amounts of fuel, ammunition, logistics, and ACE-specific services must be at a time and place of the ACE commander's choosing. The MWSS will maintain its core capability to operate one FOB and two FARPs simultaneously. Embedded within the MWSS will be task-organized and -equipped capability sets (internal to the squadrons and loaded aboard MPF ships) that can be employed quickly for ACE mission tasking.

ACE Command and Control

Key to the effective sustainment of the ACE and MAGTF fight will be greater integration into the ACE command information architecture. The MWSS Aviation Ground Support Operations Center (AGSOC) will be connected to the ACE command information network and site command network to monitor ACE support requirements, to provide increased situational awareness to the higher and adjacent commands, and to act rapidly to support ACE operations when and where needed.

Additionally the airfield operations section (fuels, AARF, EAF, METOC) provides unique expeditionary flexibility for aviation assets and their supported commands in austere environments.

Force Protection

By employing lighter, more-capable and more-mobile equipment, the MWSS will provide measured AGS. Through capability enhancements the MWSS will reduce its footprint ashore and have the ability to set up rapidly, provide necessary AGS for short duration operations, displace, and relocate within minutes. Using mobility to reduce vulnerability will be central to MWSS force protection. In addition, the MAW Military Police company gives the ACE self defense should the MWSS be engaged at FOB and FARP sites.

Logistics Integration

The integration of all logistical assets ashore will be a critical enabler. Interoperability between the logistics combat element (LCE) and MWSS must be seamless. The MAGTF Logistics Integration (MLI) initiative between aviation and I&L will ensure that AGS is inclusive in logistics modernization (LOGMOD) initiatives and that ground and aviation logistics continue to seek integrated processes, systems, command and control, and mission planning.

Implementation of the three-level maintenance process will enable operators to conduct minor repairs to equipment, further reducing the maintenance footprint within the highly mobile MWSS unit.

Section 15 --- Marine Corps Air Station Facilities Upgrade / MILCON Plan

MilCon Plan 15-2

MILCON Plan

Military construction (MILCON) projects help realize the Commandant's vision for Marine aviation. Required MilCon projects allow basing and realization of IOC dates for new weapon systems such as the MV-22 and JSF.

MILCON designs will focus on flexibility of use to allow future new weapon systems, squadron relocations, and re-designations to serve MAGTF requirements as they evolve over time. Our new weapon systems have much greater range and capabilities than legacy platforms, and as a result our ranges will be used very differently.

Our air stations and air facilities must remain viable. Where possible, we will use our existing physical assets as a bridge to the full funding of our MILCON programs. The introduction of JSF and ongoing transition to the MV-22 during the FY10-15 timeframe will require additional MILCON resources to ensure we mitigate programmatic and operational risk to both Marine aviation and the Marine Corps as a whole. We can accept some risk in order to drive forward with our modernization of the force, but the resources must eventually be found to make our air stations whole. As part of the transition planning process, we know that we must work around obstacles by using temporary facilities, expeditionary assets, and increased manpower to accomplish the mission. We must also remain vigilant, and we must guard against encroachment to our air stations and associated air space.

The MilCon/JFIP projects listed in the following tables represent only the operation related critical projects required for AvPlan realization. They are a snapshot in time and are subject to change.

CRITICAL OPERATIONAL PROJECTS REQUIRED FOR AVPLAN				FY09	FY10	JFY09/10	FY11	JFY11-14	FY12	FY13-15
LOCATION	PROJ #	TITLE	COST $M	MILCON APPROVED BY CONGRESS	MILCON SUBMIT TO CONGRESS MAY09	GOJ FUNDED JAPANESE FACILTIES IMPROVEMENT PROGRAM (JFIP)	MILCON SUBMIT TO FMB JUN 09	JFIP PROPOSED TO GOJ OR IN DEVELOPMENT	PROPOSED TO MILCON PROGRAM EVALUATION GROUP (PEG)	MILCON PROJECTS IN DEVELOPMENT
MCAS NEW RIVER	P-615	APRON EXPANSION PH II	$6.8	X						
	P-619	TAC VAN PAD ADDITION	$5.5		X					
	P-652	VMMT-204 MAINT HANGAR PH III	$28.2		X					
	P-688	APRON EXPANSION PH II	$35.6		X					
	P-311	PARALLEL TAXIWAY	$17.9		X					
	P-687	MV-22 MAINT HANGAR	$78.4				X			
	P-683	HANGAR 02 ADDITIONS	$76.6				X			
	P-705	HMT HANGAR	$49.2						X	
	P-710	CALA ADDITION	$4.5						X	
	P-721	MALS ADDITION	$11.2							X
	P-669	FUEL PIPELINE	$12.7							X
	P-675	IMP ADDITION	$3.5							X
	P-559	RUNWAY OVERRUN EXTENSION	$24.7							X
MCAS PENDLETON	P-086	EXPAND COMBAT AC LOADING APRON	$12.2		X					
	P-111	MALS 39 EXPANSION	$51.0				X			
	P-114	MV-22 HANGAR	$38.8						X	
	P-113	AVIATION SIMULATOR (ATS)	$8.7						X	
	P-116	MV-22 AV PAVEMENT EXPANSION	$13.0						X	
	P-117	MV-22 FUEL STORAGE TANKS	$5.7						X	
	P-119	EXPAND HANGAR 2 FOR HMLA	$20.0							X
	P-120	EXPAND HANGAR 6 FOR HMLA	$20.0							X

CRITICAL OPERATIONAL PROJECTS REQUIRED FOR AVPLAN				FY09	FY10	JFY09/10	FY11	JFY11-14	FY12	FY13-15
LOCATION	PROJ #	TITLE	COST $M	MILCON APPROVED BY CONGRESS	MILCON SUBMIT TO CONGRESS MAY09	GOJ FUNDED JAPANESE FACILTIES IMPROVEMENT PROGRAM (JFIP)	MILCON SUBMIT TO FMB JUN 09	JFIP PROPOSED TO GOJ OR IN DEVELOPMENT	PROPOSED TO MILCON PROGRAM EVALUATION GROUP (PEG)	MILCON PROJECTS IN DEVELOPMENT
MCAS MIRAMAR	P-180	IN-LINE FUELING STATION MOD MV-22	$22.9	X						
	P-177	WASH RACK MOD MV-22	$3.7	X						
	P-178	AIRCRAFT PARKING APRON MOD MV-22	$9.3		X					
	P-152	PARKING APRON EXPANSION	$70.4				X			
	P-185	MV-22 HANGAR (CH-53 CONSOLIDATION)	$34.7				X			
	P-192	MV-22 HANGAR	$95.8				X			
	P-181	MV-22 HANGAR MODS	$30.0						X	
	P-179	FLIGHT INSTRUCTION FAC PH I	$5.4							X
	P-198	JSF HANGAR	$102.0							X
MCAS YUMA	P-447	AIRCRAFT MAINTENANCE HANGAR PH I	$27.1		X					
	P-447A	JSF HANGAR PH II	$43.6				X			
	P-460	JSF HANGAR	$67.7				X			
	P-533	JSF SIM FACILITY	$38.8				X			
	P-546	JSF UTILITIES INFRASTRUCTURE UPGRADE	$47.6				X			
	P-573	IMA FACILITY (RELOCATION JSF HANGAR)	$17.4				X			
	P-578	VAN PAD (RELOCATION SIM BLDG)	$16.9				X			
	P-583	COMM INFRASTRUCTURE UPGRADE JSF	$68.1				X			
	P-545	JSF HANGAR	$101.9						X	
	P-535	TRANSIENT HELO/JSF HANGAR	$40.5						X	
	P-575	FCLP TRAINING FACILITY	$86.3						X	
	P-493	RUNWAY 3R/21L EXTENSION	$27.0							X
	P-551	JSF HANGAR	$67.0							X
	P-570	JSF HANGAR	$67.0							X

CRITICAL OPERATIONAL PROJECTS REQUIRED FOR AVPLAN				FY09	FY10	JFY09/10	FY11	JFY11-14	FY12	FY13-15
LOCATION	PROJ #	TITLE	COST $M	MILCON APPROVED BY CONGRESS	MILCON SUBMIT TO CONGRESS MAY09	GOJ FUNDED JAPANESE FACILTIES IMPROVEMENT PROGRAM (JFIP)	MILCON SUBMIT TO FMB JUN 09	JFIP PROPOSED TO GOJ OR IN DEVELOPMENT	PROPOSED TO MILCON PROGRAM EVALUATION GROUP (PEG)	MILCON PROJECTS IN DEVELOPMENT
MCAS BEAUFORT	P-442	JSF VERT LANDING PAD (BISOG)	$22.9							X
	P-444	JSF LIGHTNING TRAINING CENTER (BISOG)	$52.3				X			
	P-454	JSF FRS 2 HANGAR (BISOG)	$51.5				X			
	P-433	AICUZ LAND ACQ	$23.7				X			
	P-456	JSF SIMULATED LHD DECK (BISOG)	$14.3							X
	P-465	JSF HANGAR	$50.0							X
	P-464	JSF FRS 3 HANGAR	$67.5							X
	P-446	JSF AIRFIELD PAVEMENT MOD PH I (BISOG)	$9.0							X
	P-466	JSF HANGAR	$60.0							X
	P-467	JSF HANGAR	$60.0							X
	P-462	JSF ASSAULT STRIP (BISOG)	$32.4							X
	P-468	JSF AIRFIELD PAVEMENT MOD (BISOG)	$12.5							X
	P-453	TOWNSEND RANGE EXPANSION PH I	$70.0							X
	P-445	EXPEDITIONARY AIRFIELD JSF FCLP (BISOG)	$78.0							X
	P-469	JSF AIRFIELD PAVEMENT MOD PH III (BISOG)	$11.0							X
	P-453A	TOWNSEND RANGE EXPANSION PH II	$70.0							X
MCAS CHERRY POINT	P-164	MARINERS BAY LAND ACQ	$4.1				X			
	P-176	STATION INFRASTRUCTURE UPGRADES	$6.1				X			
	P-169	MALS MAINTENANCE HANGAR	$40.2							X
	P-130	MOTOR TRANSPORT AND COMM SHOP	$8.1							X
	P-147	ELECTROICS VAN PAD	$15.9							X
	P-149	MISSILE MAINTENANCE FACILITY	$4.7							X
	P-199	JSF HANGAR	$102.0							X

CRITICAL OPERATIONAL PROJECTS REQUIRED FOR AVPLAN				FY09	FY10	JFY09/10	FY11	JFY11-14	FY12	FY13-15
LOCATION	PROJ #	TITLE	COST $M	MILCON APPROVED BY CONGRESS	MILCON SUBMIT TO CONGRESS MAY09	GOJ FUNDED JAPANESE FACILTIES IMPROVEMENT PROGRAM (JFIP)	MILCON SUBMIT TO FMB JUN 09	JFIP PROPOSED TO GOJ OR IN DEVELOPMENT	PROPOSED TO MILCON PROGRAM EVALUATION GROUP (PEG)	MILCON PROJECTS IN DEVELOPMENT
MCAF QUANTICO	P-495A	AIRCRAFT PARKING APRON (GREEN SIDE)	$36.3	X						
	P-517	AIRCRAFT MAINTENANCE HANGAR, TYPE II	$27.8	X						
	P-406	OPERATIONAL FLIGHT SIMULATOR	$3.2		X					
	P-611	BEQ - MCAF QUANTICO	$35.2							X
	P-612	ENLISTED DINING FACILITY - MCAF QUANTICO	$9.0							X
MCBH/MCAS KBAY	P-822	MCAS OPS FACILITY	$65.4						X	
	P-049	(**NAVY**) P-8A HANGAR & TRAINING FAC	$259.4						X	
	P-885	MWSS FAC	$41.2							X
	P-836	MAG-24 HQ & PARKING	$81.7							X
	P-887	LZ OR OTHER MV-22 IMPROVEMENTS	$1.1							X
	P-883	RUNWAY UNDERPASS & ACCESS ROAD	$50.3							X
	P-882	DEMO AND TAXIWAY (HANGAR #5)	$21.4							X
	P-884	MISSION SUPPORT (TRAINER SYSTEMS)	$49.6							X
	P-844	MV-22 INFRASTRUCTURE UPGRADES PHI	$149.6							X
	P-863	HMLA HANGAR AND APRON	$35.1							X
	P-864	MALS-24 A/C MAINT EXPANSION	$57.8							X
	P-844B	MV-22 INFRASTRUCTURE UPGRADES PHII	$54.8							X
GUAM	P-100	NORTH RAMP UTILITIES (I)	$21.5		X					
	P-101	NORTH RAMP PARKING (I)	$88.8		X					
	P-109	AVIATION FACILITIES NORTH RAMP	$58.7				X			
	P-202	NORTH RAMP UTILITIES (II)	$89.1				X			
	P-203	NORTH RAMP PARKING (II)	$92.0				X			

CRITICAL OPERATIONAL PROJECTS REQUIRED FOR AVPLAN				FY09	FY10	JFY09/10	FY11	JFY11-14	FY12	FY13-15
LOCATION	PROJ #	TITLE	COST $M	MILCON APPROVED BY CONGRESS	MILCON SUBMIT TO CONGRESS MAY09	GOJ FUNDED JAPANESE FACILTIES IMPROVEMENT PROGRAM (JFIP)	MILCON SUBMIT TO FMB JUN 09	JFIP PROPOSED TO GOJ OR IN DEVELOPMENT	PROPOSED TO MILCON PROGRAM EVALUATION GROUP (PEG)	MILCON PROJECTS IN DEVELOPMENT
MCAS IWAKUNI 1/3	MC904	AIRFIELD LIGHTING AND POWER (GENERATOR) HOUSE	$3.3			X				
	MC905	CONTROL TOWER PROJECT - ATCT	$8.8			X				
	MC905T-1	CONTROL TOWER PROJECT - JCF	$9.7			X				
	MC910	AIRFIELD PAVEMENT	$538.0			X				
	MC919	STATION AIR PASSENGER TERMINAL	$11.8			X				
	MC903	CRASH CREW / RECOVERY UNIT FACILITY	$9.9			X				
	MC905T-2	CONTROL TOWER PROJECT - DASR	$0.2			X				
	MC907T-1	AIRFIELD ANTENNA PROJECT - RECEIVER	$1.1			X				
	MC907T-2	AIRFIELD ANTENNA PROJECT - PAR	$0.3			X				
	MC907T-3	AIRFIELD ANTENNA PROJECT - ASOS	$0.2			X				
	MC907	AIRFIELD ANTENNA PROJECT - TACAN	$??			X				
	MC910-T	MACS-4 VAN PAD	$1.0			X				
	MC948	AIRFIELD FIRE TRAINING FAC (TOWER) PH I	$0.7			X				
	MC948	AIRFIELD FIRE TRAINING FACILITIES PH 2	$0.7			X				
	MC0201-T	MAG-12 DUAL SQUADRON AIRCRAFT HANGAR PH 1	$50.0					X		
	MC0421-T	MAG-12 DUAL SQUADRON AIRCRAFT HANGAR PH 2	$50.0					X		
	MC157-T	FLIGHTLINE FIRE STATION	$7.5					X		
	MC150-T	MALS-12 AV MAINTENANCE FACILITY AND VAN COMPLEX	$80.0					X		
	MC156-T	MAG-12 GENERAL STORAGE WAREHOUSE & SHEDS	$23.3					X		
	MC0404	MALS-12 ARMAMENT AND GSE CONTROLLED HUMIDITY WAREHOUSE	$5.8					X		
	MC0135	STATION AIRCRAFT MAINTENANCE HANGAR	$17.4					X		
	MC155-T	MALS-12 HUSH HOUSE AND ENGINE TEST CELLS	$12.4					X		

CRITICAL OPERATIONAL PROJECTS REQUIRED FOR AVPLAN				FY09	FY10	JFY09/10	FY11	JFY11-14	FY12	FY13-15
LOCATION	PROJ #	TITLE	COST $M	MILCON APPROVED BY CONGRESS	MILCON SUBMIT TO CONGRESS MAY09	GOJ FUNDED JAPANESE FACILTIES IMPROVEMENT PROGRAM (JFIP)	MILCON SUBMIT TO FMB JUN 09	JFIP PROPOSED TO GOJ OR IN DEVELOPMENT	PROPOSED TO MILCON PROGRAM EVALUATION GROUP (PEG)	MILCON PROJECTS IN DEVELOPMENT
MCAS IWAKUNI 2/3	MC154-T	MAG-12 CORROSION CONTROL HANGAR	$7.2					X		
	MC158-T	CONSOLIDATED MAG-12/CVW-5 SECURITY SECTION	$25.0					X		
	MC909-T	TACTICAL AIRCRAFT DIRECT FUELING STATION	$0.2					X		
	MC159-T	MAG-12 / CVW-5 HEADQUARTERS BUILDING	$16.5					X		
	MC170-T	VMGR-152 AIRCRAFT MAINTENANCE HANGAR	$28.4					X		
	MC171-T	VMGR-152 SUPPLY / STORAGE COMPLEX	$8.5					X		
	MC172-T	VMGR-152 CORROSION CONTROL HANGAR	$25.4					X		
	MC173-T	VMGR-152 AIRCRAFT PARKING APRON, WASHRACK, & RINSE FACILITY	$103.9					X		
	MC250-T	AIMD AVIATION MAINTENANCE FACILITY	$40.0					X		
	MC165-T	CVW-5 AIRCRAFT MAINTENANCE HANGAR & PHASE I PARKING APRON (VFA-27 & VFA-102)	$79.4					X		
	MC166-T	CVW-5 AIRCRAFT MAINTENANCE HANGAR & PHASE II PARKING APRON (VFA-192 & VFA-195)	$79.4					X		
	MC167-T	III PARKING APRON (VAW-115/VRC-30/VAQ-136)	$63.1					X		
	MC168-T	CVW-5 CORROSION CONTROL HANGAR AND WASH PAD	$9.9					X		
	MC169-T	CVW-5 HUSH HOUSE AND ENGINE TEST CELL	$7.7					X		
	MC251-T	CVW-5 GENERAL STORAGE WAREHOUSE AND SHEDS	$23.3					X		
	MC175-T	NAPRA DET MAINTENANCE HANGAR AND RELATED STORAGE	$18.9					X		
	MC164-T	STATION / VISITING AIRCRAFT PARKING APRON AND SUPPORT FACILITY	$120.0					X		
	MC908	COMBAT AIRCRAFT LOADING AREA (CALA)	$120.7					X		
	MC152-T	MAG-12 WASH PAD	$0.7					X		

CRITICAL OPERATIONAL PROJECTS REQUIRED FOR AVPLAN				FY09	FY10	JFY09/10	FY11	JFY11-14	FY12	FY13-15
LOCATION	PROJ #	TITLE	COST $M	MILCON APPROVED BY CONGRESS	MILCON SUBMIT TO CONGRESS MAY09	GOJ FUNDED JAPANESE FACILTIES IMPROVEMENT PROGRAM (JFIP)	MILCON SUBMIT TO FMB JUN 09	JFIP PROPOSED TO GOJ OR IN DEVELOPMENT	PROPOSED TO MILCON PROGRAM EVALUATION GROUP (PEG)	MILCON PROJECTS IN DEVELOPMENT
MCAS IWAKUNI 3/3	MC253-T	FLIGHTLINE PARKING STRUCTURE	$5.0					X		
	MC0423	MAG-12 AIRCRAFT MAINTENANCE HANGAR	$21.8					X		
	MC0447	EAST UTILITY PLANT	$15.0					X		
	MC174-T	VMGR-152 OPERATING TANKS	$5.0					X		
	MC832	MAG-12 AIRCRAFT PARKING APRON, ALL PHASES	$51.4					X		
	MC936	STATION AIR CARGO TERMINAL	$17.4					X		
	MC194-T	JP5 FUEL STORAGE	$10.0					X		
	P-XXX	MOD AIRCRAFT HANGARS AND APRON	$20.0							X
	P-XXX	VTOL PADS	$5.0							X
	P-XXX	AVIATION TRAINING SYSTEM COMPLEX	$45.0							X
	P-940	JP5 OFF LOAD FACILITY	$1.8							X
	P-950	CONSTRUCT NEW TANKS - PACOM	$??							X
	P-951	MOD FUEL PIER TO RECIEVE T5 CLASS TANKER	$??							X
	P-XXX	VISITING AIRCRAFT PARKING APRON	$11.0							X

Section 16 --- Glossary of Acronyms and Terms

AvPlan Glossary of Acronyms and Terms 16-2

AAB	Aviation Administrative and Security Support Branch
AC2	Aviation Command and Control
ACE	Aviation Combat Element
ADCON	Administrative Control
ADCP	Air Defense Communications Platform
ADR	Airfield Damage Repair
AETC	Air Force Education and Training Command
AMP	Aircraft Modernization Program
ANGB	Air National Guard Base
APC	Aviation Command and Control Branch, HQMC
APP	Aviation Plans, Programs, Doctrine, Budget and Joint Matters
APT	Aircrew Procedures Trainer
APW	Aviation Weapons Systems Requirements Branch
ARC	Aviation Refueling Capability
ASCO	Aviation Support Coordination Office
ASL	Aviation Logistics Support Branch
ASM	Aviation Manpower Support Branch
ASN	Air Support Node
ASN(A)	Air Support Node (Airborne)
ATB	Aviation Training Branch
ATC	Air Traffic Control
ATCO	Aviation Transportation Coordination Office
ATDS	Aircraft Tactical Display System
ATNAVICS	Air Traffic Navigation Integration Coordination System
ATS	Aviation Training System

AvPlan	Aviation Plan
BKF	Buckley ANGB, Aurora, CO
BN	Battalion
C2/RTU	Command and Control/Remote Terminal Unit
CAC2S	Common Aviation Command and Control System
CCS	Command and Control Sub-system
CCSPFW	Common Contingency Support Package Fixed Wing
CCSPRW	Common Contingency Support Package Rotary Wing
CF	Camp Foster, Okinawa, Japan
CEF	Westover ANGB, MA
CFT	Cross Functional Team
CMC	Commandant of the Marine Corps
CNATRA	Chief of Naval Aviation Training
CNATT	Center for Naval Aviation Technical Training
CNATTMARU	Center for Naval Aviation Technical Training, Marine Unit
CQ	Carrier Qualification
CSG	Carrier Strike Group
CTN	Composite Tracking Network
CWAR	Continuous Wave Acquisition Radar
DASC	Direct Air Support Center
DASC(A)	Direct Air Support Center (Airborne)
DASC(AS)	Direct Air Support Center (Airborne System)
DC(A)	Deputy Commandant of the Marine Corps for Aviation
DC,CD&I	Deputy Commandant of the Marine Corps for Combat Development and Integration

DMN	FCTC Dam Neck, VA
DMRT	Deployable Mission Rehearsal Trainer
DOSS	Department of Safety and Standardization
DRRS	Defense Readiness Reporting System
DOTMLPF	Doctrine, Organization, Training, Material, Leadership, Personnel, and Facilities
EAF	Expeditionary Airfield
EDW	Edwards AFB, CA
EIS	Environmental Impact Statement
ELMER	Editor of the AvPlan: DSN 223-8452
EMW	Expeditionary Maneuver Warfare
ESC	Executive Steering Committee
ESF	Expeditionary Strike Force
ESG	Expeditionary Strike Group
FEW	Warren AFB, Cheyenne, WY
FFS	Full Flight Simulator
FISP	Fly-in Support Package
FMS	Foreign Military Sales
FOS	Family of Systems
FOSP	Follow-On Support Package
FRC	Flat-Rack Refueling Capability
FRES	Fresno, CA
FRS	Fleet Replacement Squadron
FTD	Flight Training Device
FTS	Fort Sheridan, IL
FTU	Fixed Wing Training Unit
FYDP	Future Years Defense Plan

G/ATOR	Ground/Air Task Oriented Radar
GBAD	Ground Based Air Defense
GAR	Grade Adjusted Recapitulation
GCS	Ground Control Station
GMFP	Global Military Force Posture
HMH	Marine Heavy Helicopter Squadron
HMLA	Marine Light Attack Helicopter Squadron
HMM	Marine Medium Helicopter Squadron
HMT	Marine Helicopter Training Squadron
HMX-1	Marine Helicopter Squadron One
ILL	National Training Center Great Lakes, IL
IOC	Initial Operational Capability
IPT	Integrated Product Team
ISMO	Information Systems Management Office
JMATS	Joint Maintenance and Aircrew Training System
JST	Joint Reserve Base Johnstown, PA
JRB	Joint Reserve Base
JSS	JICO Support System
LAAD	Low Altitude Air Defense
LVSR	Logistics Vehicle System Replacement
LVS	Logistics Vehicle System
MACCS	Marine Air Command and Control System
MACS	Marine Air Control Squadron
MACG	Marine Air Control Group

MAG	Marine Aircraft Group
MAGTF	Marine Air Ground Task Force
MALS	Marine Aviation Logistics Squadron
MASS	Marine Air Support Squadron
MATCALS	Marine Air Traffic Control and Landing Facility
MATSS	Marine Aviation Training System Squadron
MAW	Marine Aircraft Wing
MAWTS	Marine Aviation Weapons and Tactics Squadron
MCAF	Marine Corps Air Facility
MCAS	Marine Corps Air Station
MCASMP	Marine Corps Aviation Simulation Master Plan
MCB	Marine Corps Base
MCCVDb	Marine Corps Common Visual Database
MCMP	Marine Corps Master Plan
MEF	Marine Expeditionary Force
METMF-R	Meteorological Mobile Facility - Replacement
MEU	Marine Expeditionary Unit
MIN	Minneapolis, MN
MMF	Mobile Maintenance Facility
MROC	Marine Requirements Oversight Council
MRRS	Multi-Role Radar System
MOSLS	Minimum Operating Strip Lighting System
MPG	Maritime Prepositioning Group
M-SHARP	Marine Sierra Hotel Aviation Readiness Program
MTACS	Marine Tactical Air Command Squadron
MTC	Selfridge ANGB, MI

MTVR	Medium Tactical Vehicle Replacement
MWCS	Marine Wing Communications Squadron
MWHS	Marine Wing Headquarters Squadron
MWSG	Marine Wing Support Group
MWSS	Marine Wing Support Squadron
NALCOMIS	Naval Aviation Logistics Command Management Information System
NAV	Navigator
NBC	Marine Corps Air Station Beaufort, SC
NBG	Joint Reserve Base New Orleans, LA
NCQ	Naval Air Station Joint Reserve Base Atlanta, GA
NETC	Naval Education and Training Command
NFO	Naval Flight Officer
NFG	Marine Corps Air Station Camp Pendleton, CA
NFW	Joint Reserve Base Fort Worth, TX
NGU	Naval Air Station Norfolk, VA
NITES IV	Naval Integrated Tactical Environmental System IV
NJM	OLF Bogue Field, NC
NKT	Maine Corps Air Station Cherry Point, NC
NKX	Marine Corps Air Station Miramar, CA
NPDC	Naval Personnel Development Command
NSF	Navy / Andrews Air Force Base, MD
NXP	29 Palms Expeditionary Airfield
NXX	Naval Air Station Joint Reserve Base Willow Grove, PA
NYG	Marine Corps Air Field Quantico, VA
NYL	Marine Corps Air Station Yuma, AZ

OFT	Operational Flight Trainer
OLF	Outlying Field
OS/CS	Operations Sub-system/Communications Sub-system
PAS	Pasadena, CA
PCSP	Peculiar Contingency Support Package
PHNG	Marine Corps Air Field Kaneohe Bay, HI
POM	Program Objective Memorandum
POR	Program of Record
PR	Program Review
RJOI	Marine Corps Air Station Iwakuni, Japan
ROWPU	Reverse Osmosis Water Purification Unit
ROTM	Marine Corps Air Station Futenma, Okinawa, Japan
RUSH	Editor of the AvPlan: DSN: 223-8470
SAT	Systems Approach to Training
SCIF	Sensitive Compartmented Information Facility
SHORAD	Short-Range Air Defense
SHORCAL	Shore-Based Aviation Consolidated Allowance List
SWF	Stewart ANGB, NY
TACAN	Tactical Air Navigation
TAFDS	Tactical Airfield Fuel Dispensing System
TAOM	Tactical Air Operations Module
TBMCS	Theater Battle Management Core System
TECOM	Training and Education Command
TEN	Tactical Engagement Network
TOFT	Tactical Operational Flight Trainer

TRAM	Tractor, Rubber-tired, Articulated steering, Multi-purpose
TSA	Training Support Allowance
TTF	Transition Task Force
TWPS	Tactical Water Purification System
UOC	Unit Operations Center
UPT	Undergraduate Pilot Training
VMA	Marine Attack Squadron
VMAQ	Marine Electronic Attack Squadron
VMAT	Marine Attack Training Squadron
VMFA	Marine Fighter Attack Squadron
VMFA(AW)	Marine All-Weather Fighter Attack Squadron
VMFAT	Marine Fighter Attack Training Squadron
VMGR	Marine Aerial Refueler Transport Squadron
VMGRT	Marine Aerial Refueler Transport Training Squadron
VMM	Marine Tiltrotor Squadron
VMU	Marine Unmanned Aerial Vehicle Squadron
VMX	Marine Tiltrotor Test Squadron
VUAS	Vertical Unmanned Aircraft System
VXX	Presidential Helicopter Replacement Program
WPA	Wyoming, PA
WSO	Weapons Systems Officer
WST	Weapon System Trainer