

CHAPTER 3
PART 3 GROUND MOBILITY AND
FIRE SUPPORT

INTRODUCTION

Today's operational environments demand speed, agility and mobility of ground forces to respond to if not anticipate an adversary's actions, often in complex, ambiguous battlefields, against irregular forces and in a wide variety of operational—desert, jungle and Arctic—environments. Individual Marines must also be capable of deterring and defeating the conventional forces of more traditional adversaries, where the ability to maneuver with speed and agility—from the sea, across the beach to inland objectives—also remains paramount to achieving mission objectives. An important enabler of maneuver warfare, mobility across all terrain is enhanced by the Individual Marine's ability to call in offensive and defensive fires from ground-based, airborne and seaborne systems. Timely, responsive, high-accuracy and precision fires can often mean the difference between success and failure.

The Army and Marine Corps are leading the Services in developing tactical wheeled vehicle requirements for the joint force. The defined capabilities reflect an appropriate balance in survivability, mobility, payload, networking, transportability, and sustainability. The Army/Marine Corps Board has proven a valuable forum for coordination of the development and fielding strategies; production of armor-ing kits and up-armored High Mobil-

ity Multi-Purpose Wheeled Vehicles; and rapid response to requests for Mine Resistant Ambush Protected vehicles.

In 2007, "The Major Combat Operations Analysis for fiscal years 2014 and 2024" study scrutinized the current organic fire support of the Marine Air Ground Task Force (MAGTF), to determine the adequacy, integration, and modernization requirements for ground, aviation, and naval surface fires. We also performed a supplemental historical study using Operation Iraqi Freedom data to examine MAGTF Fires in the full spectrum of warfare. These studies re-confirmed our development of the Triad of Ground Indirect Fires.

Several innovative systems related to fire support significantly enhance the warfighting efficiency and effectiveness of the MAGTF. Such systems include the M777 Lightweight Howitzer, High Mobility Artillery Rocket System, Expeditionary Fire Support System, Advanced Field Artillery Tactical Data System, and the Target Location, Designation, and Handoff system.

The ground mobility programs discussed in this section are designed to ensure that Individual Marines are mobile and survivable on the modern battlefield and possess critical fire-support systems that increase the MAGTF's lethality and effectiveness.

EXPEDITIONARY FIGHTING VEHICLE (EFV)



DESCRIPTION

The Expeditionary Fighting Vehicle (EFV) will be the primary means of tactical mobility for the Marine rifle squad during the conduct of amphibious operations ashore. The EFV is a self-deploying, high-water speed, armored amphibious vehicle capable of transporting Marines from ships located beyond the horizon to inland objectives. The EFV will have the speed and maneuvering capabilities to operate with main battle tanks on land. In addition, the vehicles can use bodies of water, such as oceans, lakes, and rivers, as avenues of approach and maneuver. The EFV is an armored, fully tracked infantry combat vehicle that will be operated and maintained by a crew of three Marines, and have a troop capacity of 17 Marines with their individual combat equipment. The EFV replaces the Assault Amphibious Vehicle that was fielded in 1972 and will be more than 40 years old when the EFV is fielded.

OPERATIONAL IMPACT

The EFV's high-speed land and water maneuver, highly lethal day/night fighting ability, advanced armor, and NBC

protection will significantly enhance the lethality and survivability of Marine maneuver units across the spectrum of operations. The EFV enables the Navy and Marine Corps team to project power from the sea base in a manner that will exploit intervening sea and land terrain, achieve surprise, avoid enemy strengths, and generate never-before-realized operational tempo across war fighting functions.

PROGRAM STATUS

The EFV program is in the Systems Development and Demonstration (SDD) phase of the acquisition process. This phase was extended to fiscal year 2011 to enable the program to execute a redesign effort to improve reliability performance. During the early part of this phase, the program completed the design and fabrication of nine second generation SDD prototypes and one Live Fire Test Vehicle. Nine of the SDD vehicles were used as part of an extensive developmental test program that resulted in the vehicle demonstrating nearly all key performance parameters during the comprehensive Milestone C Operational Assessment (MS C OA) from January to September 2006. However, reliability performance during the MS C OA did not meet required levels. An extended SDD phase will include a redesign for reliability effort, new prototype fabrication and follow-on prototype testing. The Low Rate Initial Production decision (Milestone C) is programmed for fiscal year 2012. The Joint Services Manufacturing Center in Lima, OH, will be the production and assembly site for

the EFV. The current acquisition objective is to produce 573 EFVs, a 40% reduction from the 1,013 vehicles previously planned. Initial operational capability is scheduled for 2015 and full operational capability is scheduled for 2025.

Procurement Profile:	FY2008	FY2009
	0	0

Developer/Manufacturer:
General Dynamics Amphibious Systems,
Woodbridge, VA

ASSAULT AMPHIBIOUS VEHICLE (AAV) FAMILY OF VEHICLES (FOV), MODIFICATION KIT PROGRAM



DESCRIPTION

The Assault Amphibious Vehicle (AAV) Modification Kit Program provides life-cycle support to ensure cost-effective combat readiness for the AAV Family of Vehicles (FOV). This is accomplished through continuous review of sub-systems to maintain system supportability, safety, reduce total ownership costs, and improve fleet readiness. The Modification Kit Program, also known as the Mod Kit Line, primarily supports engineering change proposal development/procurement/fielding. The AAV Modification Kit Program supports AAV FOV-Reliability, titled Availability, and Maintainability/Rebuild to Standard (RAM/RS) vehicles and non- RAM/RS vehicles.

OPERATIONAL IMPACT

The AAV Modification Kit Program will allow these vehicles to continue to support Marine Air Ground Task Force operations. Changes include safety upgrades, the replacement of obsolete or

no longer available subsystems or components, reliability/maintainability upgrades that reduce total ownership cost, integration of needed Command, Control, Communications, Computers, and Intelligence (C4I) systems, and interoperability improvements.

PROGRAM STATUS

Current system modifications include integration of the Defense Advanced Global Positioning System Receiver system, development and integration of rifle racks that accept both the M4 and M16 rifles, and integration of a thermal sight system. Future modifications will include the integration of C4I systems as required, C-variant upgrade, radio controlled improvised explosive device jamming system, transparent armor gun shield installation, armored sight periscope cover, upgraded turret, and continued incorporation of reliability, maintainability, and safety improvements.

Procurement Profile:	FY2008	FY2009
Quantity:	Various	Various

Developer/Manufacturer:
Thermal Sight: L3 Cincinnati Electronics

Engineering Support: BAE Systems,
Triangle, VA

MARINE PERSONNEL CARRIER (MPC)

The Marine Personnel Carrier (MPC) will serve as a medium lift personnel carrier and complements the capabilities offered by the Joint Light Tactical Vehicle for light lift purposes and the Expeditionary Fighting Vehicle (EFV) for heavy lift purposes.

OPERATIONAL IMPACT

Although no design decisions have been made, the MPC will be lighter than the EFV and capable of carrying nine to twelve combat-equipped Marines.

PROGRAM STATUS

The MPC is currently in the Technology Demonstration Phase (TDP) pre-Milestone A. The MPC program is undergoing an Analysis of Alternatives which will lead to a capabilities development document (CDD) in fiscal year 2008.

Procurement Profile:	FY2008	FY2009
Quantity:	0	0

Developer/Manufacturer:
TBD

MINE RESISTANT AMBUSH PROTECTED VEHICLE (MRAP)



DESCRIPTION

Mine Resistant Ambush Protected (MRAP) vehicles are V-shaped hulled, raised chassis, armored vehicles with a blast resistant underbody designed to protect the crew from mine blasts, as well as fragmentary and direct fire weapons. MRAP vehicles will consist of three categories:

Category I vehicles support operations in an urban environment and other restricted/confined spaces; including mounted patrols, reconnaissance, communications, and command and control.

Category II vehicles provide a reconfigurable vehicle that is capable of supporting multi-mission operations such as convoy lead, troop transport, explosive ordnance disposal (EOD), ambulance, and combat engineering.

Category III vehicles provide Mine/Improvised Explosive Device (IED) clearance operations and explosive ordnance disposal.

OPERATIONAL IMPACT

MRAP vehicles will provide deployed commanders, various units, EOD and Combat Engineer teams with survivable ground mobility platforms. Marine units operating in Operation Iraqi Freedom/Operation Enduring Freedom require vehicles capable of surviving (IED) / mine, small arms fire, rocket propelled grenade and vehicle borne IED attacks. As Marines are expected to participate in and/or respond rapidly to a variety of offensive operations and stability and security operations without a large security contingent, they need a vehicle capable of functioning in a counter attack after surviving a “first blow” ambush or attack. Accordingly, operational experience dictates current and anticipated missions engaged in by all Marine Air Ground Task Force (MAGTF) levels in theater are better supported by a family of MRAP vehicles: multi-mission, troop transport, cargo, and ambulance

and EOD/Engineering mission. There is an immediate need for MRAP vehicles to increase survivability and mobility of Marines operating in a hazardous fire area against known threats.

PROGRAM STATUS

A sole source contract was awarded on 9 Nov 06 for 200 CAT II and up to 80 CAT III vehicles to bridge urgent war fighting needs while a competitive acquisition for the balance of CAT I and CAT II platforms was planned and executed. On 26 Jan 07, nine indefinite delivery indefinite quantity contracts were awarded to vendors that demonstrated capabilities to meet the program's overarching objective of producing the maximum number of survivable, safe, and sustainable MRAP vehicles in the shortest period of time. The Joint Program Office, lead by the Marine Corps, is currently evaluating examples of increasingly survivable and mission capable MRAP vehicles obtained via ECPs under existing contracts and the recently awarded MRAP II contract.

Procurement:

To date, 11,891 low rate initial production vehicles have been ordered for the Joint DoD community from the following manufacturers:

FPII – CAT I, CAT II, CAT III

IMG – CAT I, CAT II

BAE – CAT I, CAT II

AH – CAT I, CAT II

GDLS-C – CAT I, CAT II

OTC – CAT I

The Marine Corps requirement is 2023 (formerly 3700) MRAP Vehicles. The Program was schedule to have 650 MRAP vehicles delivered in-theater to MARCENT by the end of CY07. Actual USMC deliveries at the end of January 2008 are 819 vehicles. The entire MARCENT requirement is on schedule to be fielded in May 08 with the entire Marine Corps requirement completed by Aug 08.

Developer/Manufacturer:

Lockheed Martin Corporation, Syracuse, NY

JOINT LIGHT TACTICAL VEHICLE (JLTV)

DESCRIPTION

The Joint Light Tactical Vehicle (JLTV) capabilities represent a shift to adapt from a threat-based, Cold War garrison force focused on containment to a capabilities-based expeditionary force focused on flexibility, survivability, force protection, responsiveness, and agility. The JLTV Family of Vehicles must be capable of operating across a broad spectrum of terrain and weather conditions. The services and the Special Operations Command require enhanced capabilities, greater than those provided by the existing High Mobility Multipurpose Wheeled Vehicle to support the Joint Functional Concepts of Battlespace Awareness, Force Application, and Focused Logistics. To that end, the approved JLTV Initial Capability Document, and the JLTV Capability Development Document identify required capabilities for the next generation of JLTVs needed to support Joint Forces across the full range of military operations and provide a vital force enabler, multiplier and extender.

OPERATIONAL IMPACT

The initial production of JLTVs will provide the Marine Air Ground Task Force (MAGTF) commander a family of tactical wheeled vehicles capable of providing combat forces protected, sustained, and networked mobility in irregular warfare operations and enhancing the MAGTFs contribution to the integrated Joint Task Force.

PROGRAM STATUS

JLTV is a Joint Army/Marine Corps program with the U.S. Army designated as the lead service, Armaments Command establishing a Joint Program Office at the U.S. Army Tank Automotive & Armaments Command under the leadership of the Program Executive Office for Combat Support/Combat Service Support and a Program Office under the leadership of the Program Executive Officer for Land Systems, Marine Corps at Quantico, VA. The JLTV program expects a Milestone A (MS A) decision in early 2008, which will be followed by a Request for Proposal upon approval of MSA by the Defense Acquisition Executive. JLTV will proceed as a Joint Acquisition Category-1D Program with the Milestone Decision Authority being the Under Secretary of Defense for Acquisition, Technology, and Logistics.

Procurement Profile: FY2008
TBD

Developer/Manufacturer:
TBD

INTERNALLY TRANSPORTABLE VEHICLE (ITV)



and CH-53E by deploying ground units equipped with highly mobile light-strike vehicles armed with heavy or medium machine guns. The Interim Fast Attack Vehicle (IFAV) is currently fielded and is deployable inside the CH-53E aircraft, but the Ground Combat Element currently has no ground mobility platform that can deploy inside the MV-22. ITV will replace the IFAV.

DESCRIPTION

The Internally Transportable Vehicle (ITV) will be a highly mobile weapons capable light strike platform that can support a variety of operations. It will provide Marine Air-Ground Task Force (MAGTF) ground combat units with a vehicle transportable in CH-53E and MV-22 aircraft. It also will provide reconnaissance units equal or greater mobility than the MAGTF maneuver elements they support, thereby enhancing their mission performance and survivability.

OPERATIONAL IMPACT

The ITV will play a key role in Ship To Objective Maneuver and Distributed Operations in allowing MAGTF commanders to take maximum advantage of the speed and range offered by the MV-22

PROGRAM STATUS

The ITV Program is currently in production and deployment. A full rate production decision is planned for May 2008 and initial operational capability is planned for summer 2008, when one infantry battalion receives 15 ITVs.

Procurement Profile:	FY2008	FY2009
Quantity:	20	64

Developer/Manufacturer:
General Dynamics Ordnance and
Tactical Systems with subcontractor
American Growler, Robbins NC

MEDIUM TACTICAL VEHICLE REPLACEMENT (MTVR)

DESCRIPTION

The Medium Tactical Vehicle Replacement (MTVR) has replaced the aging medium truck fleet (M809/M939) series five-ton trucks with state-of-the-art commercial automotive technology. The MTVR has a payload of 7.1 tons off-road, 15 tons on-road, a high-performance suspension, traction control, new engine, central tire inflation system, automatic transmission, and corrosion technology upgrades. The MTVR Armor System (MAS) provides complete 360-degree protection as well as overhead and underbody protection for the crew compartment using Mil-A-46100 High Hard Steel and Metal Composite. The MAS is intended as a permanent modification to the vehicle, and includes an upgraded front suspension and cab rebuild. The kit includes an integrated air conditioning system and machine gun mount. The Cargo MAS kit includes an optional, removable Troop Carrier (with ballistic glass).

OPERATIONAL IMPACT

Over 1,030 MTVRs are currently being used in theater. The MTVR can readily negotiate terrain twice as rough as the five-ton truck. There are several variants of the basic MTVR platform for use with different functions to include a dump truck, wrecker, and tractor. The Dump and Wrecker variants maintain maximum commonality with the basic MTVR cargo chassis while performing their unique missions. The Marine Corps is procuring

the Navy Seabee tractor variant to serve as the prime mover for the MK970 refuelers.

PROGRAM STATUS

The MTVR is in the production/deployment phase. The MTVR dump-and-tractor MAS Variants began fielding in December 2006. The Approved Acquisition Objective for MTVR increased to 7,710 & MAS to 5,140 as a result of a new USMC Tactical Wheeled Vehicle Armor Strategy and increase in USMC end-strength. Based on Urgent Universal Needs Statements, an MAS Blast Protection upgrade kit, including blast resistant cab seating, has been developed and is being retrofitted on all MTVR MAS vehicles in Operation Iraqi Freedom (OIF). Similarly, fuel tank fire protection kits are being installed in every MTVR in OIF. The USMC's objective is to retrofit all existing MAS MTVRs with the blast upgrade and fuel tank fire kits. These upgrades will be included in all future MAS orders.

Procurement Profile:	FY2008	FY2009
Quantity:	356	0

Developer/Manufacturer:
Oshkosh Truck Corporation, WI

HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLE (HMMWV) EGRESS ASSISTANCE TRAINER (HEAT)

DESCRIPTION

The High Mobility Multi-purpose Wheeled Vehicle (HMMWV) Egress Assistance Trainer (HEAT) trainer provides Marines the opportunity to experience vehicle roll-over conditions and rehearse and physically execute the steps necessary to survive a vehicle roll-over. Conducting this training under controlled conditions afford Marines the opportunity to gain experience of proper egress procedures, while reinforcing the importance of proper seatbelt/harness utilization, developing awareness of the necessary individual and crew skills needed to execute roll-over procedures, and training tactical perimeter security drills.

OPERATIONAL IMPACT

HEAT trainers support the Central Command requirement for all Marines to complete vehicle roll-over training prior to deploying to designated combat zones. HEAT training provides awareness of what causes a roll over and how to avoid and react to counter a potential roll over situation. HEAT training reinforces the importance of seatbelt usage and teaches teamwork when egressing.

PROGRAM STATUS

The HEAT project is currently undergoing a Product Improvement Initiative (increment #1) which will be complete in April 2008. HEAT trainers are currently located at Camp Lejeune, NC; Camp Pendleton, CA; MCB Kaneohe Bay, HI; Camp Hansen, Okinawa; and Mohave Viper, 29 Palms, CA.

Procurement Profile:	FY2008	FY2009
Quantity:	0	0

Developer/Manufacturer:
TBD

TRIAD OF GROUND FIRES

With the increased range and speed of the Expeditionary Fighting Vehicle and the MV-22 Osprey tilt rotor aircraft, the breadth and depth of the battlefield is increasing immensely. Consequently, the Marine Corps must have weapons systems with correspondingly greater range, lethality, and tactical mobility than those previously available. A triad of indirect fire-support programs is moving the Marine Corps in that direction.

The first element of the triad is the M777 Lightweight 155mm towed howitzer, which began replacing the current M-198 howitzer in 2005. The M777A1 is a joint Marine Corps-Army effort that will meet or exceed all the requirements of the current system, while reducing its weight from 16,000 to 9,800 pounds. The M777A1's maximum range is 15 miles using unassisted projectiles, or 18 miles using assisted projectiles.

The second element of the triad is the High Mobility Artillery Rocket System (HIMARS). The HIMARS delivers high volumes of long range rocket artillery in support of the ground scheme of maneuver. The HIMARS provides accurate, responsive, general support to reinforce fires at long range, under all weather conditions, and throughout all phases of combat operations ashore. Capable of firing the Multiple Launch Rocket System Family of Munitions, the HIMARS fires both precision and area munitions, and is capable of ranges exceeding 36 miles. The third system of the land-based fire support triad, the Expeditionary Fire Support System (EFSS), can accompany the

Marine Air Ground Task Force (MAGTF) in any expeditionary mode of operations. It will be the primary indirect fires system for the vertical assault element of the ship-to-objective maneuver force. The EFSS will be internally transported by CH-53 helicopter or MV-22 tilt rotor to allow the greatest range and flexibility of employment. In addition to acquiring these primary fire support systems, the Marine Corps is developing other key adjuncts to the triad that will enhance the capabilities of the fire support platforms. These programs include sensors such as the Ground Weapons Locating Radar, Target Location Designation Handoff System, and Common Laser Range Finder. Additionally, the Improved Position Azimuth Determining System and development of a modeled, balloon-less meteorological measuring capability will improve location and weather data to ensure first round accuracy. For the M777A1, the Modular Artillery Charge System will reduce the number of propellant types used, and Multi-Option Fuze Artillery will reduce the number of fuses currently in the inventory.

Finally, acquisition of M795 155mm high explosive projectiles and variants will increase the lethality and range of munitions inventory. Ground-based, indirect fires are irreplaceable when forces are joined in close combat. Nothing else is as responsive to the commander's needs, or as reliable. They are not weather-dependent or facility-dependent. As such, they are key components of the reach and lethality of the MAGTF.

TACTICAL AIRCRAFT (TACAIR) INTEGRATION (TAI) / CAPABILITIES-BASED SCHEDULING (CBS)

The Tactical Aircraft (TacAir) Integration (TAI) plan will enhance core combat capabilities and result in a more potent, cohesive, and affordable fighting force. This integration is a culmination of a long-term effort to achieve greater combat capability with regard to Naval TacAir and represents a shared commitment to use the resources provided to the Department of the Navy (DoN) as judiciously as possible.

Integration efforts have been underway for several years. Since early 2004, five of the Marine Corps' eight F/A-18 A+/C Active Component Hornet squadrons have been operating from Navy aircraft carriers as part of their embarked carrier air wings. The first Navy F/A-18 squadron deployed to Marine Corps Air Station (MCAS) Iwakuni, Japan in support of the Unit Deployment Program in the fall of 2004. Key points of the TAI plan include:

- It retains Marine culture and reinforces an expeditionary ethos.
- It provides a smaller yet more capable and more affordable DoN TacAir force.
- It integrates Marine TacAir on Navy aircraft carriers. It integrates Navy TacAir into the Unit Deployment Program.
- It globally sources all DoN TacAir assets to ensure support to the Marine Air Ground Task Force (MAGTF).
- It provides increased combat capability in forward areas, in concert with the enhanced Seabasing concept.

A cornerstone of this plan is DoN funding and maintenance of legacy aircraft at the highest levels of readiness, until the Joint Strike Fighter (JSF) and F/A-18E/F replace them. This requires an

unwavering commitment to a heightened strike-fighter readiness across the DoN. The readiness levels associated with this integration will allow the DoN to surge more aircraft than is within the current means.

To confront the challenges posed by the changing conduct of war and rapid evolution of technology, the Navy and Marine Corps will leverage their respective service's strengths to integrate when and where appropriate. Integration will produce a more effective and efficient naval force with improved warfighting capabilities. In June 2005, the Commandant of the Marine Corps and the Chief of Naval Operations approved Capabilities-Based Scheduling (CBS) as the TAI construct by which Navy and Marine Corps planners will fill all combatant commander operational requirements, as well as training requirements, with the most capable and cost-effective unit while still maintaining the long-range vision towards an interdependent force. CBS, coupled with new technology, service reorganization, and doctrine, will enable Naval Aviation to provide a unique, flexible, sea-based capability that will provide a greater range of options to the theater and Marine Air Ground Task Force (MAGTF) commanders. This co-evolution of technology, organizations, and concepts that surrounds TAI and the JSF will truly provide a transformational warfighting capability to land- and sea-based naval forces.

Naval Aviation will be fully integrated into task-organized Expeditionary Strike Groups and Carrier Strike Groups, en-

hancing the strategic agility, operational reach, and tactical flexibility of U.S. naval expeditionary forces. Navy and Marine Corps aircraft will operate from Sea Bases, optimized austere bases ashore, and right-sized expeditionary airfields with a new generation of lethal aircraft, providing naval and joint commanders with capabilities that were unattainable until now.

Integrated Naval TacAir, which will also possess significant low-observable strike capabilities embodied in the JSF, will be capable of delivering fires across the breadth and depth of the joint battlespace. Greatly improved strike options for the MAGTF and theater commanders will be achieved by integrating information from naval, joint, and national resources. Battlespace awareness will be measurably improved through the integration of networked forces and assets. Marine Corps and Navy forces will be seamlessly networked with pervasive intelligence, surveillance, and reconnaissance assets—including unmanned and autonomous sensors—covering the entire battlespace.

Current service doctrines and training have traditionally focused on the employment of air power at the tactical level (close air support) or the strategic level (long-range strike or interdiction). Now, MAGTF, joint force, or theater commanders can leverage Naval Aviation's distinctive characteristics at the operational level. Organizational and cultural change, coupled with new technology and innovative operating concepts, is fundamentally changing Naval Aviation and achieving exponential increases in its capabilities.

Naval air forces will take advantage of their reach, flexibility, sensors, and weapons to project power from both dispersed and networked sea- and land-bases through air-delivered fires and maneuver. This scalable and continually transforming force will provide the capabilities and flexibility required by U.S. joint force commanders, and will play a key part in achieving ultimate victory.

AIR NAVAL GUNFIRE LIAISON COMPANIES (ANGLICO)



Air Naval Gunfire Liaison Companies (ANGLICO) are made up of small unit teams that specialize in all aspects of fire support. Units range from terminal control firepower teams to division fire support coordination centers, the latter of which has intermediate battalion supporting-arms liaison teams and regimental/ brigade fire support coordination support.

ANGLICO units provide Marine Air Ground Task Force (MAGTF) commanders a liaison capability (with foreign area expertise) to plan, coordinate, employ, and conduct terminal control of fires in support of joint, allied, and coalition forces.

In 2002, the Commandant of the Marine Corps approved the reestablishment of ANGLICO, authorizing a company on each coast and a separate brigade platoon in Okinawa. In 2003, 1st ANGLICO was reestablished at Camp Pendleton, CA and 2d ANGLICO was reestablished at Camp Lejeune NC. 1st and 2d ANGLICO each have a company headquarters and two brigade platoons. 5th ANGLICO established an operational capability for a company headquarters and two brigade platoons in the III Marine Expeditionary Force in 2006. A third brigade platoon was stood up at 1st ANGLICO in 2007, with 2d and 5th ANGLICOs each to stand up a third brigade platoon in 2008.

NON-LETHAL WEAPONS (NLW)



Today's asymmetric battlefield has increased in complexity with the definitive lines between combatants and non-combatants becoming more ambiguous. This complex operating environment demands greater discrimination in the use of force by commanders. The Joint Non-Lethal Weapons Program (JNLWP) assists the services in providing the warfighter with a family of Non-Lethal Weapons (NLW) specifically designed to deliver precise non-lethal effects across the range of military operations.

The Commandant of the Marine Corps serves as DoD's executive agent for NLW, and through the JNLWP coordinates and integrates new technologies and systems directly to support service and combatant commanders' requirements.

Because NLW are highly discriminate and designed to achieve tailored target responses, they can avoid undesired effects. NLW capabilities assist warfighters in effectively managing escalation of force scenarios such as:

- Uncertain situations including target discrimination (resulting from adversaries seeking to blend into the surrounding population), the use of human shields, or co-location of adversary military capabilities with critical civilian infrastructure
- Collateral damage issues, where using traditional lethal weapons may affect our own

force (force protection or freedom of action), non-combatants, or the infrastructure

- Perceptions and indirect effects that significantly affect future actions or support.

NLW provide incapacitating reversible effects that offer greater flexibility for service missions, and enhance our value as a versatile, adaptive joint force. In counter-insurgency operations the enemy may continue to use unconventional methods, such as human shields, in order to accomplish their objectives. Force commanders need the means to achieve desired effects while minimizing the loss of innocent life and limiting collateral damage. Non-lethal weapons provide less lethal options to our tactical decision-makers that prove extremely worthwhile in Escalation of Force (EOF) operations. Armed with NLW, the warfighter can elevate or decrement his response based upon the tactical environment and the mix of combatants with non-combatants. This fills the gap between "shout" and "shoot" for both force protection and force application missions.

Today's NLW technologies include a variety of blunt trauma munitions, optical warning distraction and incapacitation devices and mechanical vehicle arresting devices. Future technologies using cutting-edge directed energy technologies, such as the counter-personnel Active Denial System and counter-materiel vehicle and vessel stopping devices, will make precision engagement and controlled effects available to the commander. These systems are the next generation of NLW that give the warfighter greater choice of weaponry, range, and more time to make sound tactical decisions.

HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)



DESCRIPTION

The High Mobility Artillery Rocket System (HIMARS) is a C-130-transportable, wheeled, indirect-fire, rocket/missile system capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System Family of Munitions. The HIMARS launcher consists of a fire control system, carrier (automotive platform), and launcher-loader module that will perform all operations necessary to complete a fire mission. The system is defined as one launcher, two re-supply vehicles, two re-supply trailers, and munitions.

OPERATIONAL IMPACT

HIMARS addresses an identified, critical warfighting deficiency in Marine Corps fire support. HIMARS will primarily employ the Guided Multiple Launch

Rocket System rocket to provide precision fires in support of maneuver forces. HIMARS is a transformational, 24 hour, ground-based, responsive, General Support/General Support-Reinforcing, precision, indirect fire weapon system which accurately engages targets at long ranges (60+ Km) with high volumes of lethal fire under all weather conditions throughout all phases of combat operations ashore.

HIMARS will be fielded to two battalions (one active and one Reserve) in the Marine Corps.

PROGRAM STATUS

HIMARS entered Full Rate Production in October 2005. A battery-sized interim capability was achieved in 1st Qtr fiscal year 2006 (Battery F, 2/14). Initial operational capability will be achieved in fiscal year 2008 and full operational capability will be achieved in fiscal year 2010.

Procurement Profile:	FY2008	FY2009
Quantity:	0	0

Developer/Manufacturer:

- Launcher and MFOM: Lockheed Martin Corporation, Missiles & Fire Control Div., Dallas, TX
- Re-Supply System: Oshkosh Truck Corporation, Oshkosh, WI

LIGHTWEIGHT 155MM HOWITZER (LW155)

DESCRIPTION

The Lightweight 155mm Howitzer (LW155) is a joint Marine Corps/Army program to develop, produce and field a towed 155mm howitzer that provides increased mobility, survivability, deployability, and sustainability in expeditionary operations throughout the world. The LW155, designated the M777, is a direct and general support artillery system which is replacing the M198 155mm Medium Towed Howitzer in both Services. It has incorporated innovative design technologies to overcome deficiencies inherent in the current M198 howitzer. The LW155 is the first ground combat system whose major structures are made of high strength titanium alloy and the system makes extensive use of hydraulics to operate the breech, load tray, recoil and wheel arms. The combination of titanium structures and the use of hydraulic systems resulted in a significant weight savings over the M198 system (>7000 lbs.). Compared to the M198, the M777 emplaces three-times faster and displaces four-times faster. It traverses 32 percent more terrain worldwide and is 70 percent more survivable than the M198.

The M777A2 is an upgrade to the basic weapon that adds a digital fire-control system using a Global Positioning System, an Inertial Navigation Unit and a Vehicle Motion Sensor to accurately locate and orient the weapon to deliver greater accuracy, responsiveness and reliability. The system also integrates radios for voice and digital communications and a Chief of Section Display that is decoupled and

mounted into the cab of the prime mover for use as a navigation aid. The M777 fires unassisted projectiles to a range of 15 miles and assisted projectiles to 19 miles, but the addition of the digital fire control system enables the weapon to program and fire the Excalibur precision-guided munition to ranges in excess of 25 miles with better than 10-meter Circular Error Probable (CEP) accuracy.

OPERATIONAL IMPACT

The LW 155(M777) is currently in-service with the USMC and U.S. Army and has been deployed to Operation Iraqi Freedom/Operation Enduring Freedom. The Canadian Army purchased the base M777 under a Foreign Military Sale (FMS) contract and is currently using the system in Afghanistan.

PROGRAM STATUS

The LW 155 program entered full-rate production in 2005. The Marine Corps is procuring 405 systems and the Army is buying 366.

Procurement

Profile:	FY2008	FY2009
Quantity:	USMC=136	ARMY=280

Developer/Manufacturer:

BAE Systems, Barrow in Furness, UK

General Dynamics, ATP, Burlington, VT;
Wegmann

USA, Lynchburg, VA; TSLA, Chatsworth,
CA; Watervliet Arsenal, Watervliet, NY

EXPEDITIONARY FIRE SUPPORT SYSTEM (EFSS)

DESCRIPTION

The Expeditionary Fire Support System (EFSS) will be the third and final system of a land-based fire support triad that includes the Lightweight 155mm Howitzer and High Mobility Artillery Rocket System. Accompanying Marine Air Ground Task Forces (MAGTFs) in all types of expeditionary operations, EFSS will be the primary indirect fire support system for the vertical assault element of the Ship To Objective Maneuver force. As such, the EFSS launcher, the mobility platform, a portion of the basic load of ammunition, and a portion of its crew will be internally transportable by a single CH-53E helicopter and/or a single MV-22 tilt rotor aircraft, and will possess the greatest possible range and flexibility of employment for operational maneuver from the sea.

OPERATIONAL IMPACT

EFSS will expand the maneuver commander's spectrum of fire support options and be capable of successfully engaging a spectrum of potential point and area targets, including motorized, light armored, and dismounted personnel, command and control systems, and

indirect fire systems. EFSS will afford the MAGTF commander increased flexibility in tailoring his fire support systems to support the scheme of maneuver. EFSS-equipped units will be especially well-suited for missions requiring speed, tactical agility, and vertical transportability. The EFSS design and configuration will ensure that its tactical mobility, both in the air and on the ground, is equal to that of the force supported.

PROGRAM STATUS

The EFSS Program is currently in production and deployment. A full rate production decision is planned for May 2008 and initial operational capability is planned for summer 2008, when one artillery regiment receives six EFSS systems.

Procurement Profile:	FY2008	FY2009
Quantity:	7	23

Developer/Manufacturer:
GD-OTS with subcontractor TDA Armements (THALES Group), La Ferte-Saint Aubin, France

COMPANY AND BATTALION MORTARS

DESCRIPTION

The Company and Battalion Mortars program is a joint Marine Corps-U.S. Army initiative that seeks to lighten the overall weight of the systems through minor modifications of each of the three major components—cannon, bipod and baseplate. This will be achieved through the use of innovative materials and manufacturing processes. This will result in a weight reduction of approximately 12% for the company mortar and 30% for the battalion mortar system and introduce commonality of operation and parts with similarly designed bipods.

OPERATIONAL IMPACT

The improved company and battalion mortar systems will enhance the mobility of the individual mortarman and unit, while reducing the overall cost associated with procurement, training, and maintenance.

PROGRAM STATUS

The Company and Battalion Mortars program will award multiple production contracts in 1st-2nd Quarter (Qtr), fiscal year (FY) 2008 for all three major components of both systems. Initial Operational Capability is scheduled to be achieved in 3rd Qtr, fiscal year 2010 and Full Operational Capability is scheduled to be achieved in 3rd Qtr, fiscal year 2011.

Procurement Profile:	FY2008	FY2009
Company Quantity:	0	340
Battalion Quantity:	60	690

Developer/Manufacturer:
TBD

GROUND COUNTER FIRE SENSOR (GCFS)

DESCRIPTION

The Ground Counter Fire Sensor (GCFS) is a passive, autonomous acoustic system that will provide accurate points of origins of indirect fire systems, explosive detonations, and heavy direct fire weapons. The GCFS is a material solution augmenting currently fielded counter battery radar systems and is employed within Marine Artillery Regiments. The GCFS provides 360 degree, round-the clock coverage out to 20km for 155mm indirect fires. The GCFS incorporates 8 sensor posts and a command post via waveform communications and uses WGS84 datum and ellipsoid map references.

OPERATIONAL IMPACT

GCFS augments current counter battery radars by identifying the points of origin of improvised explosive devices (IED), rocket propelled grenades, and indirect fires that current sensors cannot detect. The GCFS allows the operating forces to counter enemy fires and react to IED detonations that otherwise would not be identified.

PROGRAM STATUS

The GCFS is a Marine Corps Abbreviated Acquisition Program in response to an Urgent Universal Need Statement. Initial operational capability was reached during fiscal year 2005 and full operational capability was reached in fiscal year 2006. The GCFS is undergoing engineering changes to evolve into an integrated and interoperable system. The GCFS program is in the process of becoming a program of record and is currently undergoing the staffing and approval of a formal CPD process. The Program Office is attempting to procure two additional systems as DFM, with fiscal year 2008 supplemental appropriation and has stood up an Integrated Program Team with the United Kingdom Royal Artillery and the Canadian Artillery to execute a common long term sustainment concept.

Procurement Profile:	FY2008	FY2009
Quantity:	10	0

Developer/Manufacturer:
SELEX Sensors and Airborne Systems Ltd,
Basildon, UK

TARGET LOCATION, DESIGNATION AND HAND-OFF SYSTEM (TLDHS)

DESCRIPTION

The Target Location, Designation and Hand-off System (TLDHS) is a Joint Fires /Combined Arms tool. It is the first system within Department of Defense to be approved for fielding that allows observers to control Close Air Support (CAS), Artillery and Naval Gunfire missions on a single system using digital communications. TLDHS is a modular, man-portable equipment suite that provides the ability to quickly acquire targets in day, night, and near-all weather visibility conditions.

OPERATIONAL IMPACT

The system enables the user to perform target acquisition, coordinate refinement, and target hand-off to fire support agencies using existing and planned communications equipment. Operators are able to accurately determine and display their own location and the location of friendly forces as well as the location of targets and display fire support coordination measures. They are also able to digitally transmit (hand-off) this data to supporting arms elements and CAS aircraft, shortening mission response time and enhancing target location accuracy and friendly force deconfliction. Operators can designate targets for laser-seeking Precision Guided Munitions and Laser Spot Trackers or generate accurate coordinates for Global Positioning System weapons including Excalibur and Joint Direct Attack Munitions. The primary users of the system will be Forward Air Controllers (FACs), Forward

Observers (FOs) for field artillery, Fire Power Control Teams (FCT) of the Air and Naval Gunfire Liaison Companies, Force Reconnaissance and Marine Corps Special Operations Command Marines as well as the supporting establishments responsible for the training of FOs, FACs, and FCT personnel.

PROGRAM STATUS

An evolutionary acquisition approach is used for the TLDHS program. Three block upgrades are planned during the program life cycle. Block I was focused exclusively on CAS with the AV- 8B Harrier and F/A-18 Hornet, and 137 systems were fielded in fiscal year 2004. Block II added the ability for FOs to conduct indirect fire missions including Naval Gunfire through Advanced Field Artillery Tactical Data System, and also added digital CAS communications with the Block 40 F-16. The Block II software also added a target coordinate refinement tool and the ability to view downlinked Rover III streaming video. Initial Operational Capability is planned for 1st Qtr fiscal year 2008.

Procurement Profile:	FY2008	FY2009
Quantity:	100	40

Developer/Manufacturer:
Prime Contractor and StrikeLink Software:
Stauder Technologies, Saint Peters, MO

Military Ruggedized Tablet:
DRS Technologies, Melbourne, FL

LASER TARGET DESIGNATOR (LTD)

DESCRIPTION

The Laser Target Designator (LTD) program is the single program responsible for satisfying current and future Marine Corps LTD requirements. The LTD program encompasses two sub systems, the Portable Laser Designator Range-finder (PLDR) and the Laser Spot Imager (LSI) in order to achieve the designation requirements of the Target Location Designation Hand-off System. The PLDR is an electro-optical unit which provides joint terminal attack controllers with the capability to perform observation, identification and designation of targets. The external LSI provides day/night laser imaging capability in order to verify that the laser is designating the correct object as a target. LTD is currently acquiring the PLDR to field as the primary laser designator for use by Marine Corps forces. The PLDR laser beam is not visible to the naked eye or night vision goggles and has a designation range of 5,000 meters. PLDR includes a built-in laser spot camera which will eliminate the need to use the stand-alone LSI under certain daylight conditions.

OPERATIONAL IMPACT

LTD provides the operating forces with a capability to designate targets for both laser spot trackers and laser-seeking precision guided munitions in support of Joint Terminal Air Controllers, Reconnaissance Scouts and ANGLICO Scouts. PLDR is man-portable, and weighs less than previously fielded laser designators. Potential future upgrades include further weight reduction.

PROGRAM STATUS

LTD is acquiring PLDR as a non-developmental item, and is entering the acquisition process at Milestone C in 2nd Qtr fiscal year 2008. The target for initial operational capability is 2nd Qtr fiscal year 2008. The approved acquisition objective is 607 systems.

Procurement Profile:	FY2008	FY2009
Quantity:	0	0

Developer/Manufacturer:
Kollsman, Inc., New Hampshire



CHAPTER 3
PART 4 AVIATION SUPPORT

INTRODUCTION

A key factor of the Marine Corps' ability to implement the new maritime strategy is the flexibility and combat power of Marine Aviation. Fixed- and rotary-wing aircraft organic to the Marine Air-Ground Task Force can shape and fight the battle, often in direct support of Individual Marines on the ground. Throughout the Marine Corps' history, this combined-arms team has proven unequalled across the spectrum of operations, from humanitarian assistance and disaster relief to delivering ordnance on target during crisis and conflict. Today, our priority is to replace legacy aircraft—some of which that have been flying since the Vietnam War. Introducing vastly more capable aircraft with highly trained and experienced Individual Marine Aviators and support personnel will ensure that the Corps maintains its warfighting advantage for our Nation in the years to come.

Marine Aviation continues to operate in a complex operational environment around the globe. Regardless of the multifaceted and dynamic threats we face, our mission remains unchanged—to be the MAGTF's aviation force in readiness. Our challenge during this time is to remain engaged operationally while executing our transition strategy to posture the force for the future. The Marine Aviation Transition Strategy is a phased, multi-year plan incorporating force structure changes to better balance the Active Duty and Reserve Component capacity while simultaneously providing critical Marine

manpower increases to all flying squadrons and selected sections of the Marine Aircraft Group and Marine Aircraft Wing headquarters. Critical to this effort are the numerous transition task forces that are planning our transition from 13 types of legacy aircraft to seven new platforms. The complexities of our modernization plans become clearer upon review of our major programs. Our transition strategy can be separated into two mutually supportive efforts – sustain our legacy fleet and transition to new aircraft. Sustaining the legacy fleet includes upgrading the command and control systems as well as our Aviation Ground Support systems.

The following programs are the backbone of the ACE and lay the foundation for improved capabilities provided to us by our new aircraft and upgraded systems:

- Aviation Combat Element (ACE) Legacy Aircraft Modernization
- Aviation Ground Support
- Theater Battle Management Core System
- The Joint Interface Control Office Support System

Higher deployment tempo and corresponding increased difficulty in maintaining over used legacy systems demand that we transition to our new aircraft and systems on schedule. Our roadmap for navigating through this challenge is contained in the overarching Transition Strategy detailed in the Marine Aviation Plan. Our transition strategy as outlined in the AvPlan has become a keystone 'liv-

ing' document that outlines the multi-year transition plan and provides a ready reference for the fleet as well as the other services to understand the complexities and ultimate goals of our transition strategy. The collaborative efforts of Marine forces, HQMC, NAVAIR, and industry are largely responsible for the impressive achievements of many of our major programs over the past year.

- MV-22 Osprey Program
- Unmanned Aircraft Systems (UAS)
- KC-130J Super Hercules
- H-1 Upgrade Program (UH-1Y Huey / AH-1Z Cobra)
- Joint Strike Fighter (JSF) Transition Plan
- F-35B Short Take-Off Vertical Landing (STOVL) Joint Strike Fighter (JSF)
- CH-53K Heavy Lift Helicopter
- Operational Support Aircraft (OSA)

AVIATION COMBAT ELEMENT (ACE) LEGACY AIRCRAFT MODERNIZATION

The Marine Corps has several significant aviation modernization programs underway to restore and enhance the capabilities of its existing aircraft and systems. These modernization efforts are vital to the services' near- to mid-term combat capabilities.

CH-46E SEA KNIGHT

The CH-46E Sea Knight performs medium lift combat missions in the execution of the assault support function of Marine aviation. The CH-46E is fulfilling a critical role in Operation Iraqi Freedom. Sustainability, performance improvement, and payload recovery programs are essential to ensure the platform continues to meet Marine Air Ground Task Force (MAGTF) and joint war fighting requirements through the next ten years.

Because the CH-46E continues to play a vital role in support of the Global War on Terror, Aircraft Survivability Equipment Systems are being upgraded, including the missile warning system, countermeasures dispensing system, and infrared missile jamming system to mitigate enemy threats. Numerous weight reduction initiatives have been commenced which are targeting 1000 pounds of payload recovery. Lightweight ceramic armor has been procured to replace the original steel armor. CH-46E readiness and utilization rates are at historic highs and the efforts underway will help it safely and effectively perform the mission until retirement.

CH-53E SUPER STALLION

The CH-53E Super Stallion is a three-engine, long-range, heavy-lift helicopter that has been key to the assault support function of Marine Aviation, but the CH-53E cannot support the range and payload requirements necessary to the Marine Corps future war-fighting concepts as currently envisioned. The current fleet of aircraft will reach the end of its fatigue life during this decade, and a sustainment strategy has been implemented to address critical fatigue, obsolescence, and reliability issues, until the aircraft can be replaced. A comprehensive re-design of the Marine Corps heavy lift platform, focusing on reliability, maintainability, cost of ownership, and performance, is required to effectively meet MAGTF and joint war fighting requirements over the next 25 years. The CH-53K program, formerly known as the Heavy Lift Replacement Program (HLR), is the solution to maintaining a heavy-lift capability beyond the year 2025. The CH-53K is a derivative design of the existing CH-53E, remaining within the same shipboard footprint, and is critical to properly and cost-effectively supporting sea-based Expeditionary Maneuver Warfare (EMW) for the Marine Corps in the 21st century. The CH-53K will provide the Marine Corps with the ability to transport 27,000 lbs of cargo out to 110 nautical miles (NM), providing twice the lift capability of the CH-53E under the same conditions. Major system improvements of the new build helicopter include: larger and more capable engines, an expanded gross weight airframe, an

enhanced drive train, advanced composite rotor blades, a modern interoperable cockpit, improved external and internal cargo handling systems, and increased survivability and force protection.

AV-8B HARRIER

The AV-8B Harrier Open Systems Core Avionics Requirement (OSCAR), which updates obsolete software and computer equipment, has entered service. OSCAR with Operational Flight Program H4.0 enables the AV-8B to employ both 1,000 and 500 lbs variants of the Joint Direct Attack Munitions and provides tremendous improvements in radar and LITENING advanced targeting pod capability.

The LITENING advanced targeting pod significantly improves the AV-8B's lethality and survivability. This third-generation, forward-looking infrared set, dual field-of-view television seeker, and infrared marker provides improved target recognition and identification, while the laser designator and laser spot tracker provide precision targeting capability. Some LITENING pods have also been equipped with a C-band video downlink, which allows real-time video to be sent to ground-based commanders and forward air controllers equipped with the Rover III receiver station. This facilitates time-sensitive targeting and reduces the risk of fratricide and collateral damage.

In order to maintain a world-class training environment, the two-seat TAV-8B trainers are undergoing an upgrade

program that adds the OSCAR mission computer, night vision goggle-compatible lighting, and the more powerful and reliable Rolls Royce Pegasus (408) engine. These improvements are increasing the training capability of the AV-8B fleet replacement squadron, as well as the abilities of replacement pilots reporting to fleet squadrons. The enhancements to the Harrier are critical in providing continued support to the MAGTF until the tactical aviation (TacAir) Integration implementation and Joint Strike Fighter (JSF) transition are complete.

F/A-18 HORNET

The F/A-18A+ Upgrade (Engineering Change Proposal 583) consists primarily of avionics and hardware upgrades that allow the F/A-18A+ Hornet to process and use updated versions of F/A-18C software and accessories. A large portion of this modification enhances commonality between the "A+" and "C" aircraft, reducing logistics footprint, and pilot and maintenance training requirements, as well as mitigating obsolescence issues. The modified "A+" aircraft is compatible with a Lot XVII F/A-18C aircraft, an aircraft eight years younger. This upgrade also enables the "A+" aircraft to employ all current and programmed future weapons.

Fifty-six aircraft are scheduled to receive the upgrade, enabling the upgraded "A" model aircraft to remain active through 2020. These additional, relevant F/A-18 airframes are instrumental in

supporting the Navy-Marine Corps TacAir Integration plan.

The F/A-18D Advanced Tactical Airborne Reconnaissance System (ATARS) provides manned airborne tactical reconnaissance capability to the MAGTF. ATARS incorporates multiple sensor capabilities including electro-optical, infrared, and synthetic aperture radar. ATARS-equipped aircraft carry all sensor capabilities simultaneously, enabling imagery that is selectable by the aircrew in flight. Another significant capability of ATARS is its ability to transmit digitally collected data in near-real time to ground receiving stations. This imagery can be data-linked to various intelligence systems for national exploitation via the Tactical Exploitation Group. Twenty-two ATARS sensor suites and 31 ATARS modified aircraft are now operational in all five Marine Corps F/A-18D squadrons.

The LITENING advanced targeting pod provides the F/A-18 with a significant improvement in its lethality and survivability. LITENING is the Marine Corps third generation capability for its expeditionary aircraft. This forward-looking infrared sensor, dual field-of-view television seeker, and infrared marker, provides improved target recognition and identification, while the laser designator and laser spot tracker provide precision targeting capability. All F/A-18 and AV-8B supporting the Global War On Terror deploy with LITENING pods equipped with a video downlink.

Based upon the LITENING pod's proven combat value during recent op-

erations, the Marine Corps has modified expeditionary F/A-18 aircraft to carry the LITENING pod. It is a proven capability that better enables Marine Aviation to support the MAGTF and Joint Force commanders.

KC-130 HERCULES

All of the legacy KC-130 aircraft will be replaced with KC-130Js which will culminate in one Type/Model/Series tactical aerial refueler/assault support aircraft for the Marine Corps.

EA-6B PROWLER

EA-6B upgrades maintain Marine Prowlers as an essential combat-proven element of the MAGTF and the joint force. The cornerstone of the modification and upgrade plan is the Improved Capabilities III (ICAP III) weapon system for both Marine and Navy EA-6B squadrons. The core of ICAP III is the ALQ-218 digital receiver system. This is the first receiver upgrade to the EA-6B since its fleet introduction more than 30 years ago. The improved receivers will enable more precise jamming, while also improving aircrew situational awareness and reducing life cycle costs.

ICAP III attained initial operational capability for the Navy in fiscal year 2005. The EA-6B's successful re-winging and upgrades will also be critical to maintaining the airframe's viability through 2016.

AVIATION GROUND SUPPORT

The Marine Wing Support Group (MWSG) provides the functional support necessary to enable Marine Aviation operations in an expeditionary environment; these capabilities are also relevant to the Joint Force Commander on the battlefield where forward basing and rapid aviation support may be required. Aviation Ground Support (AGS) is scalable and sustainable, but must continue to modernize to support current and future Air Combat Element (ACE) expeditionary operations. The MWSG and Marine Wing Support Squadrons (MWSS) are undergoing several equipment and structure refinements to enhance the ability to rapidly plan, deploy, and provide AGS to the ACE Commanders training and wartime requirements. Additionally, the MWSGs and MWSSs seek to integrate improvements in logistics processes and information technologies as part of the current Logistics Modernization (LOGMOD) initiatives.

MARINE WING SUPPORT SQUADRON MIRROR IMAGING

Continuous refinement of the MWSS “mirror imaged” structure will continue to ensure that the squadrons can provide flexible and responsive direct support AGS to the ACE. All active duty MWSSs were mirror imaged in fiscal year 2006, eliminating the inherent constraints of employing separate rotary wing and fixed wing squadrons. The MWSS is now capable of providing flexible AGS to any composite Marine Aircraft Group to in-

clude joint and coalition aircraft. Future MWSS mirror imaging refinements look to influence standardization of air-operations personnel (Expeditionary Airfields (EAF), Airfield Rescue and Firefighting (ARFF), Fuels, Explosive Ordnance Disposal, Weather) structure at Marine Corps Air Stations and Facilities.

Future structure refinements will incorporate changes based on the MAGTF Military Police reorganization plan. These changes will ensure that the ACE is capable of organic force protection, secure movement, law enforcement, and integration with other elements of the MAGTF for the defense of the airfield, Forward Area Refueling Points, and base camps. A review of MWSS equipment during the 2007 Marine Corps wide Table of Equipment review focused on structuring the MWSS to support future MAGTF and ACE warfighting concepts well into the 21st century. The fielding of new equipment and new concepts further enhance the MWSSs capability to conduct route clearance and reconnaissance, and support the migration of tactical radio assets under the Tactical Communications Modernization (TCM) Plan. The focus of the current and future MWSS table of equipment review will be to shape the Squadron to support emerging Marine Aviation technologies, systems, and concepts.

EAF/ARFF MODERNIZATION

The AGS modernization initiative will ensure that the MWSS is capable of supporting the ACE during Expedition-

ary Maneuver Warfare. The intent of the EAF/ARFF modernization initiative is to provide a more rapidly deployable, maneuverable, and responsive expeditionary airfield capability that supports advanced Aviation technologies such as the MV-22 Osprey and Joint Strike Fighter.

EAF/ARFF Modernization programs include:

- Advanced light weight matting capable of supporting Joint Strike Fighter operations.
- Man portable, all weather airfield lighting systems
- Rapidly deployable, self contained, airfield damage repair systems.
- Modernized, lightweight, all terrain firefighting vehicles.

METEOROLOGICAL MOBILE FACILITY REPLACEMENT – NEXT GENERATION

The next generation Meteorological Mobile Facility Replacement will provide networked meteorological capability throughout the area of operations through a self mobile, High Mobility Multi-Wheeled Vehicle (HMMWV)- mounted facility capable of providing real time weather data in support of the ACE during expeditionary operations.

REGIONAL METEOROLOGICAL CENTERS (RMC)

The Regional Meteorological Centers (RMC) will be operational in fiscal year 2008 and provides consolidated hubs on each coast (Cherry Point, NC and Miramar, CA) to distribute meteorological forecast, weather alerts, and tactical weather products to Marine Corps Air Stations and Facilities in the Continental U.S. The RMC also serves as a training center for meteorological center

(METOC) personnel and ensures that entry-level METOC personnel are adequately trained to provide support to the ACE during expeditionary operations.

THEATER BATTLE MANAGEMENT CORE SYSTEM (TBMCS)

DESCRIPTION

Theater Battle Management Core System (TBMCS) is an air war planning tool mandated by the Chairman, Joint Chiefs of Staff for the generation, dissemination, and execution of the Air Tasking Order/Airspace Control Order (ATO/ACO). The host system resides with the Aviation Command Element in the Tactical Air Command Center (TACC) with remote systems located throughout the Marine Air Ground Task Force to allow dynamic mission updates.

OPERATIONAL IMPACT

TBMCS is the principal aviation command-and-control tool within the Marine Air Command and Control Systems and the Theater Air Ground System

for the development and execution of the ATO. It is a key system that supports ATO planning and development, and provides the automated tools necessary to generate, disseminate, and execute the ATO/ACO in joint, coalition, and USMC only contingencies.

PROGRAM STATUS

TBMCS version 1.1.3 is now fielded throughout the Operating Forces and the joint community. Discussions between Joint, Marine Corps, and other Services representatives are being held to develop a way ahead for sustainment of version 1.1.3 and the eventual transition to a new system in the future.

THE JOINT INTERFACE CONTROL OFFICE (JICO) SUPPORT SYSTEM (JSS)

DESCRIPTION

The Joint Interface Control Office (JICO) Support System (JSS) is an ACAT III Joint Requirements Oversight Counsel mandated, Air Force led program. The JSS will consist of a baseline of common modular hardware, software, computer operating system, documentation, training, and both local and remote JICO Data Repositories. The system will produce the Operational Tasking Link and its associated Network Design Files. Once the Multi-Tactical Data Link (TDL) Network (MTN) is planned, designed, and established the operators will use the system to monitor network connectivity, manage the air picture, and change the MTN to meet the operational objectives. JSS will be located with those operational facilities (OPFAC) in which the responsible service believes it will most likely be called upon to execute the JICO, Regional Interface Control Officer, and Sector Interface Control Officer roles. For Marine Corps operations, these OPFACs will be the Tactical Air Command Center or the Tactical Air Operations Center.

OPERATIONAL IMPACT

The system is designed to overcome decades of known interoperability issues associated with the TDL-MTN operations and to provide tools for Interface Control Officers to plan, design, establish, and manage the MTN. Once fielded the system will greatly increase MTN interoperability and reduce incidence of fratricide associated with Air Command and Control combat operations. The system concept is outlined in CJCSM 3115.01A Joint Data Network Operations Manual and CJCSM 6120.01D Joint Multi-TDL Operations Procedures.

PROGRAM STATUS

The engineering design models have been delivered and tested. The production critical design review was successfully conducted during second quarter of fiscal year 2007. Initial Operations Capability is scheduled for fourth quarter fiscal year 2010

Procurement Profile:	FY2008	FY2009
Quantity:	0	0

Developer/Manufacturer:
Northrop Grumman Mission Systems, San Diego, CA

USMC Integrator: Naval Surface Warfare Center, Crane IN

F-35B SHORT TAKE-OFF VERTICAL LANDING (STOVL) JOINT STRIKE FIGHTER (JSF)



DESCRIPTION

The F-35B Short Take-Off Vertical Landing (STOVL) Joint Strike Fighter (JSF) is a single engine, stealthy, supersonic, strike-fighter aircraft capable of short take-offs and vertical landings. JSF will combine the basing flexibility of the AV-8B with the multi-role capabilities, speed, and maneuverability of the F/A-18 to fulfill both the air-to-ground and air-to-air requirements of the Marine Corps. The aircraft will have very low radar cross-section and provide superior capabilities over legacy aircraft in the areas of survivability, lethality, and supportability. The F-35 will replace the Marine Corps' AV-8B and F/A-18A/C/D fleets, affirming a tremendous growth potential as the JSF matures into the premier next-generation weapons system.

OPERATIONAL IMPACT

The STOVL JSF provides a multi-mission offensive air support and an offensive/ defensive anti-air capability. The STOVL JSF also provides the Marine Air Ground Task Force (MAGTF) with a plat-

form capable of tactical air control and tactical reconnaissance. Additionally, the aircraft will be able to provide destruction of enemy air defenses. The requirements for this aircraft are focused on readiness, the combined arms concept, and expeditionary capability and the ability to conduct Expeditionary Maneuver Warfare.

PROGRAM STATUS

The JSF is a joint program with the Air Force, Navy, Marine Corps, and the United Kingdom as Level I partners. Participating as Level II partners are Italy and The Netherlands; Level III partners are Canada, Denmark, Norway, Turkey, and Australia. After reassessing the program baseline, the Systems Development and Demonstration phase is scheduled to last until 2013. The SDD phase will include the certification of various precision engagement capabilities, as well as cutting-edge sensor fusion that will directly support the MAGTF commander. Since completing the critical design review, the prime contractor has begun preparing the long lead items needed for Low Rate Initial Production scheduled for 2007. STOVL first flight is scheduled for third quarter 2008, with follow on Initial Operational Capability in 2012.

Procurement Profile:	FY2008	FY2009
Quantity:	6	8

Developer/Manufacturer:
Air Vehicle: Lockheed Martin, Northrop
Grumman, and British Aerospace
Engineering Propulsion:
Pratt & Whitney and General Electric

JOINT STRIKE FIGHTER (JSF) TRANSITION PLAN

The Joint Strike Fighter (JSF) will be the next generation strike-fighter for the U.S. Marine Corps, Air Force, and Navy. The JSF family of aircraft includes the short take off, vertical landing (STOVL) variant for the Marine Corps, conventional takeoff and landing (CTOL) for the Air Force and aircraft carrier-capable (CV) variant for the Navy. Commonality between the variants helps reduce both development and lifecycle costs, and will result in the greatest “bang for the buck” when compared to developing three separate aircraft. The JSF will replace the AV-8B and F/A-18A/C/D in the Marine Corps, the F-16C and A-10 in the Air Force, and the F/A-18C in the Navy.

The F-35 will incorporate advanced mission systems, including the Active Electronically Scanned Array (AESA) radar, Electro-Optical Targeting System (EOTS), and Distributed Aperture System (DAS). AESA, EOTS, and DAS information will be incorporated into a pilot’s helmet-mounted display system, negating the need for a traditional heads-up display in the cockpit.

The Marine Corps’ F-35B will be capable of operating from Carrier and Expeditionary Strike Groups, main operating bases, and austere sites ashore. The STOVL F-35B JSF will provide the Marine Corps with a low observable, state-of-the-art, high performance, multi-role offensive aircraft. The JSF Operational Requirements Document stipulates that the F-35B will have a 450-nautical mile combat radius when employed from a ship and be capable of 550-foot short

takeoffs with a full internal payload (two 1,000-pound class weapons and two air-to-air missiles) on those ship launched missions. The United Kingdom’s Royal Air Force, Royal Navy, and the Italian Navy will also use the STOVL variant. Several Foreign Military Sales (FMS) countries have also expressed interest in the F-35B.

The Corps will employ the F-35B to execute five of the six functions that Marine Corps aviation performs. This remarkable breadth of employment will allow the Marine Corps to decrease its tactical aviation (TacAir) inventory, while increasing lethality, survivability, and supportability when compared to legacy aircraft. The Marine Aviation procurement requirement for STOVL F-35B JSF is 420 aircraft. This quantity reflects a reduction of 189 aircraft from the program of record and includes deactivations, reduced Primary Aircraft Authorized, and reduced overhead percentages, as a result of the Department of the Navy’s TacAir Integration Plan.

The current JSF acquisition strategy continues to reflect the Marine Corps’ vision of an “all-STOVL” force. In accordance with a Memorandum of Understanding of August 2002 between the Secretary of the Navy, Commandant of the Marine Corps, and the Chief of Naval Operations, the Marine Corps’ strategy will be maintained until a fair and equitable analysis of the CV and STOVL variants can be conducted.

Once the F-35B begins entering service, the Marine Corps will begin retire-

ment of AV-8Bs and F/A-18 Hornets. All legacy strike TacAir platforms should be retired by 2024. As the TacAir integration plan progresses, the Corps will explore the feasibility of incorporating an airborne electronic attack capability into the baseline F-35 to address the eventual retirement of EA-6B Prowlers.

The STOVL F-35B JSF is absolutely critical to the success of the Marine Corps, as it will solve the significant problems of age and attrition currently facing Marine TacAir. The combination of stealth, basing flexibility, and superior performance will revolutionize air warfare and Naval Aviation in the 21st Century.

MV-22 OSPREY

DESCRIPTION

The MV-22 Osprey tiltrotor is an advanced-technology Vertical/Short Takeoff and Landing (V/STOL), multi-purpose tactical aircraft that will replace the current fleet of Vietnam-era CH-46E aircraft. The MV-22 will join the Expeditionary Fighting Vehicle and Landing Craft Air Cushion as an integral part of the Seabasing pillars necessary to execute Expeditionary Maneuver Warfare. Specific missions include expeditionary assault from land or sea, raid operations, medium cargo lift, tactical recovery of aircraft and personnel, fleet logistics support, and special warfare. The MV-22's design incorporates the sophisticated, but mature, technologies of composite materials, fly-by-wire flight controls, digital cockpits, airfoil design, and advanced manufacturing processes. The MV-22 Osprey has a 350 nautical mile (NM) combat radius, cruises at 255 knots and is capable of carrying 24 combat-equipped Marines or a 10,000 pound external load. With a 2,100 NM, single aerial refueling range, the aircraft also has a strategic self-deployment capability. The MV-22's prop-rotor system, engine, and transmissions (collectively referred to as the nacelle) are mounted on each wing tip and allow it to operate as a helicopter for takeoff and landing. Once airborne, the nacelles rotate forward 90 degrees, transitioning the MV-22 into a high-speed, high-altitude, fuel-efficient, turbo-prop aircraft. The MV-22 is a multi-mission aircraft designed for use by all the services. The Marine Corps, Navy, and Air Force are committed to the fielding of this unique aircraft.

OPERATIONAL IMPACT

The MV-22 will be the cornerstone of Marine Corps' assault support capability, possessing the speed, endurance, and survivability needed to fight and win on tomorrow's battlefield. This combat multiplier represents a quantum improvement in strategic mobility and tactical flexibility for expeditionary and Maritime Prepositioning Forces.

PROGRAM STATUS

Initial Operational Capability for the MV-22 was declared in June, 2007. The MV-22 is currently deployed and in direct support of Marine Air Ground Task Force combat operations. Production of the MV-22 continues to be based on a block production strategy, which is designed to provide continual life-cycle and capability improvements over the life of the platform. Block A series aircraft are designed to serve as non-deployable, training aircraft only and include software enhancements, a nacelle reconfiguration, and additional reliability and maintainability improvements over the original aircraft design. To date, 29 Block A aircraft have been delivered and are in service at Marine Corps Air Station New River. Block B series aircraft are the deployable configuration of the MV-22 Osprey. These aircraft provide improvements in effectiveness and maintainability for operators and maintainers, including improved access to the nacelle for inspection purposes as well as substantial reliability and maintenance improvements across the

entire platform. As of 1 November 2007, 25 Block B aircraft have been delivered to the fleet. Block C series aircraft incorporate mission enhancements and increase operational capability. Enhancements include the addition of weather radar, a forward-firing ALE-47 dispenser, improved hover coupled features, an improved environmental conditioning system, and a troop commander situational awareness station. The first Block C aircraft is projected to be delivered to the fleet in fiscal year 2012.

Procurement Profile:

(Block B):	FY2008	FY2009
Quantity:	21	30

Developer/Manufacturer:

Bell Helicopter Textron, Fort Worth, TX
The Boeing Company, Philadelphia, PA

H-1 UPGRADE (UH-1Y HUEY/AH-1Z COBRA)



DESCRIPTION

The H-1 Upgrade (UH-1Y/AH-1Z) replaces the current two-bladed rotor system on the UH-1N and AH-1W aircraft with a new four-bladed, all-composite rotor system that is coupled with a sophisticated, fully integrated, state-of-the-art cockpit. The UH-1Y and AH-1Z also incorporate a new performance matched transmission, a four-bladed tail rotor and drive system, and upgraded landing gear. Additionally, structural modifications to the AH-1Z provide the aircraft with six weapons stations—two more than the AH-1W. The advanced cockpit, common to both aircraft, reduces operator work-load, improves situational awareness, and provides growth potential for future weapons and joint interoperability. The cockpit integrates on-board planning, communications, digital fire control, self-contained navigation, night targeting, and weapons systems in mirror-imaged crew stations. The UH-1Y and AH-1Z are approximately 84 percent common throughout, which significantly benefits Marine Air Ground Task Force supportability. Developmental

testing of the UH-1Y and AH-1Z has demonstrated a marked increase in aircraft agility, maximum continuous speed, and payload.

OPERATIONAL IMPACT

The H-1 Upgrade Program is designed to resolve existing safety deficiencies, significantly improve operational capabilities, and reduce life-cycle costs. Commonality between aircraft will greatly enhance the maintainability and deployability of the systems with the capability to support and operate both aircraft within the same squadron structure.

PROGRAM STATUS

The H-1 Upgrade Program is in the operational test phase, which will verify the effectiveness and suitability of these aircraft for the warfighter. The total program objective is 100 UH-1Ys and 180 AH-1Zs.

Procurement Profile:	FY2008	FY2009
Quantity:	15	20

Developer/Manufacturer:
Bell Helicopter Textron Inc., Fort Worth, TX

Integrated Cockpit: Northrop Grumman,
Woodland Hills, CA

AH-1Z Target Sight System: Lockheed Martin,
Orlando, FL

KC-130 HERCULES

DESCRIPTION

The KC-130 is a versatile four-engine, tactical aerial refueler/assault support aircraft. It is the only long-range, fixed-wing, assault-support capability organic to the Marine Corps. The KC-130J, with its increase in speed (+20 percent) and range (+35 percent) over legacy aircraft, features an improved air-to-air refueling system and a state-of-the-art flight station. A Rolls Royce AE 2100D3 propulsion system, Dowty R391 advanced technology six-bladed propeller system, and a 250-knot cargo ramp and door, complete the package, which provides the Marine Air Ground Task Force (MAGTF) commander with a state-of-the-art, multi-mission, tactical aerial-refueler/assault-support transport asset well into the 21st century. The Marine Corps is currently replacing its aging active fleet of KC-130Fs and KC-130Rs and in the future, its reserve KC-130Ts with the new KC-130J.

OPERATIONAL IMPACT

The KC-130J provides the following capabilities: tactical in-flight refueling for fixed-wing, rotary-wing, and tilt-rotor aircraft; rapid ground refueling of aircraft or tactical vehicles; assault air transport of air landed or aerial delivered personnel

and equipment; airborne command and control augmentation; pathfinder; battle-field illumination; tactical aero-medical evacuation; and, Tactical Recovery of Aircraft and Personnel support. This force multiplier is well suited to the mission needs of the forward-deployed MAGTF. The KC-130J will bring increased capability and mission flexibility to combat planning with its satellite communications system capability, survivability enhancements, aerial refueling and rapid ground refueling capabilities, and improved aircraft systems reliability.

PROGRAM STATUS

The Marine Corps requirement is 79 aircraft. The KC-130J is procured as a commercial-off-the-shelf aircraft currently in production. Current programming brings the total number of KC-130J aircraft to 46. Initial Operational Capability was achieved in 2005.

Procurement Profile:	FY2008	FY2009
Quantity:	4	2

Developer/Manufacturer:
Lockheed Martin Aeronautics Company

CH-53K HEAVY LIFT HELICOPTER



DESCRIPTION

The CH-53E Super Stallion is a three-engine, long-range, heavy-lift helicopter that has been key to the assault support function of Marine Aviation, but the CH-53E cannot support the range and payload requirements necessary to the Marine Corps future war-fighting concepts as currently envisioned. The current fleet of aircraft will reach the end of its fatigue life during this decade, and a sustainment strategy has been implemented to address critical fatigue, obsolescence, and reliability issues, until the aircraft can be replaced. A comprehensive re-design of the Marine Corps heavy lift platform, focusing on reliability, maintainability, cost of ownership, and performance, is required to effectively meet Marine Air Ground Task Force (MAGTF) and joint war fighting requirements over the next 25 years. The CH-53K program, formerly known as the Heavy Lift Replacement Program, is the solution to maintaining a heavy-lift capability beyond the year 2025. The

CH-53K is a derivative design of the existing CH-53E, remaining within the same shipboard footprint, and is critical to properly and cost-effectively supporting sea-based Expeditionary Maneuver Warfare (EMW) for the Marine Corps in the 21st century. The CH-53K will provide the Marine Corps with the ability to transport 27,000 LBS of cargo out to 110 nautical miles, providing twice the lift capability of the CH-53E under the same conditions. Major system improvements of the new build helicopter include: larger and more capable engines, an expanded gross weight airframe, an enhanced drive train, advanced composite rotor blades, a modern interoperable cockpit, improved external and internal cargo handling systems, and increased survivability and force protection.

OPERATIONAL IMPACT

Maintainability and reliability enhancements of the CH-53K will significantly decrease recurring operating costs and radically improve capability over the current CH-53E, which is estimated to exceed \$27,000 cost per flight hour in 2015. The CH-53K will vastly improve the ability of the MAGTF and Joint Task Force to project and sustain forces ashore from a sea-based center of operations in support of EMW, Ship to Objective Maneuver, and Distributed Operations. The performance improvements will enable the vertical insertion of two combat

loaded Up-Armored High Mobility Multipurpose Wheeled Vehicles, one Light Armored Vehicle, or three 9,000-lb sustainment loads to three separate landing zones. The reliability, maintainability, and cost of ownership improvements will allow all of this to happen more efficiently and at a lower cost.

PROGRAM STATUS

The operational requirements document completed joint staffing and was signed in 2004. The program achieved Milestone B in Dec 2005, and the System

Development and Demonstration contract was award in Apr 2006. Initial operational capability will occur in 2015.

Procurement Profile:	FY2008	FY2009
Quantity:	0	0

Developer/Manufacturer:
CH-53E: Sikorsky Aircraft Corporation,
Stratford, CT

CH-53K: Sikorsky Aircraft Corporation,
Stratford, CT

UNMANNED AIRCRAFT SYSTEMS (UAS)



The Marine Corps has employed unmanned aerial vehicles (UAVs) since 1986 to provide near real-time reconnaissance, surveillance, and intelligence to tactical commanders. The demand for Intelligence, Surveillance, and Reconnaissance support continues to grow, and clearly highlights the increased need for Unmanned Aircraft Systems (UAS) in the Marine Corps. To fulfill this need, the Marine Unmanned Aerial Vehicle Squadron (VMU) has begun an organizational transformation that will lead to a flexible, scaleable, detachment based squadron. This reorganization is based around the Army One Ground Control Station (GCS), envisioned as the common GCS for all tiers of Marine Corps UAS Family of Systems (FoS) and all current Army UAS.

The Marine Corps's UAS concept of employment is divided into three tiers, each coinciding with the echelon of command they support. The Marine Corps Combat Development Command (MCCDC) has completed the Marine Corps UAS Family of Systems concept of operations and the USMC overarching capabilities study which will refine the requirements for the USMC Family of UAS Systems.

The Marine Corps' Tier I UAS, Dragon Eye, is being flown at the Battalion level and below with great success in

Operation Iraqi Freedom and Operation Enduring Freedom. The Dragon Eye UAS achieved Initial Operational Capability (IOC) in June 2004. The Marine Corps is currently transitioning from Dragon Eye to the Joint Small UAS, Raven-B, which has been selected by the Army and the U.S. Special Operations Command. There are currently 270 Dragon Eye in the inventory with plans to procure 323 Raven-B systems which will replace Dragon Eye systems.

The Marine Division, Regiment, Battalion and Marine Expeditionary Unit (MEU) commanders will be supported by the Tier II UAS. The Marine Corps oversees six Scan Eagle UAS systems under a fee-for-service agreement to fill this identified capability gap. The current sole-source contract will continue to provide this capability through 2010 while a full program of record is developed. The Joint sponsored Tier II UAS program Initial Capabilities Document (ICD) was approved by the Joint Requirement Oversight Council in Dec 06. The program of record has a planned IOC in 2011.

The Marine Corps' Tier III UAS serves the Joint Task Force (JTF)/Marine Air Ground Task Force (MAGTF) commander. The Marine Corps recently retired the RQ-2B Pioneer and transitioned to the RQ-7B Shadow as the Marine Corps' Tier III UAS. The Marine Corps introduced Pioneer in 1986 as an interim UAV system that would be replaced within 10 years. Since then, it has served with distinction from Desert Storm through its current duties in OIF.

The Marine Corps transitioned to the Shadow system during the fourth quar-

ter of fiscal year 2007 and deployed the Shadow-capable VMU to support current OIF operations in September 07. In OIF, Pioneers and Shadows have provided the intelligence necessary to make the difference between success and failure. Using electro-optical and infrared cameras, electronic warfare capabilities and communications relay payloads, ground units have visual access to their areas of responsibility and routes, and force protection enhancers available to them prior to the first Marine crossing the line of departure. By fiscal year 2009, the Marine Corps will increase the number of Shadow systems in each VMU from one to three, and reorganize the squadron's manpower into three detachments, essentially tripling the capability of the VMU without increasing the required manpower. Additionally, the Marine Corps will stand up a third VMU as part of the Grow the Force initiative. VMU-3 will achieve IOC in fiscal year 2008. Initially home based at Marine Corps Air-Ground Combat Command in Twenty-Nine Palms, CA., VMU-3 will eventually move to better support III Marine Expeditionary Force. This will greatly increase the MAGTF's UAS capacity and operational-tempo flexibility.

Vertical Unmanned Aircraft System (VUAS): As the future Tier III, VUAS will provide responsive, real-time reconnaissance, surveillance, intelligence, electronic attack, targeting and weapons employment capability that is organic to the MAGTF and JTF Commanders. It will



have the key attributes necessary to support Expeditionary Maneuver Warfare. These include takeoff and landing from air-capable ships and austere land bases, the speed to be responsive and tactically agile, and the survivability required to operate effectively in denied-access environments. The VUAS ICD was approved in December 2005 and an Analysis of Alternatives (AoA) that examined existing UASs, their costs, and their ability to meet the Marine Corps requirements was completed in November 2007. The AoA will inform Program Objective Memorandum-2010 programmatic decisions.

OPERATIONAL SUPPORT AIRLIFT (OSA)

The Marine Corps presently operates four different types of aircraft to fill its operational support airlift (OSA) requirements: the C-9 Skytrain, UC-12 King Air Orion, C-20G Gulfstream IV, and UC-35 Citation 560 Ultra and Encore. OSA aircraft provide air logistics support to our warfighters by moving high priority passengers and cargo between and within theaters of operation. OSA aircraft carry out short-notice, time-critical logistical air movements, relieving front-line tactical squadrons from this necessary, but non-tactical mission. By freeing our tactical aircraft assets from routine missions, OSA aircraft are an effective combat multiplier for the Marine Air Ground Task Force (MAGTF), joint force and regional combatant commanders. In peacetime, OSA aircraft are used to provide logistic support to ensure military effectiveness in support of national defense, essential training for operational personnel, and cost effective seasoning of pilots.

Below are recent examples (by type of aircraft) that illustrate Marine Corps OSA's relevance to the Global War on Terrorism (GWOT):

The C-9 provided airlift support to MAGTF-8, the lead element of a multinational interim force following the resignation of Haitian President Jean-Bertrand Aristide in February 2004 and transported Marine Corps forces and equipment to and from Southwest Asia.

The UC-12 was deployed to Kuwait and Iraq in support of I Marine Expeditionary Force during Operation Iraqi Freedom, where these aircraft delivered

key combat personnel and more than 70,000 pounds of critical cargo in support of the Marine forces and provided airlift support to MAGTF-8.

The C-20G (based at Marine Corps Air Station Kaneohe Bay, HI) was forward-deployed to Bahrain in support of U.S. Marine Forces Pacific and the warfighters in theater during the opening months of Operation Enduring Freedom. This aircraft continues to provide frequent global airlift for GWOT support.

The UC-35 transported critically needed Combat Air Patrol (CAP) pilots throughout the United States to their respective bases immediately following the terrorist attacks of September 11, 2001. During this period, civilian aircraft were precluded from flying in the continental United States and military transport aircraft were utilized for efficient, expeditious transportation of key personnel. Marine Corps UC-35's are currently forward-deployed in Southwest Asia providing invaluable daily support to the regional combatant commander and relief to tactical aircraft by moving personnel and cargo throughout the theater.

In the continental United States, Marine Corps OSA is managed by U.S. Transportation Command (USTRANSCOM) for scheduling. USTRANSCOM maintains and utilizes the Joint Operational Support Aircraft Center to maximize use of all available continental United States OSA assets, regardless of service. They additionally support the MAGTF at combined exercises, such as Desert Talon. The incorporation of OSA into MAGTF exercises

relieves participating tactical squadrons from much of the exercise-associated administrative logistical airlift requirements. This, in turn enables the tactical squadrons to focus more time and resources on combat-related flight training.

Acquisition of relatively low-cost, commercial off-the-shelf aircraft with minimal militarization provides MAGTF commanders swift, on-demand support. Current initiatives will ensure the availability of short-notice, time-critical, logistical air support using more capable aircraft fully integrated into Marine Corps operations.

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CHAPTER 3
PART 5 LOGISTICS SUPPORT

INTRODUCTION

Logistics support to the Individual Marine and, indeed, the U.S. Marine Corps takes on many forms, involves numerous activities and spans the Service's training, research and development, and operational requirements. These logistics activities and initiatives involve the combined efforts of every Active Duty, Reserve and civilian Marine logistician throughout the Corps for a single primary reason: to ensure that the Individual Marine can carry out assigned missions and tasks.

Operation Iraqi Freedom has led to a conceptual change in the way we provide operational-level logistics support to Individual Marines at home and deployed to forward operating areas. Due to changing operational and mission requirements, Marine Corps Logistics Command is implementing capabilities extending beyond traditional boundaries, creating a more mobile and agile organization. For example, the Marine Corps Logistics Command (Forward) was established to satisfy operational logistics requirements using competitive, comprehensive, and integrated solutions obtained from "the best" strategic Department of Defense and commercial providers. While continuing to execute its strategic-level responsibilities, Marine Corps Logistics Command has also transformed from a garrison-centric organization to one capable of deploying operational-level logistics solutions to augment the sustainment requirements of Marine forces in combat.

Within this construct, the centerpiece Marine Corps Logistics Modernization

Strategy will revolutionize how Individual Marines are sustained in garrison and on the battlefield through cutting-edge technologies, process improvements, reorganization actions and the realignment of logistics functions within the Marine Expeditionary Force.

Another effort that will have a broad impact on the Individual Marine and throughout the Marine Corps is the Urgent Universal Need Statement (UUNS) process that enables deployed commanders to request equipment based on their recent experience. Designed to procure equipment more expediently than if submitted in the regular budgeting process, the Marine Corps' UUNS process uses a secure, web-based system that provides full stakeholder visibility from submission through resolution. Through continuous process improvement, we have reduced our average processing time by 51.3 days. Our goal is responsive support to commanders in the field by providing a rational, disciplined, and time-sensitive process that fulfills validated urgent requirements in the quickest, most logical way.

Marine Corps programs are also supporting America's joint forces, underscored by the Marine Corps Logistics Command taking the lead as the Service Executive Agent for the retrograde of all equipment in theater determined to be excess. In addition to receiving, preparing, and shipping excess equipment within theater, the Marine Corps Logistics Command (Forward) coordinates strategic lift requirements and manages the redistribution of principal end items to meet sourcing priorities.

ELECTRONIC ACQUISITION

The Headquarters Marine Corps Electronic Acquisition Team's mission is to continue to streamline the acquisition process via the use of electronic business systems. In doing so, the Team represents Marine Corps Field Contracting System and other USMC interests at the Defense Sourcing Portfolio Board (DSPB) level. Its goal is to ensure that Marine Corps needs are met, while cross-Military Department interoperability and effectiveness are also supported.

The Headquarters Marine Corps Electronic Acquisition Team actively participates on all DSPBs with the Marine Corps Systems Command (MCSC) to:

- Ensure that Marine Corps Paperless Acquisition Initiatives align with the Defense Business Systems Management Committee's Business Enterprise Architecture/Enterprise Transition Plan.
- Interface with the MCSC Information Systems and Infrastructure Product Group in order to identify barriers to deployment of new portfolio programs.
- Implement and adopt new enterprise capabilities.
- Identify legacy programs that should be eliminated or replaced.

In fiscal year 2008, new initiatives include the Inter-Governmental Transactions Pilot, Demand Unique Identifier Pilot, transmission of contract data from USMC Standard Procurement System (SPS) sites to the Defense Contract Management Agency (DCMA), Mechanization of Contract Administration System (MOCAS), and transmission of Naval Facilities Engineering Command contract information for USMC funded actions to the Standard Accounting, Budget and Reporting System (SABRS).

LOGCOM FORWARD

The Marine Corps Logistics Command Forward (MCLC-Fwd) was formed to fulfill the need to unify numerous disparate command logistics teams operating independently in CENTCOM AOR. The Marine Expeditionary Unit Augmentation Program (MAP) and Forward-in-Stores (FIS) are two successful MCLC-Fwd initiatives. The MAP provides a limited equipment set within CENTCOM Theater to enhance the combat readiness and responsiveness of MEUs as they conduct op-

erations in the CENTCOM AOR and reduce the MEU equipment that is shipped from CONUS. The FIS provides for the exchange of damaged equipment. MCLC-Fwd is a proven concept, executing operational-level logistics, providing regional logistics expertise with direct reachback to the Marine Corps Logistics Command. The success of the MCLC-Fwd model provides impetus to develop future strategies for supporting the warfighter.

LOGISTICS MODERNIZATION (LOGMOD)

Marine Corps Logistics Modernization (LogMod) is an enterprise-wide logistics improvement and integration program designed to increase the operational reach and lethality of the Marine Air Ground Task Force (MAGTF). LogMod consists of seven initiatives and integrated Information Technology (IT) that, when fully implemented, will drive improvements in technologies, processes, and people. The key initiatives include:

- Global Combat Support System-Marine Corps (GCSS-MC)
- Logistics Operational Architecture (Log OA)
- Marine Logistics Group (MLG) Reorganization
- Logistics Command and Control (Log C2)
- Realignment of Maintenance (ROM)
- Realignment of Supply (ROS)
- Marine Air-Ground Task Force (MAGTF) Distribution

GCSS-MC is the primary technology enabler for the Corps' LogMod strategy. It is a portfolio of approximately 40 systems providing the backbone for logistics information required by the MAGTF. The core is an ACAT I acquisition of commercial off-the-shelf enterprise resource planning software (Oracle 11i e-Business Suite) that will be battlefield-focused and interoperable with the logistics systems of other Services, supporting agencies and integrated with emerging technologies. GCSS-MC is discussed in greater detail in the "LCE Major Acquisitions" section of this publication.

With a focus on logistics effectiveness on the battlefield and support to operating forces, logistics processes and policies continue to be refined in a variety

of forums. Two Logistics Wargames have been conducted to validate improved logistic processes and organizations. Material Readiness Process Improvement Workshops have addressed supply and maintenance processes and procedures. Battlefield distribution processes and organizations have been streamlined providing enhanced visibility of assets and inventory.

On the people side, the most visible and successful initiative is the ongoing reorganization of the Logistics Combat Element into Marine Logistics Groups (MLG). This restructuring is the most extensive done by an element of the MAGTF since the mid-1970s. The MLGs now consist of direct and general support Combat Logistics Regiments focused on operational support on the battlefield, with the ability to rapidly task organize in support of any mission. Close coordination with the Marine Corps Training and Education Command ensures logistics education and training is consistent with new policies and procedures, GCSS-MC, and the Logistics Operational Architecture.

LogMod efforts are supported by an extensive change management and communications program. The LogMod Transition Task Force (TTF) works in close partnership with the Combat Development and Integration Division and all stakeholders to coordinate LogMod initiatives and harmonize LogMod efforts both inside and outside the logistics community. Logistics Modernization Teams (LMTs) are co-located with the Marine Expeditionary Forces and leading

the face-to-face change management activities necessary to ensure LogMod and GCSS-MC successful implementation and adoption.

As a result of these coordinated efforts across the people, process, and technology domains, the LogMod program initiatives are well underway on many fronts and continue to see successful progress. For more information and the most recent program developments visit the LogMod website at <https://LogMod.hqmc.usmc.mil>.

GLOBAL COMBAT SUPPORT SYSTEM – MARINE CORPS (GCSS-MC)

DESCRIPTION

Global Combat Support System – Marine Corps (GCSS-MC) is a portfolio of information technology (IT) systems that supports the logistics elements of Command and Control (C2), Joint logistics interoperability, and secure access to and visibility of logistics data. At the core of GCSS-MC is the Logistics Chain Management (LCM) initiative which is the incremental implementation of commercial-off-the-shelf software (Oracle eBusiness Suite) to enable the Logistics Operational Architecture (LOG OA). The first increment “Block 1” provides initial capabilities for GCSS-MC/LCM and is a separate acquisition program with its own milestone events. GCSS-MC/LCM Block 1 is focused on improved supply and maintenance capability in the operating forces and has the following goals attributed to it:

- State-of-the-art software to improve the combat effectiveness of the operating forces.
- Design and fielding of a single capability that supports common processes in deployed operations and garrison environments.
- Enable the Logistics Operational Architecture (LOG OA) business processes and improved business rules leading to more effective logistics support.
- Retirement of the following legacy systems: Supported Activities Supply System (SASSY), Marine Corps Integrated Maintenance Management System (MIMMS), PC MIMMS, Asset Tracking, Logistics, and Supply System (ATLASS)

OPERATIONAL IMPACT

The GCSS-MC portfolio and the GCSS-MC/LCM initiative provide a modernized solution to an identified, critical warfighting deficiency in logistics information systems. It will facilitate change to antiquated logistics processes and procedures by introducing cutting edge enabling technology in support of logistics operations. It will align our logistics efforts with real-world challenges, where speed and information have replaced mass and footprint as the foremost attributes of combat operations. Key capabilities in GCSS-MC/LCM include 1) a multi-environment architecture, which provides for a CONUS enterprise environment (reflective of USMC CONUS organization) and a deployed Marine Air Ground Task Force (MAGTF) environment (“cloned” from the enterprise environment and scaleable/tailored to the mission), 2) a Cross Domain Solution (CDS) which allows data transfer between Secure Internet Protocol Router Network (SIPRNET) and Nonsecure Internet Protocol Router Network (NIPRNET), and 3) a Mobile Field Service (MFS) capability which allows for disconnected operations from the CONUS or deployed network.

PROGRAM STATUS

GCSS-MC is an ACAT 1A Major Automated Information System (MAIS). The program is maturing rapidly with direct acquisition oversight provided by the Department of the Navy's Program Executive Office – Enterprise Information Systems (PEO-EIS). GCSS-MC/LCM Blk 1 received its Milestone “B” decision in June 2007. The program begins operational testing during fiscal year 2008 and is scheduled for implementation in fiscal year 2009.

Procurement Profile:	FY2008	FY2009
Quantity:		
CONUS Enterprise (with associated Disaster Recovery Environments)	1	0
MEF (with associated Disaster-Recovery Environments)	1	TBD
MEU (with associated Disaster-Recovery Environments)	1	TBD
Developer/Manufacturer:		
Oracle USA, Inc		
Redwood Shores, CA		

MARINE AVIATION LOGISTICS TRANSFORMATION

For Marine Aviation to fight effectively future contingencies, logistics support must continue to be the viable force multiplier that Marine warfighters have relied upon in past years and conflicts. Together with developing future concepts, Marine Aviation logistics processes must evolve and advance in order to adequately support the modern Aviation Combat Element in expeditionary and sea base environments.

Marine Aviation is reshaping its aviation logistics elements to enable more responsive, flexible, and reliable combat support needed for future conflicts, while concurrently meeting today's readiness needs. Elements of this logistics transformation include Marine Aviation Logistics Support Program II (MALSP II), Marine Air Ground Task Force (MAGTF) Logistics Integration (MLI), including Naval Logistics Integration (NLI), and Marine Aviation Logistics Squadron (MALS) Future.

MARINE AVIATION LOGISTICS SUPPORT PROGRAM II (MALSP II)

For Marine Aviation Logistics (MAL), AIRSpeed offers the opportunity to dramatically improve expeditionary logistics for the warfighter. Specifically, the Naval Aviation Enterprise's continuous process improvement strategy (AIRSpeed) will be the basis for improving the time-tested doctrine of the Marine Aviation

Logistics Support Program (MALSP). Applying AIRSpeed, MALSP II becomes the comprehensive aviation logistics program that postures Marine Aviation of tomorrow by enhancing the future ACE's operational freedom of maneuver with a more reliable and effective logistics system, which is adaptive in form, proactive in engagement, and lighter overall. MALSP II increases Marine Aviation's ability to rapidly deploy, employ, sustain, and redeploy in austere regions, as well as potential anti-access and denied-area scenarios. In addition, MALSP II provides an improved solution set for addressing uncertainty, variability, and bottlenecks in the end-to-end wartime logistics chain.

MARINE AVIATION LOGISTICS SQUADRON (MALS) FUTURE

MALSP II, coupled with AIRSpeed and the Doctrine, Organization, Training, Material, Leadership and Education, Personnel, and Facilities (DOTMLPF) process, will provide the framework that will enable Marine Aviation to take full advantage of emerging technologies and systems. Autonomic logistics, improved information technology, advanced transportation solutions, and enhanced industry partnerships on new platform acquisitions will all merge in defining the future of MAL.

MARINE CORPS CONTINGENCY CONTRACTING

Contingency Contracting in the Marine Corps offers direct support to tactical and operational forces engaged in the full spectrum of armed conflict and irregular warfare, both domestic and overseas. Presently, there are numerous contracting personnel deployed providing support to and enhancing the capabilities of operational commanders engaged in Operation Iraqi Freedom and Operation Enduring Freedom.

The training of Marine Corps contracting personnel has undergone change. A new training program has been developed and is located at Marine Corps Service Support Schools, Camp Johnson,

North Carolina. This program significantly reduces time to train contracting personnel and returns the much needed contracting capability to operational commanders on a faster basis. Also, in an effort to provide the fleet Marine force with a more dynamic contracting corps, Marine contracting billets across the Corps have been evaluated and realigned. This realignment created a much more robust contracting capability for both operational and supporting establishment commands.

MARINE CORPS SMALL BUSINESS PROGRAM

The Marine Corps Small Business Program is instrumental to the Department of Defense and the Department of Navy in our joint commitment to maximize prime and subcontracting opportunities to small businesses, woman-owned small businesses, small disadvantaged business, service-disabled veteran-owned small businesses, historically under-utilized business zone small businesses, and Historically Black Colleges and Universities/Minority Institutions. Small businesses are more agile, flexible and innovative than their large counterparts. These capabilities make them uniquely qualified to support Marines wherever they serve.

To that end, the Marine Corps has appointed a Director for Small Business at Headquarters and Small Business Specialists at each Marine Corps contracting organization to provide training, advice, and guidance in support of small businesses while ensuring quality solutions for our acquisitions and effectively supporting the warfighter.

We are energetically pursuing new opportunities for small businesses by involving the Small Business Specialist early in acquisition planning, improving market research methods, reviewing acquisition processes, and increasing small business program awareness. We monitor the results of our efforts through a variety of methods to measure our improvement.

NAVAL LOGISTICS INTEGRATION (NLI)

NLI addresses the emerging requirement that Naval business practices, processes, and technologies be integrated across the sea, land, air, space, and cyberspace spectrum of conflict to a greater extent than ever before. NLI serves to integrate coherent, rapid, and agile logistics capability, with a primary focus on sustainment and end-to-end Naval logistics support for the warfighter.

To date, NLI has enabled dramatic improvement in sustaining deployed Navy and Marine Corps operating forces. Using the Navy's Cargo Routing Information File (CRIF) to more accurately track ship movements, Customer Wait Time has been reduced by over 50 percent for critically needed materiel shipments, with deployed MEUs routinely reporting receipt of urgently needed items within 10 days while afloat. The Navy's Advanced Traceability and Control (ATAC) system has been fielded to Marine Logistics Combat Element (LCE) units, expediting the return of over 89,000 repairable component shipments valued in excess of \$688M, with delivery reliability exceeding 99.8 percent.

As part of future logistics support ashore, the NLI program is exploring new initiatives for the integration and optimization of critical Navy and Marine Corps logistics capabilities. These initiatives include common acquisition of ground, personal protective, and chemical-biological protective equipment; common depot level maintenance capacity management; common equipment maintenance at the tactical level; and common material requisitioning capabilities. Similar to the afloat initiatives, these ashore initiatives, when matured, will become the norm for future naval operations in both joint and coalition environments. Further, with the recent publication of A Cooperative Strategy for 21st Century Seapower, the maritime forces of the United States—the Navy, Marine Corps, and Coast Guard—have joined together to create a unified strategy that integrates sea power with other elements of national power, which should lead to future expansion of NLI to include the United States Coast Guard.

SENSE AND RESPOND LOGISTICS (S&RL)

The Marines Corps' future vision of highly maneuverable, highly flexible, decentralized operations requires a similar approach to logistics. Future operations, especially those involving Distributed Operations (DO) and Ship-to-Objective Maneuver (STOM), require an adaptable, flexible, and responsive logistic system. Sense and Respond Logistics (S&RL) incorporates these characteristics.

S&RL will enable joint efforts to integrate logistics from point-of-effect to source-of-supply/services across the Services and defense agencies. S&RL builds upon the theory of Net-Centric Warfare and Joint Adaptive Expeditionary Warfare practice. It accommodates the critical elements of high rates of change, closely coupled events, speed of command, and self-synchronization.

With information technology, S&RL receives and recognizes consumption and requirement patterns through the use of Intelligent Agents and quickly responds to these patterns. S&RL leverages the capabilities of network-enabled forces to share logistics information, share a common perspective of the battle space, provide early awareness of consumption and needs, allow commitment tracking, and allow for reconfiguration of the logistics system when needed.

In order to implement S&RL, the Navy and Marine Corps cannot merely modify current practices, but must pursue a network-enabled approach to operations that greatly improve the integration between operations and logistics through FORCENet. A key element to supporting S&RL is its use of actionable information received through Autonomic Logistics (AL). Under Naval Logistics Integration (NLI), the Marine Corps is working with the Navy and the Office of Naval Research (ONR) to initially bring both S&RL and AL capabilities to Marine Corps units and shore units of the Naval Expeditionary Combat Command (NECC).

AL supports the logistics capability by providing the time relevant readiness status of the operational forces in order to sustain them in a manner that expands the tactical flexibility and operational reach of the MAGTF. The first tangible effort to deploy an AL capability to the operating forces will be the Embedded Platform Logistics System (EPLS), which will provide the hardware and software for selected weapons systems to enable increased visibility of operational status.

AUTONOMIC LOGISTICS (AL)

DESCRIPTION

The Autonomic Logistics (AL) system will enable Marine Corps ground tactical equipment to autonomously monitor and report health and logistics needs to key decision makers. A key element of the enterprise logistics modernization efforts, the AL vision combines Sense and Respond Logistics with Condition Based Maintenance to provide enhanced visibility, logistical support, diagnostics, and prognostics. Optimizing support and sustainment is dependent on the accelerated delivery of actionable information whose collection and analysis is not burdensome to the warfighter. This information is exploited through the capability resident in the Global Information Grid to create situational awareness critical to Marine Corps and Joint Force commanders and to deliver Joint Logistics to the point of need with precision.

OPERATIONAL IMPACT

AL transforms delivery of Joint Logistics by providing critical insight to decision makers. Armed with a clearer picture of combat potential available with AL, commanders can leverage their resources to maximize warfighting effects.

PROGRAM STATUS

The Marine Corps has awarded a contract for Block I of Autonomic Logistics (aka Embedded Platform Logistics System) which will provide hardware and software to collect and process operational status and system health. Block I will provide the capability to 878 Light Armored Vehicle, 1057 Assault Amphibious Vehicle, and 5204 Medium Tactical Vehicle Replacements. AL Block I will be scheduled for production in fiscal year 2009.

AL Block II capabilities will include the ability to feed AL data into the Global Combat Support System-Marine Corps, automating the process of requesting repair parts and support services. AL Block III capabilities will include the ability to feed AL data into Global Command and Control System, providing enhanced platform readiness information for use in current and future operational planning.

Procurement Profile:	FY2008	FY2009
Quantity:		
LAV	878	TBD
AAV	1,057	TBD
MTVR	5,204	TBD

Developer/Manufacturer:
Lockheed Martin Simulation and Training
Systems, Orlando, FL

FAMILY OF MATERIAL HANDLING EQUIPMENT (MHE)



DESCRIPTION

The Marine Corps Family of Material Handling Equipment (MHE) encompasses a wide variety of material-handling assets, ranging from light forklifts to heavy cranes and container handlers. Specific systems include the Rough-Terrain Container Handler; Extended Boom Forklift; Light-Capability, Rough-Terrain Forklift; High-speed, High-mobility Crane; Air Mobile Crane; Mobile Welding Shop; and, Multi-Purpose, Rubber-Tired Articulated Tractor.

OPERATIONAL IMPACT

Procurement of these systems will ensure that Logistics Combat Element entities have the ability to support the scheme of maneuver and logistical requirements of their supported Marine Air Ground Task Force.

PROGRAM STATUS

The Family of MHE program maintains the Marine Corps' material handling and transportation support capability. As such, various items are replaced as determined appropriate by the life cycle manager, Program Manager Engineer Systems. Specific items may be managed as acquisition or abbreviated-acquisition programs. However, there are several acquisition programs in progress at any point in time.

Procurement Profile: FY2008 FY2009
Quantity: All Items 650

Developer/Manufacturer:
Extended boom forklift: JLG Industries, Inc.,
McConnellsburg, PA

Light-capability, rough-terrain forklift: Terex
American Crane, Wilmington, NC

Multi-purpose, rubber-tired, articulated-
steering tractor: John Deere, Davenport, IA

All Terrain Crane: TEREX DEMAG CRANES
Stafford, VA/Germany

Rough Terrain Container Handler:
Kalmar LLC, San Antonio, TX

Tactical Welding Shop: Power
Manufacturing, Covington, TN

*Various types

LOGISTICS VEHICLE SYSTEM REPLACEMENT (LVSR)



DESCRIPTION

The Logistics Vehicle System Replacement (LVSR) will replace the current Marine Corps heavy-tactical wheeled vehicle, the Logistics Vehicle System (LVS). As the Marine Corps' heavy-tactical distribution system, the LVSR Cargo variant will transport bulk liquids (fuel and water); ammunition; standardized containers; bulk, breakbulk, palletized cargo and, bridging equipment. The LVSR Wrecker variant will perform heavy wrecker/recovery missions, while the LVSR 5th Wheel or Tractor variant will tow heavy engineer equipment and combat vehicles with the M870A2 40 ton Medium Heavy Equipment Trailer. The LVSR will be employed throughout the Marine Air Ground Task Force (MAGTF) in the Marine Logistics Group, Marine Divisions, and Marine Aircraft Wings.

OPERATIONAL IMPACT

To successfully accomplish its mission, MAGTFs require a heavy ground logistics distribution system that is highly mobile, efficient, extremely reliable, and flexible. This system must be capable of

operating over increased distances, with increased payloads, to meet the demands of Expeditionary Maneuver Warfare. The LVSR will rapidly distribute all classes of supply, while including a self-loading/unloading capability to reduce dependence on external material handling equipment.

PROGRAM STATUS

A Low Rate Initial Production (LRIP) contract was awarded to Oshkosh Truck Corporation on 31 May 2006 to build 22 Cargo variant LRIP vehicles for Production Verification Testing and Initial Operational Test and Evaluation (IOT&E) during 2007 - 2008. Live Fire Test and Evaluation (LFT&E) was conducted in December 2007, with Initial Operational Test and Evaluation beginning in January 2008. Upon successful completion of test and evaluation, a Full Rate Production decision is expected in October 2009 for fielding. The LVSR Approved Acquisition Objective calls for 1,322 Cargo Variants, 272 Tractor Variants and 105 Wrecker Variants.

Procurement Profile:	FY2008	FY2009
Quantity:	80	43

Developer/Manufacturer:
Oshkosh Truck Corporation

MARINE CORPS BUSINESS ENTERPRISE

Marines pride themselves on being lean. An attribute achieved by continually focusing process improvement efforts on doing “more with less”. To that end, the Marine Corps has developed an institutional capability to improve and sustain efficient business processes, to include the following initiatives.

- Established a Business Enterprise Office to coordinate continuous process improvement.
- Organized and deployed three geographically dispersed teams of process improvement experts to help organizational leaders sustain continuous process improvement.
- Instituted a timely and relevant training curriculum and skill development path for the workforce.
- Sharing improvements and demonstrated results with a variety of sources: depot rebuild, aviation maintenance, urgent needs statements, and regional contracting for materiel and services.

This capability directly contributes to combat readiness and warfighting excellence, enabling our Marines and civilian-Marines to be efficient and effective in their support of the operating forces. These efforts provide effective business enterprise solutions and internal management controls ensuring the Marine Corps’ maintains traditional good stewardship of taxpayers’ resources.

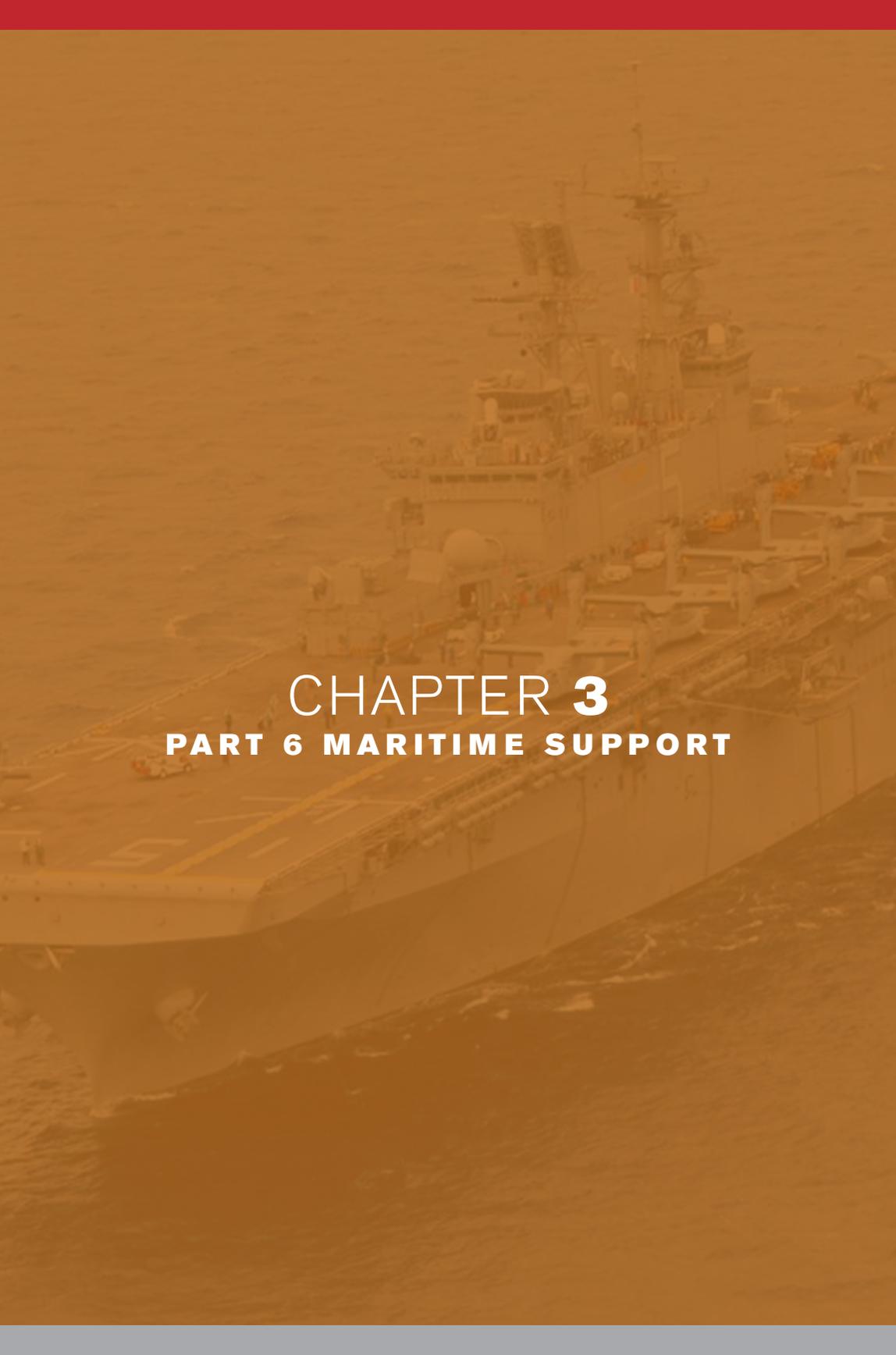
NAVAL AVIATION ENTERPRISE

The Naval Aviation Enterprise (NAE) includes over 200,000 Sailors, Marines, and career civilians; 3800 aircraft; 11 aircraft carriers and executes a budget in excess of \$40 billion. The primary function of the naval enterprise is focusing these resources to provide this nation with the capability to operate from the seas, unencumbered by host nation restrictions, and to deter or defeat forces threatening our national interest.

The NAE Strategic Plan (January 2008) provides the roadmap of strategic objectives and priorities to guide our actions and decisions through 2030. The execution of this plan requires enterprise collaborations to address strategic gaps in the near term, and over the horizon. The

challenges facing the NAE include: Carrier Inventory, airframe capacity, weapons system lethality, legacy platform funding support, the affordability of future capabilities, and the health of our workforce.

In sum, the Navy and Marine Corps are the nation's first responders and naval aviation serves as its centerpiece. Naval aviation faces significant challenges on the fields of fire and from fiscal realities. The NAE is committed to efficiently delivering the right force with the right readiness at the right time—today and tomorrow—and the fiscal challenges to achieve this reality will be addressed cooperatively.



CHAPTER 3
PART 6 MARITIME SUPPORT

INTRODUCTION

Marines have always been “soldiers at sea.” When the Continental Congress decided on November 10, 1775, to raise two battalions of Marines, it specified “... that particular care be taken, that no such person...enlisted into said Battalions, but such as are good seaman, or so acquainted with maritime affairs as to be able to serve to advantage by sea when required.” Colonel Commandant John Harris wrote in 1863, “We are of the Navy; are governed by Naval regulations on shore and afloat...” During Operation Desert Storm, Chairman of the Joint Chiefs of Staff General Colin Powell remarked, “Lying offshore, ready to act, the presence of ships and Marines sometimes means much more than just having air power or ship’s fire, when it comes to deterring a crisis. And the ships and Marines may not have to do anything but lie offshore.”

The close relationship between the Navy and the Marine Corps, tempered by operations and combat in every corner of the world since the War of Independence, remains strong today. Whether on board ship or on the ground, the Individual Marine remains at heart a “soldier at sea.”

The forward-deployed Navy-Marine Corps Team provides Combatant Commanders with scalable options for presence, theater security cooperation, crisis response and combat. Marines deployed

on naval shipping, combine forward presence with flexible and scalable response forces. Together, as America’s force in readiness, we represent the United States on the high seas, in the littorals and on every continent, and will continue to play a pivotal role in protecting vital interests. Under our new maritime strategy, we will work closely with our Navy and Coast Guard shipmates. Individual Marines, Sailors and Coastguardsmen represent a military partnership that is second to none.

The Navy has many programs that directly or indirectly support the projection of Individual Marines ashore from the seabase. These include:

- Expeditionary Warships
- Amphibious Assault Ship Replacement
- *San Antonio*-class Amphibious Transport Dock Ship (LPD-17)
- Maritime Prepositioning Force Future (MPF(F))
- High Speed Connector (HSC)
- Landing Craft Air Cushion (LCAC)/Joint Maritime Assault Connector (JMAC)
- Naval Surface Fire Support Initiatives
- Mine Countermeasures

AMPHIBIOUS WARSHIPS



Amphibious warfare ships are the centerpiece of the Navy-Marine Corps' forcible entry and Seabasing capability and have played essential roles in the Global War on Terrorism. These ships are equipped with aviation and surface-assault capabilities, which, coupled with their inherent survival and self-defense systems, support a broad range of mission requirements. They provide the most formidable expeditionary forcible entry capability in the world, the development and maintenance of which is the statutory responsibility of the Marine Corps, under U.S. Code Title X.

The Marine Corps' forcible entry requirement is based on the Strategic Planning Guidance, directing us to "...consider capability alternatives...to support a single two Marine Expeditionary Brigade

(MEB) forcible entry operation." Therefore, the Marine Corps' operational requirement is two MEB Assault Echelons (AE) of forcible entry capability. The need to support two MEB AEs in forcible entry operations drives the requirement to maintain 30 operationally available amphibious warfare ships. Of these 30 ships, 10 must be aviation-capable large deck ships (Amphibious Assault Ship General Purpose (LHA)/Amphibious Assault Ship Multi-purpose (LHD)/Amphibious Assault Ship – Replacement (LHA(R))), and 10 must be San Antonio Class LPDs to accommodate the MEB's Aviation Combat Element and surface assault element.

In early 2008, there are 10 large-deck ships (seven *Wasp*-class LHDs and three *Tarawa*-class LHAs) in service. Congress directed the construction of an eighth *Wasp*-class amphibious assault ship multi-purpose (LHD 8), USS *Makin Island*, which is scheduled to be delivered in late 2008. LHD 8 will be similar to LHD 1 through LHD 7 but will be powered by gas turbine engines and have all-electric auxiliaries.

AMPHIBIOUS ASSAULT SHIP REPLACEMENT

The amphibious fleet is organized for forward presence and includes nine Amphibious Ready Groups (ARGs)—each comprising three amphibious ships—which can comprise Expeditionary Strike Groups. The centerpiece of the ARG is a *Wasp*-class or *Tarawa*-class amphibious assault ship. The remaining three ships of the *Tarawa*-class amphibious assault ships general-purpose reach the end of their expected service lives between 2011 and 2015. The ships of the Amphibious Assault Ship Replacement Program—LHA(R)—will serve to replace the *Tarawa*-class LHAs.

SAN ANTONIO-CLASS (LPD 17) AMPHIBIOUS TRANSPORT DOCK SHIP

The *San Antonio* (LPD 17) class of Amphibious Transport Dock ships represent the Department of the Navy's (DoN) commitment to a modern expeditionary power-projection fleet and will assist the Marine Corps' naval forces across the spectrum of warfare. The LPD 17 was delivered to the Navy in the summer 2005. The operational evaluation and first deployment of LPD 17 are both scheduled to occur during 2008. With the first three of nine currently scheduled ships of the class already commissioned, the LPD 17 class replaces four classes of older ships—the Amphibious Cargo Ship (LKA), Tank Landing Ship (LST), Dock Landing Ship (LSD) 36, and the Amphibious Transport Dock (LPD) 4 class—and has a 40-year expected service life.

The LPD 17 class ships play a key role in supporting the Global War on Terrorism by forward deploying Marines and their equipment to respond to crises world wide. Its unique design facilitates expanded force coverage and decreases reaction times of forward deployed Marine Expeditionary Units. In forcible entry operations, the LPD 17 helps maintain a robust surface assault and rapid off-load capability for the Marine Air Ground Task Force well into the future.

San Antonio class warships incorporate advanced characteristics for amphibious warships. Each ship has 699 enhanced berths for embarked Marines, plus a surge capacity of another 101 berths. They also have a vehicle-stowage capacity of 24,600 square feet, cargo-stowage capacity of more than 33,000 cubic feet, and a well-deck sized for two Landing Craft Air Cushion (LCAC) or one Landing Craft Utility (LCU). Their flight decks can support operations by two CH-53E/K Super Stallions, two MV-22 Osprey tilt-rotor aircraft, or four CH-46E Sea Knight helicopters. The ships in this class are outfitted with two Rolling Airframe Missile launchers for self-defense and incorporate design features that present a significantly reduced radar cross-section compared to previous amphibious ships.

LANDING CRAFT AIR CUSHION (LCAC)/JOINT MARITIME ASSAULT CONNECTOR (JMAC)



The Landing Craft Air Cushion (LCAC) is a high-speed, fully amphibious craft that can carry a 60-ton payload (75 tons in overload) at speeds in excess of 40 knots. It has a nominal range of 200 nautical miles. Operating directly from the well decks of amphibious warships, the LCAC's ability to ride on a cushion of air and avoid underwater obstructions and terrain allows it to access more than 70 percent of the world's beaches, compared with 17 percent for conventional landing craft. A Service Life Extension Program (SLEP) began in late 2000 for the 72 active LCACs. It provides major refurbishment that will extend craft life to 30 years. Craft initially go through a system upgrade that includes the replacement of obsolete radios and radar, the installation of the Enhanced Position Location

Reporting System, corrosion abatement, and upgrades of the current skirt system with an improved deep skirt. LCAC SLEP provides engine upgrades and refurbishes the hull, increasing the performance envelope. Phase II provides a Command, Control, Communications, Computers, and Navigation upgrade, which replaces these crafts' deteriorating and obsolete electronic suites. The Joint Staff approved the Initial Capabilities Document for a Ship-to-Shore Connector (SSC) capability to develop a replacement for the LCAC. The ensuing Analysis of Alternatives recommended a LCAC sized SSC with a greater lift capacity and the capability of operating from 25 miles or more from the coast. This materiel alternative to be called the Joint Maritime Assault Connector (JMAC), has been approved by the Navy pending a Joint Staff Milestone A decision. The JMAC will take advantage of advanced technology, materials, and design and so enhance the nation's ability to project expeditionary forces from the sea-based platforms of the future.

JOINT HIGH SPEED CONNECTORS (HSCS) SURFACE



The Joint Maritime Assault Connector (JMAC) is the functional replacement for the LCAC. The JMAC is a high-speed, over the beach sea base to shore connector that will be designed to carry all Marine Corps ground equipment. The Analysis of Alternatives (AoA) has been completed and the final AoA report-recommended standard conventional 73-short ton (SC-73) air cushioned vehicle has been selected as the materiel solution. Milestone A (MS A) documentation is

currently in-work with a MS A decision anticipated in fiscal year 2008. The JMAC will begin fleet introduction in 2015.

The Joint High Speed Vessel (JHSV) is a key piece of the seabasing architecture. It bridges the gap between low speed sea lift and high speed airlift. JHSVs enable rapid closure of Marine forces to the sea base from advanced bases, logistics movement from pre-positioned ships to amphibious shipping, ship-to-ship replenishment, and, in appropriate threat environments, maneuver of assault forces to in-theater austere ports. Initial procurement objectives are for ten vessels (five Army, five Navy/Marine Corps). Contract award is projected for fiscal year 2008; subsequent awards are planned for fiscal year 2009 thru fiscal year 2011 with delivery of the first JHSV (Army) scheduled for fiscal year 2010.

MARITIME PREPOSITIONING FORCE (FUTURE)

Seapower is a distinct asymmetric advantage of the United States. For Marines, that asymmetric advantage includes Joint Seabasing, which allows us to maximize forward presence and engagement while “stepping lightly” on local sensitivities, avoiding the unintended political, social, and economic disruptions that often result from a large American presence ashore. It allows us to conduct a broad range of operations in areas where access is challenged, without operational commanders being forced to immediately secure ports and airfields. Given diplomatic, geographic, and infrastructure constraints, Seabasing is absolutely critical to overcoming area denial and anti-access weapons in uncertain or openly hostile situations. Joint Seabasing is a national strategic imperative. Our control of the sea allows us to use it as a vast maneuver space—365 days a year.

The incorporation of the Maritime Prepositioning Force-Future (MPF(F)) Squadron into the existing MPF Program is an important enabler for seabasing and will build on the success of the legacy Maritime Prepositioning Force program. MPF(F) will provide support to a wide range of military operations with improved capabilities such as at-sea arrival and assembly, selective offload of specific mission sets, and long-term, sea-based sustainment. From the sea base, the squadron will be capable of prepositioning a single Marine Expeditionary Brigade’s critical equipment and sustainment for delivery—without the need for established infrastructure ashore.

The MPF (F) is a scalable employment option that will provide Combatant/Joint Force Commanders a highly flexible, operational and logistics support capability that enables it to rapidly reinforce the Assault Echelon of an Amphibious Force. When operating in a threat environment, MPF (F) will be protected by other Naval, Joint, or Combined forces. MPF (F) will rapidly support the arrival and assembly of MAGTF units and associated Navy elements. It will also provide support for persistent operations through sustainment and replenishment, with the ability to rapidly reconstitute and redeploy prepositioned forces in support of follow-on missions.

A summary of MPF(F) squadron capabilities follows:

- Preposition the Baseline MEB, NSE, other Naval Support, Naval Mobile Construction Battalion (NMCB), and headquarters element Naval Construction Regiment (NCR), consisting of vehicles, equipment, and supplies (minus aircraft)
- Provide accommodations for the Sea Base Echelon (SBE), NSE, other Naval Support personnel, Standing Detachments and ship’s crew
- Rapid closure of the Baseline MEB to the Seabase
- Complete at sea arrival and assembly
- Employ one surface and one vertical BLT from the sea
- Accommodate Organizational (O) and selected Intermediate (I) level aviation
- Accommodate O and I level ground commodity maintenance
- Sustain the MEB forces ashore from the sea base and contribute to throughput and sustainment for additional Joint forces
- Accommodate and operate organic surface connectors to include O and selected I level maintenance

- Provide resuscitative medical care (Level II)
- Accommodate and operate organic surface connectors
- Conduct external operations through sea state 3/sea state 4 (threshold/objective (T/O)).
- Provide MEB level command and control capability.

The MPF(F) squadron will replace one of the current MPF squadrons, and within the Joint Capability Integration and Development System (JCIDS), will be procured incrementally consisting of the following types of ships:

- Increment One:
 - (3) New construction MLPs (Mobile Landing Platforms).
 - (3) New construction MPF (F) T-AKE (Auxiliary Cargo and Ammunition Ship) variants.

- Increment Two:
 - (2) New construction MPF(F) LHA(R) (Amphibious Assault Ship Replacement) variants.
 - (1) Legacy LHD (Amphibious Assault Ship Multipurpose) (not a procurement program).
- Increment Three:
 - (3) New construction MPF (F) LMSR (Large, Medium Speed Roll-on/Roll-off) (Modified T-AKR 300 or 310 Class) variants.
 - (2) Existing T-AK (Auxiliary Cargo Ship) Sealift Ships (not a procurement program).

The MPF(F) Capabilities Development Document (CDD) for increment one will go to the Joint Requirements Oversight Council (JROC) during the 2nd quarter fiscal year 2008, with a Mile-

MPF(F) Squadron Composition

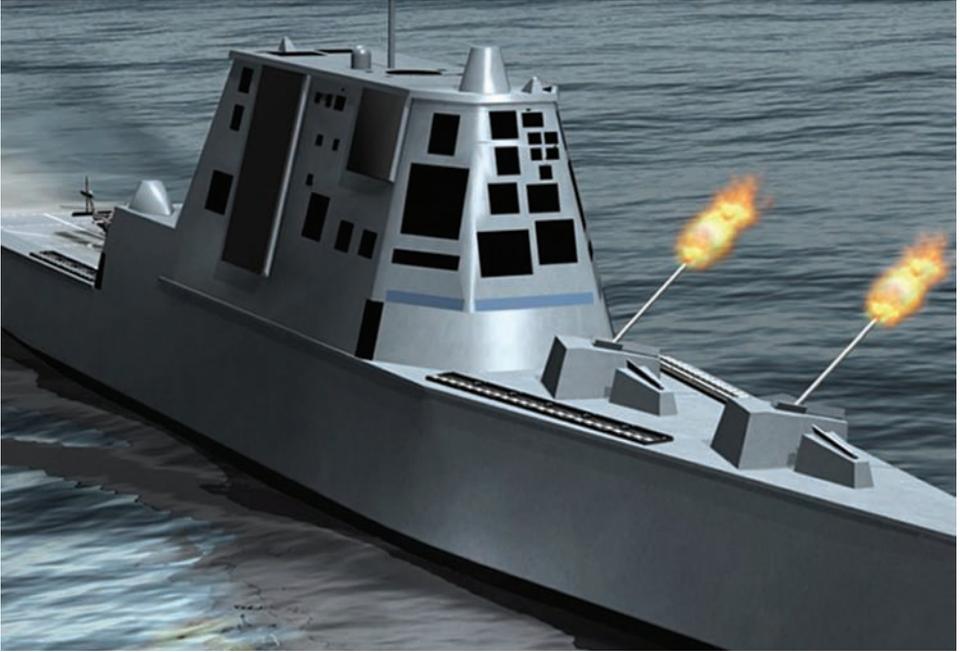
<p>2 T-LHA <i>New Build</i></p>  <p>Length: 844 ft Beam: 106 ft Draft: 28.2 ft Displacement: 45K LT Per Sqd: 2 Speed: ~20 knots Range: ~9,500 nm Crew: 285 Stand Det: 23 MAGTF: 1,490 NSE: ~590 Berths: 3,052 A/C Stow: 55 A/C Op Spts: 9 JP-5: 1.6 Mil gal Water: 400K gal / 200K gal/day SqFt: 11,600 CuFt: 160,000 Well Deck: N/A TEU: N/A Med: 2 OR & 24 Beds Stern Ramp: N/A 4 OR & 16/45</p>	<p>3 MLP <i>New Build / Design</i></p> <p><i>Artist Rendition / Notional Configuration FLO / FLO Technology Focused</i></p>  <p>Length: TBD Beam: TBD Draft: TBD Displacement: TBD Per Sqd: 3 Speed: ~20 knots Range: ~9,500 nm Crew: 64 Stand Det: 10 MAGTF: 594 NSE: ~128 Berths: 1,458 A/C Stow: 0 A/C Op Spts: 1 JP-5: ~1.2 Mil gal Water: ~168K gal / TBD gal/day SqFt: ~11,253 CuFt: ~935 Well Deck: 6 (LCAC) TEU: N/A Med: Sick Call Stern Ramp: N/A</p>
<p>1 T-LHD <i>Legacy</i></p>  <p>Length: 844 ft Beam: 106 ft Draft: 27 ft Displacement: 42K LT Per Sqd: 1 Speed: ~20 knots Range: ~9,500 nm Crew: 285 Stand Det: 23 MAGTF: 1,656 NSE: ~670 Berths: 2,946 A/C Stow: 42 A/C Op Spts: 9 JP-5: 607K gal Water: 400K gal / 200K gal/day SqFt: 24,012 CuFt: 145,000 Well Deck: 3 LCAC TEU: N/A Med: 6 OR & 60 Beds Stern Ramp: 72 ST</p>	<p>3 T-AKE <i>New Build / Modified Design</i></p> <p><i>Artist Rendition / Notional Configuration</i></p>  <p>Length: 689 ft Beam: 105 ft Draft: 29 ft Displacement: 39K LT Per Sqd: 3 Speed: ~20 knots Range: ~9,500 nm Crew: 123 Stand Det: 6 MAGTF: ~10 NSE: ~55 Berths: 197 A/C Stow: 1 A/C Op Spts: 1 JP-5: 1.3 Mil gal Water: 52.8K gal / 28K gal/day SqFt: N/A CuFt: 1,108,592 Well Deck: N/A TEU: 61 Med: Sick Call Stern Ramp: N/A</p>
<p>3 T-AKR <i>New Build / Modified Design</i></p> <p><i>Artist Rendition / Notional Configuration</i></p>  <p>Length: 950 ft Beam: 106 ft Draft: 34 ft Displacement: 55K LT Per Sqd: 3 Speed: ~20 knots Range: ~9,500 nm Crew: 30 Stand Det: 48 MAGTF: 705 NSE: ~62 Berths: 845 A/C Stow: 0 A/C Op Spts: 2/4 JP-5: 380.4K gal Water: 33.5K gal / 24K gal/day SqFt: 260,799 CuFt: 51,682 Well Deck: N/A TEU: 45 Med: 6 OR & 60 Beds Stern Ramp: 80 ST</p>	<p>2 Legacy</p>  <p>Length: 673 ft Beam: 106 ft Draft: 34.6 ft Displacement: ~46K LT Per Sqd: 2 Speed: 17.7 knots Range: 12,900 nm Crew: 30 Stand Det: 16 MAGTF: 71 NSE: ~10 Berths: 127 A/C Stow: 0 A/C Op Spts: 1 JP-5: 1.4 Mil gal Water: 99K gal / 25K gal/day SqFt: 152,185 CuFt: N/A Well Deck: N/A TEU: 546 Med: Sick Call Stern Ramp: 62 ST</p>

stone B decision projected in 2010. The CDD for increment two is projected to begin staffing during fiscal year 2008.

As each ship of the MPF (F) squadron is delivered, it will incrementally transform one existing squadron from a “port to port” delivery capability to an increasingly selectively off loadable, “sea-based” capability. MPF (F) squadron Initial Operational Capability (IOC) will be considered achieved when the first big deck amphibious ship (LHA(R) or LHD), T-AKE, MLP and LMSR are delivered/provided, embarked with prepositioned assets and deployed, notionally

in fiscal year 2017. This will provide the geographic combatant commanders with limited employment, sustainment, and reconstitution capability for a Marine Expeditionary Unit equivalent sized force. MPF (F) T-AKEs that are delivered prior to IOC will be used to provide a limited selective offload sustainment capability as elements of the MPF (F) squadron are delivered. Deployment of a complete MPF (F) squadron, the Full Operational Capability, is notionally planned for fiscal year 2022.

NAVAL SURFACE FIRE SUPPORT INITIATIVES



Firepower, including responsive, lethal, and persistent fires from U.S. Navy surface ships, is essential in expeditionary operations. A robust, around-the-clock, all-weather, sea-based fire support capability is vital to the success of naval forces engaged in littoral combat operations. The current Naval Surface Fires Support (NSFS) capability is inadequate in range, volume, and accuracy for supporting expeditionary operations throughout an extended battlespace. The Navy continues to pursue development and testing of an extended-range and guided, fire support capability for use by the fleet to support the Marine Corps capstone concept of Expeditionary Maneuver Warfare.

In December 2005, the Joint Requirements Oversight Council validated an

Initial Capabilities Document, the Joint Fires in Support of Expeditionary Operations in the Littorals ICD, and recognized NSFS as a potential solution for mitigating several of the identified fire support gaps. These include the ability to engage targets in close support of maneuver forces or with collateral damage concerns, and the ability to provide volume effects over a large area or for sustained periods of time. The Navy has several efforts planned to reduce these capability gaps, including current programs of record and future technology development that will usher in a transformational fire support capability from the sea.

During fiscal year 2011, the Navy anticipates fielding the Extended Range Munition (ERM) aboard Guided Mis-

sile Destroyers (DDGs) equipped with 5-inch/62-caliber guns. This munition will permit Marine Air Ground Task Force (MAGTF) commanders to engage targets with volumes of fire and Global Positioning System-guided precision weapons from over the horizon. Shattering the existing capability of 13 nautical miles, ERM will provide close supporting and interdiction fires to ranges exceeding 41 nautical miles. The system's ability to mass multiple rounds for simultaneous impacts from a single gun (up to 9 projectiles) combined with its extended range and accuracy marks a transformational change in expeditionary fire support. Reliability tests for the munition are scheduled for fiscal year 2008 and fiscal year 2009 as part of the developmental process.

Beginning in 2014, the Navy will field another fully integrated, transformational fire support system. The DDG 1000 Zumwalt class Land Attack Destroyer, equipped with two 155mm Advance Gun Systems (AGS), each with a 300 round magazine, will add considerable firepower and flexibility to the Expeditionary Strike Group and Expeditionary Strike Force. The AGS, firing the Long Range Land Attack Projectile, will increase the effects of the MAGTF's NSFS fires to over 63 nautical miles. The DDG 1000 will also be

the first naval ship designed to integrate counter-fire detection with its own weapon systems and digitally communicate the information to the Supporting Arms Coordination Center for engagement.

Future technologies will further develop the transformational nature of NSFS. New technology demonstration efforts underway include an Electromagnetic Rail Gun. Future battlefield commanders may harness the destructive power of mach 7+ propelled projectiles using electromagnetic energy produced aboard the Navy's future family of all-electric ships, which include the DDG 1000 and CG(X), the next generation cruiser. The Marine Corps will continue to monitor developing technologies with an eye toward how they may be integrated to support future operating concepts.

NSFS ERM will offer a complementary capability to tactical aviation and ground fire systems that will reshape the way fires are planned and used by the MAGTF. With continued commitment, the Marine Corps and the rest of the Joint community can rely upon NSFS as readily available, all-weather fire support systems capable of engaging targets across the full range of military operations in the littorals.

MINE COUNTERMEASURES (MCM)

A family of Navy and Marine Corps Mine Countermeasures (MCM) systems is being developed and fielded to allow joint/combined sea-based forces to conduct expeditionary operations at a time and place of our choosing, to include terrain defended by anti-access systems such as mines and obstacles. Tactics, techniques, procedures, and material solutions are being developed to support seamless naval expeditionary operations throughout the littoral and beyond.

FROM THE STERN GATE THROUGH THE BEACH

Sea-based forces first require an effective mine countermeasures capability to open and maintain sea lines of communication and to operate within the littoral battle space. The ability to operate in areas defended by enemy mines and obstacles requires a family of capabilities, which includes detection, location, neutralization, marking, and data dissemination. This family of capabilities will allow commanders to detect and avoid mines and obstacles when possible, and breach when necessary.

In conducting Operational Maneuver From The Sea (OMFTS), the Marine Corps relies upon the Navy to maneuver its expeditionary forces to the beach, allowing the deployment and prosecution of operations ashore. Some forces, equipment, and supplies will have to cross the beach regardless of our future vertical-lift capabilities. In specific areas of national strategic interest, the assault force faces

challenges in detection and avoidance of littoral waters and landing beaches fouled by mines and obstacles. In these areas of present and future interest, suitable landing beaches are limited—and our potential adversaries know precisely where they are.

The Navy's triad of deep-water MCM capabilities resides in surface mine countermeasure ships, airborne mine countermeasure helicopter squadrons, and underwater mine countermeasure teams consisting of Explosive Ordnance Disposal (EOD) detachments, equipped with Marine Mammal Systems and unmanned vehicles. The MCM triad stands ready to conduct large-area or long-endurance MCM operations from deep water to the 40-foot depth contour.

The Navy is engaged in an effort to augment the triad with MCM systems placed onboard the ships of Carrier and Expeditionary Strike Groups, as well as equipping the Littoral Combat Ships with MCM mission modules. These are designed to provide a self-contained, "organic" capability to detect, avoid, and/or neutralize mines within an operationally acceptable timeline and with acceptable levels of operational risk. This next generation of systems includes the Remote Mine-Hunting System and the Long-Term Mine Reconnaissance System, among others.

The physics of ship-draft requirements, sensor and system operating limits, diver physiology, mine characteristics, and an extremely dynamic environment, combined with the requirement for co-

vert operations and many other factors, limit effectiveness of deep water systems for very shallow water (VSW - 10 to 40 feet deep), the surf zone (SZ - 10 feet to the beach), and Beach Zone (BZ) operations.

In response, the Navy has fielded a specialized family of capabilities to contend with mines and obstacles in these technologically challenging environments. Explosive Ordnance Disposal Mobile Unit 1 (EOD MU 1), formerly known as the Naval Special Clearance Team 1 (NSCT-1), which consists of a 180-man unit composed of Navy EOD, Marine Reconnaissance Divers, and support personnel—fulfills an important part of the requirement. EOD MU-1 employs unmanned underwater vehicles, marine mammals, and divers to conduct low-visibility mine exploration, reconnaissance, and clearance operations in waters from 600- to 10- feet deep. Data collection devices such as the Coastal Battlefield Reconnaissance and Analysis (COBRA) System will provide the Navy and Marine Corps with essential visual reconnaissance information on mine lines and SZ/BZ defenses. The Navy's science and technology effort is also investigating the effectiveness of precision-delivered Joint Direct Attack Munitions (JDAM) against certain SZ/BZ mines and obstacles. The JDAM Assault Breaching System (JABS) capability provides an SZ/BZ MCM obstacle breaching capability.

In the far-term (fiscal year 2012 and beyond), the science and technology endeavor is pursuing “smart” bomb- and gun-delivered munitions designed to

destroy concentrations of SZ/BZ mines. This includes the Navy's Counter Mine System (CMS) which uses a spray of small darts to neutralize mines in the beach and surf zones. This promising technological approach offers the potential for standoff operations and the removal of men and mammals from the minefield—two key MCM goals.

THROUGH THE BEACH AND BEYOND

Once ashore, naval expeditionary forces must be capable of detecting, breaching, clearing, proofing, and marking mines and obstacles, and of disseminating mine and obstacle data. From the critical Navy-Marine Corps handoff in the vicinity of the beach exit to the force objectives and beyond, Marine Corps commanders must be able to detect and avoid ground mines and obstacles when possible, and breach them when necessary. The Marine Corps' current inventory of MCM systems includes the AN/PSS-14 Mine Detector (which utilizes ground penetrating radar to locate mines), explosive breaching systems- the Assault Amphibian Vehicle with Mk154 Triple-Shot Line Charge, Mk155 Mine Clearing Line Charge (MICLIC), and Anti-Personnel Obstacle Breaching System (APOBS)—and mechanical breaching/clearing/proofing systems (M1 tank with track-width mine plow and armored D-7 dozer). In aggregate, these systems provide a limited and aging deliberate breaching capability. They do not meet

the detection, speed, and responsiveness requirements of the modern battlefield.

Two acquisition programs promise to significantly improve Marine Corps MCM capabilities:

- **Advanced Mine Detector (AMD)** With an Initial Operational Capability of fiscal year 2008 and Full Operational Capability of fiscal year 2009, AMD will employ ground penetrating radar technology to detect buried anti-personnel and anti-tank mines. This is a key capability in light of the worldwide proliferation of low and non-metallic mines



- **Assault Breacher Vehicle (ABV)** With an Initial Operational Capability scheduled for fiscal year 2009, ABV will be a single-platform mine-field breaching/clearing/proofing/mark-ing system that possesses the speed and mobility of modern mechanized forces. Combining two Mk155 Line Charges, a Full-Width Mine Plow, and a breached lane marking system on an M1 tank chassis, the ABV will offer deliberate and “in-stride” breaching capabilities—allowing commanders to maintain initiative and momentum.

MCM doctrine, training, and equipment are continuously evolving to cover capability gaps, replace obsolete equip-

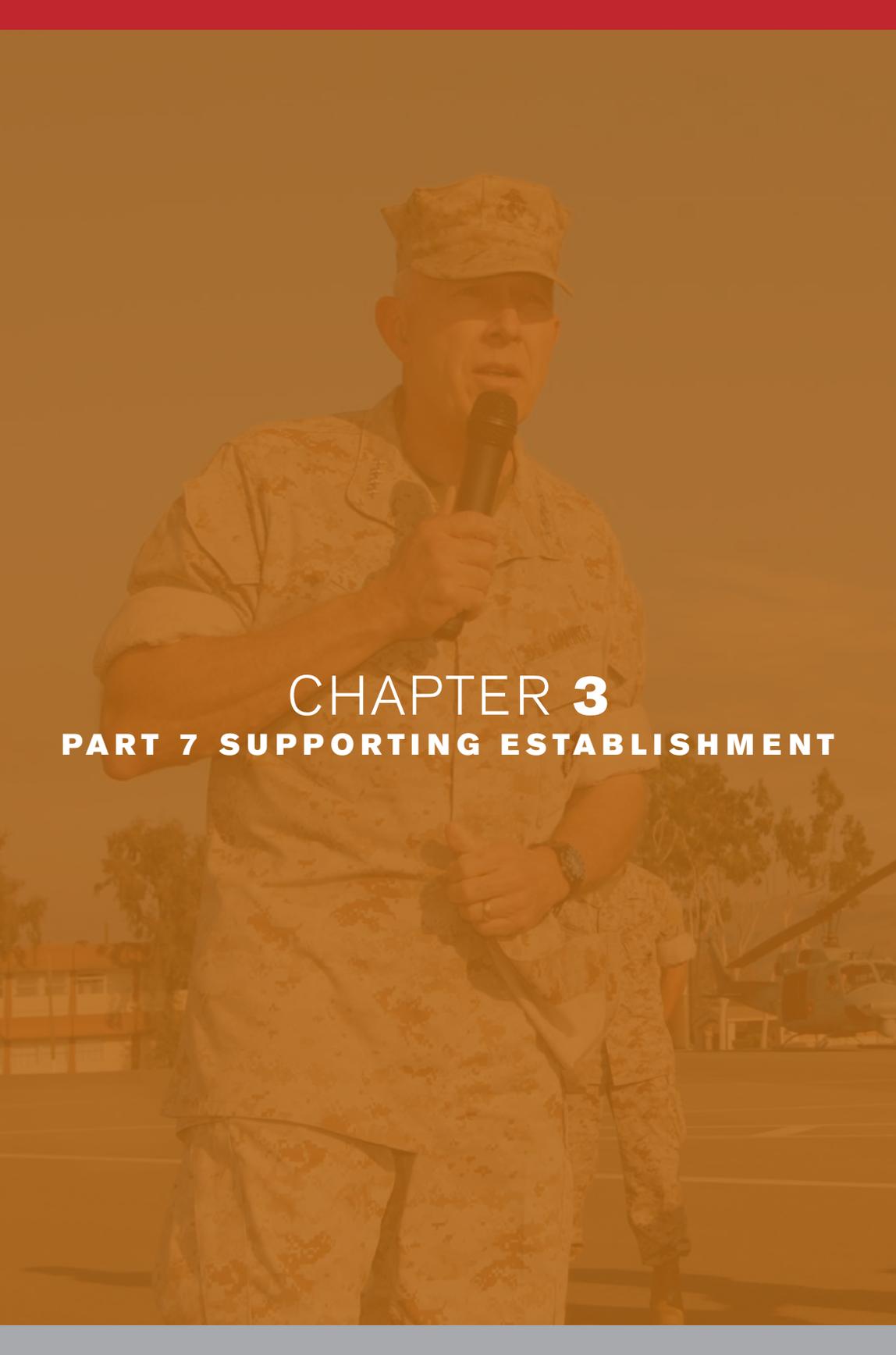
ment, and meet the challenges posed by newer threats, such as Improvised Explosive Devices (IEDs), off-route mines, and anti-helicopter mines.

Current Marine Corps MCM systems face challenges in providing force commanders with the desired “in-stride” capability to achieve and maintain initiative and momentum in a full spectrum anti-access environment. The Marine Corps developed its own MCM master plan, designed to fill remaining capability gaps and provide a road map for the future, which was implemented in 2004.

MCM FOR THE GLOBAL WAR ON TERRORISM

Operations in the Global War on Terrorism require the fielding of systems designed to remotely detect IEDs and mine-initiated ambushes to ensure the mobility of the MAGTF while ashore. Testing on many technologies to locate off-route, semi-buried mines and IEDs is currently underway, in conjunction with the Joint Area Clearance Advanced Concepts Technology Demonstration office. Considering the threat faced in the GWOT, the Marine Corps has aggressively pursued the Mine Resistant Ambush Protected (MRAP) vehicle to protect Marines operating in a high threat environment. As of October of 2007 more than 450 vehicles had been deployed to the U.S. Central Command (USCENTCOM) area of operations. These vehicles have already proven their worth by saving the lives of several Marines.

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CHAPTER 3
PART 7 SUPPORTING ESTABLISHMENT

INTRODUCTION

Installations and facilities in the United States and overseas are the foundation and framework for the Marine Corps' readiness in the 21st Century. Our security depends on installations and facilities that are available when and where needed, with the right capabilities, to support current and future operational requirements, effectively and efficiently.

Our Individual Marines and their families are our most precious assets. We owe them the best housing, workplace and training environments that we can provide. We owe them a commitment commensurate with the tremendous sacrifices they make daily to defend our homeland and safeguard our security. We are committed to providing healthy installations, facilities, housing and the supporting services that enhance morale, Quality of Life and Quality of Service that are critical factors in our readiness posture.

History has proven that we cannot narrowly define the conditions for which our military must be ready. With little warning, our Nation has repeatedly called its Corps front and center—in the southern Pacific after Pearl Harbor, in Korea after the communist invasion in 1950, in

the mountains of Afghanistan after 9/11, and in southern Asia in the wake of the catastrophic tsunami of 2004. Each of these strategic surprises demonstrates the broad range of possibilities for which the Marine Corps must be prepared. The Long War requires a multi-dimensional force that is well trained and educated for employment in all forms of warfare. Historically, our Corps has produced respected leaders who have demonstrated intellectual agility in warfighting and the ability to convince their Individual Marines that they put them first, above all else.

The various programs discussed in this section are vitally important to the Marine Corps. They are fundamental to the combat readiness of Marine Corps operating forces, and are integral to the Quality of Life and of Service of Individual Marines and their families. These programs are designed to ensure that Marines and their families are taken care of in the areas of recruiting, training and education, retention, pay and administrative support, quality of life and service, and family support.

MANPOWER RECRUITING

Fiscal year 2007 proved to be one of the most challenging years for Marine Corps Recruiting Command (MCRC) in recent history. The impact of The Long War and the unique challenges it presented to the recruiting force combined with the demand to recruit more young men and women than anticipated in support of end strength increases tested the mettle of the recruiting force. In every case our recruiters rose to the challenge and accomplished the mission.

Recruiting is the lifeblood of our Corps. The credit for our success belongs to the individual Marine recruiter, whose tireless efforts and dedication to mission continues to provide the Marine Corps with a new generation of warriors. It is the individual recruiter who inspires applicants to pursue life as a United States Marine, who once transformed, will be a Marine for life. Our Corps' recruiters remain ambassadors to their local communities and to the American public.

Recruiting duty is unique and highly selective. Those chosen to become recruiters undergo extensive screening and are considered representative of the best the Marine Corps has to offer. Intensive training ensures that the recruiter is well-prepared to face the multi-faceted challenges that lay ahead. Our training is continuously reinforced, ensuring that the recruiter remains armed with the most current information, techniques and policies.

One of the key elements to ensure our recruiters and Officer Selection Officers (OSO) are prepared to succeed is the automation of the recruiting process

at the Recruiting Sub-Station (RSS) and Officer Selection Station (OSS) level. Marine Corps Recruiting Information Support System (MCRISS) is the information technology software application used by MCRC to track applicant processing. In order to speed the sharing and processing of applicant information, and optimize recruiter and OSO time, MCRIS-RSS/OSS is being developed for interface with MCRISS.

The manpower data entry point for most of the Marine Corps' Manpower Information Systems is MCRISS. Daily interfaces permit users to quickly and accurately create training and personnel records on Marines. Additionally, MCRISS is linked with the United States Military Entrance Processing Command (USMEPCOM) as it continues to evolve and transform applicant screening and processing into the Virtual Interactive Processing System (VIPS). Future MCRISS enhancements are required to replicate data throughout the recruiting process and automate data exchange with multiple entities.

Ensuring young men and women hear and understand the recruiting message requires continual reinforcement through marketing and advertising programs. To do this we continue to emphasize our core competencies of building brand awareness, generating quality leads for recruiters, and developing recruiter support material for them to use in the sales process. High-quality advertising provides the foundation for establishing awareness about Marine Corps' opportunities.

Paid advertising proves to be the most effective means to communicate our message and, as a result, remains the focus of our advertising efforts. As advertising costs continue to increase, it is imperative that our advertising budgets remain competitive in order ensure that our recruiting message reaches the right audience. Marine Corps recruiting successes over the past years are a direct reflection not only of a quality recruiting force, but also of an effective and efficient marketing and advertising program.

In fiscal year 2007, MCRC overcame unprecedented challenges in recruiting during our support of The Long War, achieving 100 percent of enlisted shipping objectives. Most noteworthy was the fact that, despite an increased mission, MCRC exceeded all quality standards: 95.4 percent of those shipped to recruit training were Tier 1 high school graduates, above the Department of Defense (DoD) and Marine Corps standards of 90 and 95 percent, respectively. In addition, 66.2 percent were in the I-III A upper mental group, also well above the

DoD and Marine Corps standards of 60 percent and 63 percent, respectively. For officers, 100 percent of objectives in all categories were achieved. The Marine Corps Reserve also achieved 100 percent of its recruiting goals with the accession of 5,287 Non-Prior Service Marines. Of these, 95.9 percent were Tier I high school graduates and 73.4 percent were in the I-III A mental groups. Additionally Marine Corps recruiting command accessed 3,591 Prior Service Marines into the Marine Corps Reserves, achieving 100 percent of the objective.

The culmination of the fiscal year 2007 recruiting effort ensured that MCRC added to their legacy of success. In fiscal year 2008, as the Marine Corps continues to grow and our operational forces remain committed in support of The Long War, MCRC expects to face ever-increasing challenges. In the face of these challenges the command fully expects to continue to meet the challenge and accomplish our part to ensure that our Corps is able to respond “where our country needs us most.”

MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM – RECRUITING SUB-STATION (MCRISS-RSS) & OFFICER SELECTION SYSTEM (MCRISS-OSS)

DESCRIPTION

The deployment of the Marine Corps Recruiting Information Support System – Recruiting Station (MCRISS-RS) streamlines the entire enlistment process and provides immediate benefits in man-hour savings by eliminating redundant data entry and improving the quality of information available. Moreover, the system directly interfaces with and supports key information technology initiatives from the U.S. Military Entrance Processing Command by electronically scheduling applicants for processing and receives electronic processing results. MCRISS-RS harnesses state-of-the-art technology and provides the Marine Corps Recruiting Command with a solid foundation from which to grow future manpower information systems such as MCRISS-Recruiting Sub-Station (RSS) and MCRISS-Officer Selection System (OSS).

The development and deployment of MCRISS-RSS/OSS promises to automate both the officer and enlisted side of recruiting by organizing every effort and providing the proven framework of systematic recruiting. Systematic recruiting establishes procedures for standardization, management/planning, training, and action by focusing the Officer Selection Officer, RSS Senior Non-Commissioned Officer In Charge and recruiter on those activities and programs vital to effective recruiting. MCRISS-RSS will encompass all eleven components of enlisted systematic recruiting while MCRISS-OSS will encompass the fourteen components of officer systematic recruiting. This effort will further eliminate redundant data entry and save the most valuable asset....time.

OPERATIONAL IMPACT

Time is the recruiter's (officer or enlisted) greatest challenge and most precious asset. A recruiter's achievement and success is only measured by the number of qualified quality individuals interviewed, contracted and shipped to Recruit Training or the Officer Candidate Course. MCRISS-RSS/OSS, coupled with solid skills, will systematically organize the recruiter's day, week, and month, thereby saving time and making the demanding task of "mission accomplishment" more efficient and effective. This in turn gives the recruiter more time to prospect, consequently giving the Marine more opportunity to succeed.

PROGRAM STATUS

Achieved IOC in fiscal year 2007

Procurement Profile:	FY2008	FY2009
MCRISS-RSS	0	11
MCRISS-OSS	0	14

Developer/Manufacturer:
Stanley Associates, Arlington, VA

Subcontracts: Segue Technologies, Arlington, VA & Tedrad Digital Integrity, Washington, D.C. & Firefly Database Solutions Inc., Nokesville, VA

MANPOWER PERSONNEL & PAY MANAGEMENT

The Marine Corps continues to transform our manpower processes by exploiting the benefits of the Marine Corps Total Force System (MCTFS), the Department of Defense's only fully integrated personnel, pay, and manpower system. The Marine Corps Total Force System seamlessly serves our active, reserve, and retired members; provides total visibility of the mobilization and demobilization process of our Marines; and ensures proper and timely payments are made throughout the process. MCTFS provides one system, one record, regardless of an individual's mobilization status. According to the most recent Defense Finance and Accounting Service's "Bare Facts" report, MCTFS continues to achieve a pay accuracy rate of over 99% for both our active and reserve components.

MCTFS has allowed the Marine Corps to move its pay and personnel administration to a predominately self-service, virtually paperless, secure, web-based environment. In fiscal year 2007, individual Marines and their leaders leveraged MCTFS' capabilities to automatically process more than 1.6 million transactions, including over 87% of our annual leave events. MCTFS integrated business logic coupled with Marine OnLine's web-based capabilities has increased the amount of time Marine leaders can devote to warfighting.

MARINE CORPS RETENTION

ENLISTED PERSONNEL

We continue to retain Marines at unprecedented levels in order to grow the Marine Corps' end strength to 202,000. Retention goals were substantially increased in mid-fiscal year 2007 and will continue to increase through fiscal year 2011 to support the continued growth of our force. The dynamics of the Corps' manpower system must match the required skills and grades to stand up and staff additional units to enable a 1:2 deployment-to-dwell time ratio.

The Marine Corps' enlisted retention efforts remain vigilant due to the lucrative civilian employment opportunities that exist for our Marines. Our Corps has traditionally retained 25% of first-term Marines to sustain the career force. In fiscal year 2007, this requirement was raised to 34% of first-term Marines to support the yearly end strength milestone of 184,000. The fiscal year 2007 milestone was eclipsed by 2,490.

For fiscal year 2008, we must retain 41% of our first-term Marines and 74% of our career Marines to support the fiscal year 2008 end strength milestone of 189,000. For this reason, the budget for the Selective Reenlistment Bonus (SRB) program was substantially increased and proportioned towards our career force, including Marines with 16 to 20 years of active service.

Because combat experience and MOS proficiency remains essential to the future of our Corps, every effort must be made to retain our "best and brightest" Marines by seeking continued funding for the SRB in future years. The SRB has significantly

aided reenlistment endeavors and has improved retention for some critical skill shortages. However, due to the creation of new operational units, shortages persist in some specialties, such as intelligence, explosive ordnance disposal, reconnaissance, combat engineering, and military police, proving the importance of continued increases in SRB funding levels.

To meet the demands of our aggressive retention goals, our retention and personnel assignment policies are evolving to meet the demands for a growing force. Traditional policies that were focused on maintaining a stable end strength are now unnecessary and are being adjusted. As such, boatspace limits for first term Marines were lifted in fiscal year 2007 and remain so for fiscal year 2008. Various forms of Assignment Incentive Pay (AIP) are also being introduced to encourage continued assignment of experienced NCOs in the operational forces. Likewise, some assignments aboard bases and stations are being adjusted from three to two years to allow more Marines and their families a respite from deployments.

Though the SRB program is greatly enabling our retention success, we cannot disregard the intangible attributes, such as pride of service and the satisfaction of leadership responsibilities, as significant influences on retaining dedicated men and women. It is the responsibility of all leaders within the officer and enlisted ranks to ensure Marines are educated on the importance of retention and on our evolving retention policies and incentives. Leaders must continue to reinforce these

intangible attributes and encourage Marines not to make career decisions based on the current operational tempo.

OFFICERS

The Marine Corps officer retention goal is to retain the “best and fully qualified” officers, in the right grades, with the right skills to provide the capabilities required in the operating forces. Historically, the aggregate officer retention rate is 90.5 percent. For fiscal year 2008, the Marine Corps is on pace to meet or exceed its retention goals within the officer corps. Regardless, Manpower planners continue to look for indicators showing a trend toward higher attrition in future years. Although overall officer retention is excellent, shortages do exist in certain grades and skills, requiring careful man-

agement and innovative solutions.

To this end, the Marine Corps has active programs in place, both monetary and non-monetary, to ensure officer retention remains high. Monetary tools already implemented include Aviation Continuation Pay and Law School Education Debt Subsidy. Non-monetary programs include voluntary lateral moves, inter-service transfers to the Marine Corps, and Return to Active Duty. All of these programs provide incentives to officers for continued service even in the face of significant operational tempo, while allowing flexibility to manpower planners to meet requirements across the Marine Corps Total Force.

MARINE CORPS RESERVE

Marine Corps Reserve units, Individual Ready Reserve (IRR) Marines, and Individual Mobilization Augmentees (IMA) continue to fill critical requirements of national defense. They have deployed worldwide to countries in Southwest Asia as well as Northern Africa supporting all aspects of the Global War on Terrorism. At home, Marine Forces Reserve maintains Reserve Marines and assets pre-positioned throughout the country, ready to assist with not only national defense missions, but also civil-military missions such as providing disaster relief.

The Selected Marine Corps Reserve, with its force structure complementing the active operating force in its traditional “augment and reinforce” mission, continues to serve the nation well. The Reserve Component is wholeheartedly oriented to that mission and keen on doing its part in times of distress. However, we are conscious of how changes in key drivers, such as the Quadrennial Defense Review, the Marine Corps’ Capabilities Assessment Group, recent operational employment patterns and service expectations of the members of our Reserve, are bound to demand adjustments in Reserve missions and roles.

RESERVES IN ACTION

Reserve Marines understand the cost of protecting the American way of life, and even though some have paid the ultimate price, they continue to step forward and volunteer to serve their country. The Marine Corps Reserve remains strong

and constant due to the committed Marines in our ranks, our high retention and recruiting rates, and the ever-increasing benefits that Reserve Marines and their families enjoy.

SUSTAINMENT

Despite the current high operational tempo, the Marine Corps Reserve continues to recruit and retain top-notch Marines. New Marines are consistently brought into the Reserves at a rate of 20-25 percent per year. This, in addition to our current force, provides continued capability to augment and reinforce the Active Component.

As the Active Component increases end-strength to 202,000 by fiscal year 2011, it is important to note that higher planned retention in the Active Component and greater numbers of Marines from the Reserve Component volunteering for full-time active duty with the Active Component, will reduce the number of personnel transitioning into the Selected Marine Corps Reserve. To avoid the potential impact of recruitment conflict, the Marine Corps Reserve is aggressively pursuing options to increase retention in Selected Marine Corps Reserve units by increasing the number and dollar amount of reenlistment incentives focusing on units identified for future deployment.

CONCLUSION

The Marine Corps Reserve is a full partner of the Marine Corps’ Total Force Concept. Reserve Marines continue to

prove their dedication to their country and fellow citizens. Their continuing Honor, Courage, and Commitment to warfighting excellence while maintaining close ties to their community truly set them apart as “citizen soldiers.” They recognize they have a crucial mission, and the American people will continue to expect the most from them while continuing to support them. Marine Forces Reserve, with its well-equipped, well-led, and well-trained professional men and women, will be integral to the Marine Corps of the future.

CIVILIAN MARINES

Civilian Marines are a valuable asset to our Total Force team. Marines at all ranks recognize, more than ever before, the importance of our Civilian Marines, who provide critical support in numerous areas throughout the Corps.

The “Civilian Workforce Campaign Plan” (CWCP), serves as a strategic roadmap to achieve a civilian workforce capable of meeting challenges of today and the future. The campaign plan cites six goals that touch upon the entire lifecycle of the Civilian Marine. The CWCP will continue to provide the strategic cornerstone for management and professional development. It amplifies the importance of leadership development and overall contribution to the effectiveness and cohesiveness of our military-civilian team.

In direct support of the CWCP, the Civilian Workforce Development Application (CWDA) was designed to assist the Marine Corps in managing workforce development activities. A web application, CWDA contains data related to the leadership and functional core competencies of the Communities of Interest. The long term vision for CWDA is that it will facilitate organizational management and design and workforce shaping.

Also in support of the CWCP, the Marine Corps Acculturation and Mentoring Programs are available. The Acculturation Program provides Civilian Marines with the opportunity of understanding their roles in supporting the mission of the Marine Corps. Specifically, Civilian Marines learn the Marine Corps’ culture

and history while also concentrating on the strategic mission of local commands.

The Civilian Marine Mentoring Program is part of our Civilian Career and Leadership Development program. It enhances our ability to transform our civilian workforce into a high performance culture providing a skilled capable workforce to face the challenges of the future.

The expertise and competency of Civilian Marines will continue to provide critical contributions to the success of our Total Force Team, and the Marine Corps is committed to their continued development. Through implementation of the CWCP, we are providing civilian Marines with a work environment that encourages personal growth and professional development, recognizes and rewards high performance, and promotes retention.

The Marine Corps is committed to implementing the National Security Personnel System (NSPS) along with other Department of Defense and Department of Navy agencies. The NSPS offers broad pay bands and flexible civilian workforce management tools necessary to effectively and efficiently recruit, retain, and manage our Civilian Marines in support of our mission. The NSPS enables us to align job objectives to mission; improves the quality of our workforce through ongoing performance feedback; provides greater flexibilities to reward excellent performance with salary increases; simplifies our personnel hiring processes; and offers other flexibilities to enhance our organizational effectiveness to foster the high

performance culture in our CWCP.

The Marine Corps converted its first group of 1,982 Civilian Marines to NSPS in January and February 2007 from Headquarters Marine Corps, Marine Corps Systems Command, and Marine Corps Tactical Systems Support Activity. In February 2008 the Marine Corps converted 4,100 additional non-bargaining unit General Schedule employees across all remaining Marine Corps organizations, including overseas and field activities.

ADVISOR TRAINING PROGRAM INITIATIVES

Since early 2006, the Training and Education Command's (TECOM) Security Cooperation Education and Training Center (SCETC) has been involved in a dramatic build-up to formalize the partner-military advisor training process. This has encompassed creating a standards-based predeployment training construct, stand-up of a training support cadre, enhancements to training equipment sets, and development of related resources and funding for immediate operations, sustainment and support for emerging requirements.

With the January 2006 Executive Off-Site decision to formalize the advisor training process, SCETC was the lead in providing near-term predeployment training relief to the Marine Expeditionary Forces (MEF) - specifically, the Block IV (advisor-specific) portion of the Predeployment Training Plan (PTP). The SCETC Advisor Training Group (ATG) was established in early 2007 as the permanent training cadre at the Marine Air Ground Task Force Training Command (MAGTFTC) tasked with executing predeployment training for all Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) Transition Teams at MAGTFTC, the Mountain Warfare Training Center (MWTC), Bridgeport, CA., and Hawthorne Army Depot (HAWD), Hawthorne, NV. On 1 October 2007, in an effort to enhance training effectiveness and requisite support for Transition Teams, the ATG was transferred from SCETC and TECOM to MAGTFTC.

The process of formalizing Transition Team training began with a January 07 Proof of Concept at MAGTFTC that validated the early Program of Instruction and requisite resources, with training initially built around a 25-day plan. During October 2007, OIF training transitioned to a 19-day cycle that builds upon the MEF-level (Home Station) preparation, with a training construct that attempts to culturally immerse teams in a series of training engagements that emphasize scenario-based events and extensive use of role players. Exercise Mountain Viper is the Block IV training for all OEF Embedded Training Teams (ETT), encompassing a 21-day training evolution, culminating in a Mission Rehearsal Exercise (MRX) and Assessment of team capabilities. The inaugural Mountain Viper 01-07 was completed in May 2007, and included training at MAGTFTC, MWTC, and HAWD.

In order to effectively prepare all OIF and OEF Transition Teams and prepare Marines to be advisors, greater emphasis is placed on the train, mentor, and advise concept, with training scripted to incorporate mission-specific or team-type training (Military, Police, Border, and Embedded). The concept of operations allows for counterpart training, whereby events and situations focus on Division, Brigade, and Battalion advisor teams. All training culminates in an MRX and Assessment spanning several days that is utilized to evaluate the advisor capabilities of the teams while allowing the teams

to gain final validation of their Tactics, Techniques, and Procedures and team building opportunities.

Between June and December 2007, the Advisor Training Group trained over thirty Transition Teams in what was a period of implementation and revision as an element in the process of formalizing advisor training. For fiscal year 2008, the ATG is slated to train an estimated seventy-two teams consisting of over 1400 Marine advisors.

COLLEGE OF CONTINUING EDUCATION (CCE)

The College of Continuing Education (CCE), Training and Education Command, is the institution within the Marine Corps that is responsible to design, develop, deliver, evaluate, and manage distance learning products and programs across the training and education continuum, in order to increase operational readiness. As the service proponent for distance learning, the CCE is responsible for and manages the Marine Corps Distance Learning Program (MCDLP) as well as the non-resident, Command and Staff College Distance Education Program (CSCDEP) and the Expeditionary Warfare School Distance Education Program (EWSDEP) professional military education (PME) programs of study. Effective 1 June 2007, the CCE assumed administrative responsibility from the Marine Corps Institute (MCI) for student administration, registration, delivery of course materials, and processing of grades for CSCDEP and EWSDEP students.

Within the MCDLP, MarineNet is the Marine Corps' electronic training infrastructure that hosts more than 2,500 electronic courses, available worldwide 24/7 to active, reserves, retired, family members, and the civilian workforce. The courseware, available at no cost to those enrolled in the Defense Eligibility Enrollment Services, is built collaboratively with the Marine Corps Training & Education Centers of Excellence and military occupational specialty (MOS) subject matter experts. Annual and required training, professional development, and functional specialty training may be accomplished

on MarineNet in addition to completing PME courses. Linked to MOS roadmaps to facilitate career progression, MarineNet courseware expedites the training process by granting rapid online course enrollments and online test completion. Test scores are available immediately and students are able to print courseware completion certificates online. Student activity is electronically entered into the Marine Corps Total Force System (MCTFS) via the Marine Corps Training Information Management System (MCTIMS) database providing promotion points, self education bonus points and Reserve retirement credits. Additionally, MCDLP provides installation-based computer learning resource centers (LRCs), deployable learning resource centers (DLRC) designed for deployed units, and video teletraining/video conferencing suites for synchronous connectivity to multiple locations.

As the institution responsible for development and delivery of the CSCDEP and EWSDEP, the CCE administers the program via eight (8) satellite campuses distributed across the Marine Corps enterprise. Our distance education curricula are delivered via regionally sponsored seminars utilizing both resident adjunct faculty and the latest in video technology. Starting in October 2007, all CSCDEP students participate in seminars, either on-site or asynchronously online. For the near term, EWSDEP will remain independent guided studies-centric with a seminar option. Students are provided weekly evening and weekend seminars that meet

either on local Marine Corps installations or at designated civilian establishments. The EWSDEP seminars are available to all enrolled officers and senior staff non-commissioned. Local Regional Coordinators support students with enrollment request via MarineNet, deliver curriculum courseware, and administer test, as required. Adjunct faculty members serve as seminar leaders and provide students with a Socratic learning environment that emphasizes peer to peer interaction. Completion of CSCDEP and EWSDEP is equivalent to resident completion for promotion and assignment purposes.

Contact for local Regional Coordinators may be obtained at <http://www.tecom.usmc.mil/cce> or call toll free 1 800 4DL.USMC or DSN 995-6720 and select option 2.

COMBAT VEHICLE TRAINING SYSTEM (CVTS) – M1A1/LIGHT ARMORED VEHICLE (LAV) -25/ASSAULT AMPHIBIOUS VEHICLE (AAV)

DESCRIPTION

The Combat Vehicle Training System (CVTS) – M1A1/Light Armored Vehicle (LAV)-25, also known as the Advanced Gunnery Training System, will provide a high fidelity, gunnery, and networked tactical trainer that satisfies both land-based and shipboard training requirements for the LAV-25 and M1A1. The CVTS will provide integrated, coordinated, and mission-oriented training of crew members at individual, full-crew, section, and platoon positions. The CVTS-AAV or AAV Turret Trainer (AAV-TT) will provide the same capability as the CVTS land-based systems.

OPERATIONAL IMPACT

CVTS is one element of a training system made up of the academic, simulations and live-fire/range training. The Marine Forces Reserves, Marine Forces Pacific, Marine Forces Command, and formal schools will use the CVTS family of trainers to train perishable gunnery, crew communication and coordination, and mission tactic skills up to the platoon level. CVTS will provide familiarization, proficiency, sustainment, and cross-training at each crew position and as a crew.

PROGRAM STATUS

The CVTS-M1A1 has 16 land-based trainers already fielded with eight shipboard trainers scheduled to be fielded in late fiscal year 2008. The CVTS-LAV is fielding 20 land-based trainers which began in October 2006 and 17 shipboard trainers in late fiscal year 2008. The CVTS-AAV or AAV Turret Trainer also began fielding 16 trainers in February 2006.

Procurement Profile:	FY2008	FY2009
Quantity:		
M1A1 DAGTS	16	0
DAGTS	20	0
LAV-25 DAGTS	12	5
DAGTS	25	0
AAVTT	1	0

Developer/Manufacturer:
M1A1 and LAV-25: Lockheed Martin
Simulator Training Systems
AAV TT: TJ Incorporated

COMBINED ARMS COMMAND AND CONTROL TRAINING UPGRADE SYSTEM

DESCRIPTION

The Combined Arms Command and Control Training Upgrade System for the Combined Arms Staff Trainer (CAST) will provide realistic command-and-control integration and fire support coordination training for Marine Air-Ground Task Force (MAGTF) staffs up to, and including, the Marine Expeditionary Brigade level and integration MAGTF training with Joint National Training Capability Training Transformation events.

OPERATIONAL IMPACT

This CAST upgrade will support the training required to prepare Marine Corps units to participate in pre-deployment live-fire training, particularly Mojave Viper exercises held at MAGTFTC 29 Palms, CA, by providing the most effective classroom training and pre-Mojave Viper rehearsal opportunities prior to arrival.

PROGRAM STATUS

In fiscal year 2006, contracts were awarded to continue prototype development and Phase 1 installation. Phase 1 installations consisting of facility electrical and network infrastructure upgrades to support the reconfigurable virtual communication systems.

Procurement Profile:	FY2008	FY2009
Quantity:	0	5

Developer/Manufacturer:
Cole Engineering Services Inc, Orlando FL

COMBINED ARMS MILITARY OPERATIONS IN URBAN TERRAIN (CAMOUT) TRAINING FACILITY

DESCRIPTION

The Combined Arms Military Operations in Urban Terrain (CAMOUT) Training Facility is a 900 acre training complex at Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, CA. It incorporates 1500 structures and sub-terrain features emplaced in geo-typical districts replicating the complexity of a city. Structures within each district are of multi-story and multi-configuration designs appropriate to the represented district and built of conventional construction, fabricated shipping containers and pre-fabricated modular buildings. Data and communication infrastructures and instrumentation of the Range Modernization and Transformation and Combined Arms Command and Control Trainer Upgrade System programs are leveraged to facilitate conduct of the future Marine Air Ground Task Force Training Center Large Scale Exercise as well as Joint National Training Capability for Training Transformation.

OPERATIONAL IMPACT

The CAMOUT provides maneuver, live-fire, and non-live fire training space for Marine Expeditionary Brigade and below echelons in urban operations.

PROGRAM STATUS

In fiscal year 2006 and fiscal year 2007, Military Construction and Procurement contracts were awarded to perform preliminary design, construction and installation of the Primary Town district and Indirect Fires components. Award of effort to instrument CAMOUT with advanced video technologies is anticipated to occur during first half of 2008.

Procurement Profile:	FY2008	FY2009
Quantity:	TBD	TBD

Developer/Manufacturer:
Allied Container Systems, Onyx Group,
Soltek Pacific, others pending
procurement awards.

DEPLOYABLE VIRTUAL TRAINING ENVIRONMENT (DVTE)

DESCRIPTION

The Deployable Virtual Training Environment (DVTE) is a first person skills sustainment trainer that trains Marines from the individual to battalion staff level by using a simulation network with reconfigurable workstations capable of emulating a vast array of training scenarios. DVTE is made up of two components; the first is the Infantry Tool Kit which contains several Tactical Decision-making Simulations. The other half of DVTE is the Combined Arms Network (CAN). This is a set of personal computer based simulators (Forward Observer, Forward Air Controller, Assault Amphibious Vehicle, M1, Light Armored Vehicle, AH-1) connected to Joint Semi Autonomous Force. PMTRASYS recently accepted delivery of the CAN Version 1.0 which connects to AFATDS and Strikelink to allow training of a variety of fire support platforms using Marine Corps gear. Individual MAGTF skills can be trained in this virtual environment using a semi-autonomous force model as its basis. DVTE responds to the need for a flexible, deployable, training system that provides combined arms, MAGTF and Naval Integration training.

OPERATIONAL IMPACT

Training objectives for DVTE are currently being matched up with standards in the Predeployment Training Program as well as the Infantry Training and Readiness Manual. DVTE uses programs such as Virtual Battle Space to

train Marines on everything from command and control to convoy standard operating procedures. Marines can also meet specific cultural and language training objectives using programs like Tactical Iraqi. Lastly, units can train all aspects of combined arms using the CAN. The CAN uses actual Marine Corps gear such as an AFATDS, Strikelink, and PFED to communicate call for fire. Marines will be able to meet and sustain a wide variety of training objectives either in garrison or deployed. DVTE meets a much needed training requirement for many areas where there were few options for training. The end state is for Marines to be able to conduct standards-based training in a simulated environment while in garrison or deployed.

PROGRAM STATUS

Initial fielding of 38 DVTE suites was successfully completed in fiscal year 2007 with 11 suites going to I and II MEF, four suites to III MEF, and 12 suites going to various schoolhouses. Fielding down to the battalion level will be complete by the end of fiscal year 2008. The CAN is scheduled for fielding with DVTE suites beginning in June of 2008.

Procurement Profile:	FY2008	FY2009
Quantity:	54	20

Developer/Manufacturer:
Lockheed Martin, Burlington, MA, Alion/
BMH, Norfolk, VA

DISTANCE LEARNING (DL)

DESCRIPTION

Distance Learning (DL) (known as MarineNet) is the Marine Corps E-Learning Infrastructure that enables Marines to receive training and education via the appropriate interactive media, when and where the learning is needed. DL provides access to learning resources and performance support tools to a greater population of Marines. DL increases the effectiveness of training and education through use of technology. DL consists of commercial-off-the-shelf hardware and software that runs on the Navy Marine Corps Intranet (NMCI)/Marine Corps Enterprise Network. Various DL suites have been fielded to major Marine Corps bases and stations. DL components are as follows:

- Content Delivery Engines (Network Appliances that host content)
- Centralized Learning Management System for Student Administration
- Learning Resource Centers (LRC)
- Video Teletraining Training Centers
- Deployable Learning Resource Centers (DLCR)

OPERATIONAL IMPACT

DL contributes to the Marine Corps' operational readiness by providing all Marines with access to military occupational specialty and common skills training opportunities and Professional Military Education. DL capabilities fill critical gaps in the training and education continuum and can reduce the amount of time Marines are required to be away from their home duty station attending formal training. DL gives the commander a better-trained Marine while increasing personnel availability to accomplish the unit's mission.

PROGRAM STATUS

Three new LRCs will be installed in fiscal year 2008

Procurement Profile:	FY2008	FY2009
Quantity: LRCs:	3	2
Quantity: DLRCs:	0	27

Developer/Manufacturer:
NMCI Seats and Marine Corps
Common Hardware Suite (MCHS)
using multiple vendors.

HOMESTATION MILITARY OPERATIONS IN URBAN TERRAIN (MOUT) TRAINING SYSTEMS

DESCRIPTION

Homestation Military Operations in Urban Terrain (MOUT) Training Systems consist of integrated structures, sniper towers, sub-terrain features, and convoy training routes in geo-typical configurations to replicate the complexity of urban areas and small cities. Structures are multi-story and multi-configuration designs predominantly built of fabricated shipping containers.

OPERATIONAL IMPACT

Homestation MOUT Training Systems provide maneuver, live-fire, and non-live fire training spaces for Marine Air Ground Task Force Marine Expeditionary Unit and below urban operations to accomplish Level I, II, and V Predeployment Training.

PROGRAM STATUS

In fiscal year 2006 and fiscal year 2007, multiple procurement contracts were awarded to perform installation of the Homestation MOUTs according to installation plans and unit training requirements. A Marine Corps wide contract is anticipated to be awarded during 2008 meeting Homestation MOUT non-live fire and live fire requirements during the next five years. Award of effort to instrument Marine Corps MOUTs with advanced video technologies is anticipated to occur during first half of 2008.

Procurement Profile:

Fiscal year 2008-2009 efforts will continue to build out Homestation MOUTs to meet urban training requirements accomplishing the current and future Marine Corps Predeployment Training strategy.

Developer/Manufacturer:

Allied Container Systems, Anteon, Ballistics Technology Inc., others pending procurement awards.

INDOOR SIMULATED MARKSMANSHIP TRAINER – ENHANCED (ISMT-E)

DESCRIPTION

The Indoor Simulated Marksmanship Trainer – Enhanced (ISMT-E) and the Infantry Squad Trainer – Enhanced (IST-E) are three dimensional simulation based trainers for indoor use, capable of instructing in basic and advanced marksmanship, shoot/no-shoot judgment, combat marksmanship, and weapons employment tactics. The trainer consists of an Instructor Station, audio/visual system, and weapons firing positions. Each firing position is capable of operating simulated weapons that includes simulated AT4, M2 (.50 cal), M9, M16s, M240G, M203, MK19, MP5, Squad Automatic Weapon, M870 12 gauge shotgun, Shoulder launched Multipurpose Assault Weapon, M224 60mm Mortar, M252 81mm Mortar, M4s, Short Range Anti-tank Weapon (Predator), and Joint Services Combat Shotgun. The ISMT-E has four firing positions. The IST-E consists of three ISMT-E trainers connected as a single system providing fifteen firing positions. A large display device provides simulated targets. The simulated weapons fire upon the simulated targets with an indication of the round fired provided as feedback. The Instructor Station controls the training and provides feedback of the results. ISMT-E/IST-E devices also provide Forward Observer Spotting/Control of indirect fire and night vision training capabilities in addition to the baseline combat and marksmanship training features. Additionally, the ISMT-E provides night vision and optical training for various weapon sights (both magnified and

non-magnified), NV devices, and aiming lights. The optics training feature wireless weapon simulators and is focused on M16A4, M4A1, M203, M249G, and M240G weapon systems.

OPERATIONAL IMPACT

The Marine Corps has 580 ISMT systems and over 13,000 simulated weapons located within the Continental United States (CONUS) and Outside CONUS at major Marine Corps Bases, Reserve Centers, and at embassies worldwide. The system is used at schoolhouses, recruit depots, Weapon Training Battalions, Reserve units, LPD-17 class ships, and various Marine Corps units to train Marines infantry squad training, collective skills training, and indirect fire training.

PROGRAM STATUS

The ISMT-E is completing a major system upgrade that includes new processors and added optics training (ACOG, AN/PVS-7B/D Night Vision Goggles, AN/PVS-14 Monocular Night Vision Device, AN/PVS-17B/C Mini Night Vision Sight, AN/PSQ-18A Grenade Launcher, and AN/PEQ-2A Infrared Aiming Light) capability. New initiatives include enhanced training for moving targets, crew served weapon using turret ring mounts, threat weapons, and sensed M16A4 simulated weapons.

Procurement Profile:	FY2008	FY2009
Quantity:	TBD	TBD
Developer/Manufacturer:	TBD	

MARINE AIR GROUND TASK FORCE (MAGTF) TACTICAL WARFARE SIMULATION SYSTEM (MTWS)

DESCRIPTION

The MAGTF Tactical Warfare Simulation System (MTWS) is the Marine Corps' only aggregate level simulation system designed to support training of commanders and their staffs during exercises involving live and simulated land, air, and maritime forces at all operational command levels. MTWS can be used as a multi-sided war game, including red, blue, civilian, and non-aligned sides. MTWS incorporates a full spectrum of combat models including: Ground Combat, Air Operations, Fire Support, Maritime Operations, Combat Engineering, Intelligence, Logistics, and Nuclear, Biological and Chemical

OPERATIONAL IMPACT

MTWS meets USMC Title X service training needs for operational staff planning and training on C2 processes and procedures. MTWS uses realistic warfighting scenarios in a simulated environment to provide training, analysis, mission planning and rehearsal to commanders and their battle staffs. A comprehensive Af-

ter-Action Review (AAR) toolkit within MTWS provides the capability to record exercise events, conduct playback and review, and assist in developing/assessing new tactics, techniques, and procedures. MTWS' High Level Architecture interface will allow MTWS to integrate with existing high-resolution Joint simulation models and incorporate that additional functionality to further enhance training. The MTWS C4I interface affords the training audience the ability to interface with the simulation using the same C4I systems they will use in conflict.

PROGRAM STATUS

MTWS was re-instated as a program of record with RDT&E funding resuming in fiscal year 2006.

Procurement Profile:	FY2008	FY2009
Quantity:	1	1

Developer/Manufacturer:
L3-Titan, San Diego, CA

MARINE CORPS TACTICS AND OPERATIONS GROUP (MCTOG)

As directed in the CMC initial planning guidance, the USMC has established a specialized organization to provide standardized training and instructor qualifications for the Ground Combat Elements (GCE). The Marine Corps Tactics and Operations Group (MCTOG), located at the Marine Air Ground Task Force Training Center (MAGTFTC) in Twenty Nine Palms, California, will reach an initial operating capability by spring of 2008 and a full operating capability by spring 2009. The MCTOG will accomplish its assigned mission through the development and implementation of a GCE Operations and Tactics Training Program (GCE OTTP).

The mission of MCTOG is to provide advanced training in MAGTF operations, combined arms training and unit training management and readiness at the battalion and regimental levels, and to synchronize doctrine and training standards for the GCE in order to enhance combat preparation and performance of GCE units in MAGTF operations.

CMC intent for the activation of MCTOG and the establishment of the GCE OTTP is to optimize the GCE unit's preparation for and performance in combat by providing focused, advanced instruction of key individuals of the battalion and regimental staff in combined arms operations; to directly enhance and positively influence GCE-wide unit training programs and capabilities that support combined arms operations; and to assist with the identification and vetting of GCE-specific training requirements and deficiencies.

The MCTOG will be a multi-functional organization that must rapidly and continuously extract, evaluate, and integrate the emerging concepts, best practices, and evolving threats into a dynamic operations and tactics training program to facilitate the GCE unit's combat success on the contemporary and future battlefield. In developing the detailed GCE OTTP, the MCTOG will coordinate closely with both the training and education community and the operational forces to ensure that the program is the most representative, relevant, and dynamic that it can be.

The MCTOG, through the institutional establishment of the OTTP, will be organized to accomplish its mission. The OTTP is implemented and executed at three levels:

First, the centerpiece of the OTTP, is the resident course that is specifically designed to provide the advanced, focused instruction of the key individuals of the GCE battalion and regiment. By attending the course, the key individual is prepared to return to his unit as an Operations and Tactics Instructor (OTI) who develops and implements training plans and programs to prepare the GCE unit for combat operations. The OTI program includes an officer designation, a gunner designation, and an operations and fires chief designation.

The second tier of the OTTP is the operational forces support program that is specifically focused on assisting individuals and units in the accomplishment of

organizational training requirements at the battalion and regimental level. The operational force support program consists of a wide variety of training products, programs, and assistance endeavors, as requested and tailored by the assisted unit. The heart of the program is the currency of the established training standards and best practices, and the exportability of the base OTI curriculum, scenarios and simulation process.

- The final aspect of the OTTP is the wide variety of institutional support functions that the organization services in reference to the GCE and TECOM. In this respect, the MCTOG will also play a critical role in the development, implementation, and integration of emerging concepts and best practices into existing doctrine and standards, in addition to assisting with the transitioning of emerging technologies to operational units (DO, SSTR, etc).

The target audience for the resident course is the operations team at the battalion and regimental level. The central candidates are the Operations Officer, Ast/Future Operations Officer, Fire Support Coordinator, Operations and Fires Chiefs, and the Gunner. The course provides individual instruction and certification, as well as an understanding of effective operations team functioning. The central purpose of the course is to bridge the gap between the academics and limited applications of the formal school system to the technical and detailed applications of proficient unit planning, training, and operations. The course prerequisites are career level school graduate for all officers, IOCC or appropriate

operations chief course graduate for SN-COs, and CWO3/4 for the gunner. The most significant pre-requisite is that the candidate is currently / or will be shortly filling one of the key billets (operations officer, fire support coordinator, ast./future operations, chief billet, or regimental / independent battalion gunner.

The OTI will return to his unit as an expert in unit planning, operations, and training, within the construct of a joint, interagency, MAGTF fight:

- From a planning perspective, the OTI will return with detailed knowledge and experience in applying the MCPP process, leading the OPT, executing and supervising the orders process, and coordinating the final plan for execution. The OTI will return with a detailed and vetted planning SOP to support future unit operations and training.
- From an operations perspective, the OTI will understand how to leverage and coordinate joint, interagency, and non-organic MAGTF support of the integrated GCE operation, using the appropriate procedures, systems, and networks. The OTI will return with a detailed and vetted Command Post SOP to support future unit operations and training.
- From a training perspective, the OTI will understand the conceptual and technical procedures of UTM and training management /readiness, but more importantly will have a detailed understanding of the institutional training programs and systems to support his training and combat preparation requirements. Virtually all of the courses training and exercise products will be exportable to support unit training, upon his return to his unit.

The MCTOG will execute a four-phased activation campaign plan that incrementally leads to a full operational ca-

capacity by January 2009. Each anticipated phase is segmented with the supporting critical tasks to move to the next phase. The unit campaign phasing approach is as follows:

- **Phase I – Setting Conditions (Current-February 2008).** This phase is focused on planning and coordinating the physical stand-up of the organization, the establishment of operating procedures to support command functioning, the development of the curriculum and the faculty, and the establishment of unit specific facilities. During this phase the unit will move from an initial manning of 20 (5 MO/15 ME) to a manning level of 39 (14 MO/25 ME) to support the training of the core staff and faculty to execute the BETA and the Pilot courses. From a facilities perspective, the immediate facilities plan is focused on the use of existing infrastructure for staff space, and the modification of an existing warehouse to a battle lab facility to support classes, planning, and simulation. Concurrent to the manning and facilities process, the key staff will continue with the development of the core curriculum, exercise design, course execution, and instructor development process.
- **Phase II – Proof of Concept (March-June 2008).** This phase is focused on the transition from curriculum and course development to proof of concept through the execution of a BETA course and a pilot course. Concurrent to the execution of these courses, the unit will complete fiscal year 2008 manning (21 MO / 27 ME) to support transition to the next phase. During this period, the interim modular facilities will be completed to support mid-term facilities requirements (class room, staff, battle lab, etc) until the completion of permanent MILCON project.
- **Phase III – Expanded Capability (July 2008-January 2009).** The instructor development program continues as a recurring process through phases II and III to prepare newly joined unit members as certified faculty. During Phase III, MCTOG simultaneously conducts scheduled resident courses, implements the operational forces support plan, and commences institutional support functions (T&R syllabus management, concept and equipment transition, etc) as specified.
- During **Phase IV**, the command completes manning, refines resident course, fleet support and supporting functions as it shifts to sustained operations.

MISSION-CAPABLE TRAINING RANGES

Marine Corps combat readiness depends on the continued availability of ranges and training areas (RTAs) that provide realistic, mission-oriented training. The Marine Corps Master Plan of 1997 highlights the importance of RTAs, as well as the need to properly develop and manage these key resources. The Marine Corps vision for installation and range transformation is contained in Marine Corps Installations 2020 (I-2020). A range-specific master plan is in the early stages of development and, in support of that effort, the Marine Corps Training and Education Command (TECOM) has completed an assessment of Corps-wide range requirements. The final product of this effort, a Marine Corps Reference Publication, will provide a set of unconstrained range capability requirements for accomplishing urgent and anticipated future training.

TECOM has established six cornerstone objectives for transforming RTAs, including:

- Preserve and enhance the live-fire combined arms training capabilities of Marine Corps Air Ground Combat Center/Marine Air Ground Task Force (MAGTF) Training Command, 29 Palms, CA, and Marine Corps Air Station, Yuma Range Complex, AZ.
 - Recapture the MAGTF and unit training capabilities of the nation's two premier littoral training areas, Camp Lejeune, NC, and Camp Pendleton, CA.
 - Leverage technology to support every level of training with a goal of providing timely and objective feedback to the training audience.
 - Honor our commitments to protecting the environment, while preserving and enhancing our ability to conduct live-fire and maneuver training.
- Ensure that our training complexes are available to, and capable of supporting, cross-Service training.
 - Support the emerging Joint National Training Capability with the common range infrastructure and systems architecture to ensure effective joint training.

There have been significant investments in range instrumentation, targets, and simulation technologies to upgrade and modernize training. However, there remain areas of significant concern. Current range-complex configurations are not optimal for today's training requirements, and they may not be adequate for future weapons systems. Of even greater concern, they provide insufficient unconstrained maneuver space for MAGTF training. Current range-planning initiatives aim at addressing these concerns to assure our ability to meet future training requirements. Specific issues include:

- Marine Expeditionary Brigade (MEB)-level fire and maneuver training area.
- MAGTF (MEB-level) Military Operations in Urban Terrain (MOUT) facility (large-scale MOUT).
- Convoy operations and counter-improvised explosive device (IED) courses.
- Video-capture, reactive targetry, and AAR capabilities.

The Marine Corps has made considerable progress in the past seven years on cataloging, assessing, managing, and funding critical RTA complexes. There has been progress in identifying and quantifying the impacts of encroachment and then incorporating those assessments into a comprehensive range management system. Important investments have been made to enhance range maintenance and

modernization programs. Currently, all major Marine Corps installations are undergoing range modernization. The Corps is ever aware of the Service's dual responsibilities of providing stewardship for these precious resources and producing ready, well-trained Marines when America calls.

PRE-DEPLOYMENT TRAINING IN SUPPORT OF OPERATIONS IRAQI FREEDOM AND ENDURING FREEDOM

In order to train operating forces for the current operating environments, Operations Iraqi Freedom and Enduring Freedom, TECOM has developed the Pre-deployment Training Program (PTP). The PTP consists of three distinct training exercises: Mojave Viper (MV), Desert Talon (DT), and Mountain Warrior (MW).

MOJAVE VIPER

Conducted aboard the Marine Air-Ground Task Force Training Command (MAGTFTC) in 29 Palms, CA, it consists of 14 days of combined Arms Training (CAT), 10 days of Urban Warfare Training (UWT), and six days of unit specific training. CAT includes the following live fire events: platoon and company attacks, convoy operations course, combat patrol course, and Fire Support Coordination Exercises which integrate supporting arms, the Fire Support Teams, and ground maneuver. UWT includes Squad/Platoon/Company level lane training and a three-day Final Exercise based on current operating environment. The unit training block enables the exercise force to accomplish unit Mission Essential Tasks (METs) which leads to certification for deployment.

DESERT TALON

Conducted aboard MCAS Yuma, local ranges and nearby towns by Marine Aviation Weapons and Tactics Squadron One (MAWTS-1), it is a two-week training exercise designed to prepare Marine Corps ground/aviation units for deployment to Operation Iraqi Freedom. It is broken down into an academic phase (four days) and a flight phase (seven days). During the academic phase a series of classroom presentations, lectures, guest speakers, and informal discussion groups focusing on Operation Iraqi Freedom lessons learned in force protection, convoy support, casualty evacuation (CASEVAC), MOS TTPs and SOPs, and aircraft survivability. The flight phase includes training such as convoy operation support, urban CAS, tactical recovery of aircraft and personnel (TRAP), forward air controller, and CASEVAC training.

MOUNTAIN WARRIOR

Conducted aboard the Mountain Warfare Training Center in Bridgeport, CA specifically for units deploying in support of Operation Enduring Freedom. MW is a two-week training exercise broken into four phases: Pre-environmental, survivability and mobility, small-unit and company/MAGTF operations.

ROLE PLAYERS AND CIVILIANS ON THE BATTLEFIELD

DESCRIPTION

The urban battlefield has Marines encountering a myriad of activity to include host nation civilians in their daily activity. Role Players portraying Civilians On the Battlefield (COB), insurgents, and other personnel encountered in operations are utilized to provide fidelity, depth, and cultural realism in training. They constitute the population which fills Military Operations in Urban Terrain training facilities and systems thereby making them an urban location.

OPERATIONAL IMPACT

Role playing efforts allow Marines to interact with culturally correct personnel during training. Exercise Planning tools are currently in development by the Range Modernization and Transformation program that will additionally track second and third order effects of interactions with role players thereby adding even more depth to their present roles. These efforts help Marines better understand small and large cause-and-effect relationships in operations and reinforce all aspects of cultural training delivered by other training venues.

PROGRAM STATUS

Centralized contracts are awarded to implement Role Players into Operation Iraqi Freedom/Operation Enduring Freedom Predeployment Training at MAGTF/TC, homestations, and other training venues.

Procurement Profile:
 Future year funding allows the Marine Corps to continue Role Playing activities within Pre-Deployment Training.

Developer/Manufacturer:
 Tatitlek Training Support Services, Defense Training Services

SUPPORTING ARMS VIRTUAL TRAINER (SAVT)

DESCRIPTION

The Supporting Arms Virtual Trainer (SAVT) shall advance the training capability, operational readiness, and tactical proficiency of Joint Terminal Attack Controllers (JTACs), Forward Observers (FOs), and Forward Air Controllers (FACs). The personnel shall use training scenarios that require the placement of tactical ordnance on selected targets using Joint Close Air Support (JCAS) procedures and observed fire procedures for Naval Surface Fire Support, artillery and mortar fire to perform destruction, neutralization, suppression, illumination/coordinated illumination, interdiction, and harassment fire missions.

OPERATIONAL IMPACT

The SAVT will train JTAC and FOs the tactics and techniques required for accomplishing call for fire and CAS missions. The SAVT systems will provide an immersive mission-based training environment for two students training in the application of combined arms and a briefing room training environment for a group of students monitoring and reviewing the mission-based training event. It has been accredited by the JCAS Executive Steering Committee for use to replace up to one-third of the annual live controls required to maintain annual qualification for JTACs and FACs in accordance with JTAC Memorandum Of Agreement and Service-level standards.

PROGRAM STATUS

An Urgent Universal Need Statement was approved in December 2006, followed by an approved Marine Requirements Oversight Council Decision Memorandum, signed 5 April 2007, for training JTACs and FOs. The SAVT will leverage from an existing Navy program, Multipurpose Supporting Arms Trainer. Six SAVT systems will be procured to replace the Training Set Fire Observation trainers. The SAVT systems will be fielded to Camp Pendleton, CA, 29 Palms, CA, Camp Lejeune, NC, Okinawa, Japan, Kaneohe, HI, and Yuma, AZ starting 3rd quarter 2008.

Procurement Profile:	FY2008	FY2009
Quantity:	1	5

Developer/Manufacturer:
TBD

TRAINING AND EDUCATION TRANSFORMATION

All training and education (T&E) programs are evaluated as parts of a career-spanning continuum. The T&E Continuum is a template for a systematic review of all individual and unit T&E initiatives, including entry-level training (such as military occupational specialty (MOS), schools), skill progression training, professional military education (PME), common skills training, and unit training. Skill progression training diminishes over time, while professional military education increases as Marines progress through the ranks. Experience is the ever-present constant that determines the rate at which a Marine trades skill progression training for professional development and PME. The Continuum provides perspective focus and balanced T&E development.

Training and Education Centers of Excellence (TECOEs) are responsible for linking all training and education programs to the Continuum. TECOEs are categorized as MOS-specific centers; skill centers, such as martial arts and marksmanship; climate/geographic centers, such as the Mountain Warfare Training Command (MWTC); or functional centers, such as the Marine Aviation Weapons and Tactics Squadron (MAWTS) and Marine Air Ground Task Force Training Command (MAGTFTC).

A continuing review of entry-level training has resulted in efficiencies saving hundreds of manpower training years. Further review will identify additional T&E gaps, redundancies, and opportunities. Resulting improvements will raise in-

dividual and collective combat readiness.

TECOEs are also responsible for developing a key element of the T&E Continuum: the MOS Roadmap. Founded on doctrine, core competencies, and operational requirements, the Continuum is the cornerstone of training for every Marine.

MARINE CORPS MOS ROADMAPS

MOS Roadmaps provide a guide for Marines through the Training and Education Continuum. At a single source, the individual Marine will have access to general and specific career training, education requirements, and opportunities across the Continuum. From Private to Master Gunnery Sergeant/Sergeant Major and from Second Lieutenant to General, the MOS Roadmap assists Marines in successfully navigating their tour of duty. Roadmaps display requirements of the MOS Manual in addition to other elements, including skill progression training, PME, billet assignment/unit training, and voluntary education. A significant benefit of MOS Roadmaps is that they provide mentors and leaders a “map” for counseling junior Marines on career training and education.

Draft editions of MOS Roadmaps were initially published on the Training and Education Command (TECOM) website beginning in May 2004. Additionally, Marines completing MOS schools are provided hard copies of current Roadmaps. Roadmaps are changed as requirements demand.

USMC OPERATOR DRIVING SIMULATOR (USMC-ODS)

DESCRIPTION

The USMC-Operator Driving Simulator (ODS) is an operator's driver simulator with a generic cab system that has the capability of various training tactical wheeled vehicles. Currently, the USMC-ODS simulates the High Mobility Multi-purpose Wheeled Vehicle (HMMWV, M1114 variant), Medium Tactical Vehicle Replacement (MTVR), and MTVR Armor System (MTVR MAS), and Mine Resistant Ambush Protected Vehicles (MRAP CAT I). The USMC-ODS is a single fixed based system with three visual channels and seat motion with three degrees of freedom. The ODS system consists of four major components: simulated truck cab, visual system, instructor operator station, and electronics cabinet. The mobile configuration is housed in a self-contained mobile trailer with electrical connection for shore based power, air-conditioning, heating and lighting necessary to conduct ODS training inside the trailer. The fidelity of the systems provides trainees with realistic experience operating the selected tactical wheeled vehicle during both on-road and off-road conditions in a variety of scenario based environments.

OPERATIONAL IMPACT

The USMC-ODS is used by all Marine organizations (operating forces and Marine Forces Reserves) for initial driving orientation, augmenting road miles for licensing requirements, sustainment and refresher training. These systems provide trainees the opportunity to experience various driving scenarios and reaction skills in a controlled environment.

PROGRAM STATUS

The USMC-ODS is currently fielded to home stations at Camp Lejeune, NC and Camp Pendleton, CA. In CY2008, III MEF will receive USMC-ODS systems in Hawaii and Japan. In support of pre-deployment training, an USMC-ODS is available at Mohave Viper, 29 Palms, CA. Marine Reserves have several USMC-ODS systems fielded (Las Vegas, NV; Red Banks, NJ; and Erie, PA) or scheduled for fielding during CY 2008 (Ebensburg, PA, Great Lakes, IL, Seattle, WA, Fort Worth, El Paso, TX, Orlando, FL, and Portland, OR).

Procurement Profile:	FY2008	FY2009
Quantity:	12	10

Developer/Manufacturer:
FAAC, Inc. Ann Arbor, MI

VIRTUAL COMBAT CONVOY TRAINER – MARINE (VCCT-M)

DESCRIPTION

The Virtual Combat Convoy Trainer – Marine (VCCT-M) is a mobile, self-contained and self-supporting trailer to train Marines and tactical leaders in convoy operations. The VCCT-M trains Marines in basic and advanced combat convoy skills using variable terrain and roads in a variety of weather, visibility and vehicle conditions. This training system enables crews and convoy elements to train repetitively, safely, and efficiently in a realistic manner aboard a mock-up High Mobility Multi Wheeled Vehicle (HMMWV) using simulated small arms and crew served weapons, with a 360 degree field of view visual display.

OPERATIONAL IMPACT

A VCCT-M will support training requirements in a virtual environment for combat, combat support, and combat service support units at Marine Reserve Training Centers (RTC). The VCCT-M immerses the crews and convoy elements in a realistic environment allowing repetitiveness, review, and critique, while eliminating the requirement for actual vehicles, weapons, ammunition, communication gear, batteries, fuel, and tactical maintenance items.

PROGRAM STATUS

The Commander Marine Forces Reserve (CMFR) procured one VCCT-M suite (4 trailers) that is currently operating at Camp Wilson, 29 Palms, CA. CMFR also procured a VCCT-M half suite (2 trailers) first quarter 2006. This half suite is being relocated to RTCs throughout the Continental United States to support Reserve Component training. In addition to VCCT-M, the CMFR procured two Reconfigurable Vehicle Simulators, which will be used for convoy training and will interoperate with the existing VCCT-M. These two systems are also mobile trailers, but incorporate two mock-up HMMWVs in a single trailer. The CMFR will take delivery of these two trailers in 2nd quarter 2008.

Procurement Profile:	FY2008	FY2009
Quantity:	TBD	TBD

Developer/Manufacturer:
TBD

FACILITIES MANAGEMENT

The Marine Corps has over \$38 billion worth of facilities used to train, house and provide quality of life for Marines. Examples of these facilities are barracks, runways, sewage treatment plants, roads, and electrical lines. These facilities are used to perform mission essential tasks, and they need to be appropriately maintained. Adequately sustaining required facilities should be the highest facilities management priority.

There are several tools in place or in development to ensure facilities readiness:

- Facilities Sustainment model: an Office of the Secretary of Defense (OSD) model to calculate annual costs to preserve facility condition. We are currently funding to 90% of the model, highest of the four Services.
- Shore Facilities Planning System: a Department of the Navy system used to align force structure with facility size. This model not only allows us to estimate new facilities requirements but also evaluate when we can demolish unneeded facilities.
- Facilities Modernization model: an OSD model in development which will help estimate the replacement investment in facilities.
- Facilities Operations model: an OSD model in development that will help estimate the cost of facilities support to include utilities, fire protection, janitorial and engineering management. Accurately estimating these relatively fixed costs is key to planning facility expenditures.

BARRACKS INITIATIVE

As the Marine Corps has invested substantially to improve Family Housing, it has also focused on similar standard of living improvements for single enlisted Marines. Plans are in place to invest roughly \$2.5 billion dollars in the next few years on bachelor housing construction, improvements and furnishings. We have also invested, and will continue to invest, countless hours of leadership time in improving all aspects of single enlisted Marines' quality of life.

ALMAR 106/98 addressed the need for policies that properly assign Marines to rooms/spaces, articulate visitation

procedures, allow responsible alcohol consumption, and establish guidance on proper room decorum. The Bachelor Enlisted Quarters (BEQ) Campaign Plan has been updated to provide a common roadmap for management of our BEQs. It takes into consideration change in barracks design and billeting configurations, and clarifies the Commandant's intent to provide an atmosphere that supports unit development and cohesion while respecting barracks as the home of single Marines.

MILITARY CONSTRUCTION SUPPORTING GROW THE FORCE

Upon reexamination of the Marine Corps' structure and manning relative to its expected long term mission needs, President Bush approved a permanent end strength increase of 27,000 Marines, from the base of 175,000 to 202,000 Marines. To ensure that these Marines have adequate facilities in which to live and work, the President's fiscal year 2007 Supplemental request included \$324 million

to accomplish critical path infrastructure projects. This effort was continued with the President's fiscal year 2008 Global War on Terrorism (GWOT) request of \$169 million and the President's fiscal year 2008 budget request of \$458 million. The balance of this investment, including military construction and family housing, is being aggressively programmed.

RANGE MODERNIZATION/TRANSFORMATION (RM/T)

DESCRIPTION

The Range Modernization and Transformation (RM/T) program modernizes major Marine Corps base and station live training ranges with a dynamic training system capable of real time and post mission battle tracking, data collection and the deliverance of value added After Action Review. Interface with installation command and control training centers (i.e. Battle Staff Training Facility, Combined Arms Staff Trainer, Battle Staff Simulation Center). It is paramount to producing multiple scenario events that deliver relevant and realistic training. Integrating live and simulated training technologies, the fielded capabilities actively enhance live-fire, force-on-target, and force-on-force training through extensive after action review with ground truth feedback (objective versus subjective), realistic representation of opposing forces (OPFOR) and enhanced range and exercise control capabilities.

OPERATIONAL IMPACT

RM/T links Marine Corps live training to the tenets of Training Transformation (T2) – Joint National Training Capability and Joint Assessment and Evaluation Capability. Instrumentation allows Service and Joint virtual and constructive forces to interact with Marine Corps live training forces from distributed locations. Eventually expanded to also incorporate coalition forces, Marine Air Ground Task Force live training in open and urban terrain is enhanced by providing capabilities to conduct realistic training which exercises all battlefield operating systems, and

by allowing continuous assessment of performance, interoperability, and identification of emerging requirements.

PROGRAM STATUS

In fiscal years 2004, 2005, and 2006, contracts were awarded to develop and produce ground and air position location systems, OPFOR threat systems, and Data Collection Systems in order to instrument the live training environment at MCAGCC, Twentynine Palms, CA during 2008. Additionally, standalone and deployable instrumentation capabilities are being fielded to homestations during 2008. A current parallel effort is enhancing the RM/T Data Collection System to provide interface of improvised explosive device and Counter Radio-controlled Improvised Explosive Device Electronic Warfare System surrogate devices with live training audiences and to extend the Data Collection System functions from exercise design through playback and After Action Review. Currently fielded portions of this effort include the Reactive Information Propagation and Planning for Lifelike Exercises and Combined Arms Planning Tool software applications.

Procurement Profile:

Fiscal year 2007-2012 funding will allow this capability to be fielded throughout the Marine Corps.

Developer:

Concurrent Technology Corporation, Georgia Institute of Technology Research Institute, SRI International, UNITECH, others pending procurement awards.

ENCROACHMENT CONTROL

Encroachment is defined as any external force that causes the loss of military readiness, including the loss of use of land, air and sea space as well as the frequency spectrum. Monitoring, evaluating, and responding to encroachment is critical to ensuring bases, ranges and airspace are available to support mission readiness now and in the future. The Sustainable Ranges Initiative is a process that integrates all aspects of installation and range/training area management, and provides for the installations' and the

regions' long-term viability and ability to support realistic training. The Marine Corps is proactively engaged with federal, state, and local governments, as well as non-governmental organizations to develop mutually satisfactory solutions to encroachment pressures that will allow compatible land use and environmental protection without degrading military mission readiness.

ENVIRONMENTAL STEWARDSHIP

Excellence in warfighting requires unencumbered access to the land, sea, and airspace needed to conduct quality, realistic training. Unless properly managed, Marine Corps land, sea, and airspace resources can become damaged to the point where realistic training is degraded. Effective environmental management ensures mission readiness by allowing the Marine Corps to sustain and enhance these training assets, while protecting the health of our citizens and the valuable resources entrusted to us by our nation.

While compliance with applicable laws and regulations is as important as ever, the Marine Corps enhances mis-

sion capabilities through a systematic approach to environmental management that promotes use of integrated land management principles and pollution prevention. To ensure that frequent, repeated use of land for readiness purposes can be sustained, each installation prepares and implements an Integrated Natural Resources Management Plan and Integrated Cultural Resources Management Plan. The Marine Corps also seeks ways to reduce pollution through material substitution, best management practices, and training Marines and civilians to perform their jobs in an environmentally sound manner.

ENERGY CONSERVATION

The purchase of electricity, natural gas, heating fuels, and potable water necessary to operate facilities represents a significant expense to the Marine Corps. In addition, the Energy Policy (EP) Act of 2005 and Executive Order (EO) 13423 are in place to support national goals to reduce both greenhouse gas emissions associated with the burning of fossil fuels and our nation's dependence on foreign oil. Specifically, EO 13423 mandates Federal agencies to reduce Energy Intensity by 3% annually (30% by 2015) relative to 2003 baseline and reduce Water Consumption Intensity by 2% annually (16% by 2015) relative to 2007 baseline. In order to improve the energy and water efficiency of its existing buildings, incorporate sustainable design principles in the construction of new buildings, and increase

the use of renewable energy technologies, the Marine Corps is:

- Utilizing Energy Savings Performance Contracts and Utility Energy Service Contracts to develop and implement cost effective: (1) energy and water conservation measures, (2) renewable energy technologies such as biomass, geothermal, solar, and wind, and (3) electrical load shedding and demand reduction strategies.
- Complying with EPA Act 2005 requirements to meter buildings and to procure energy consuming products that are ENERGY STAR®-qualified or Department of Energy Federal Energy Management Program (FEMP) designated (upper 25% of energy efficiency in their class).
- Requiring new building construction and major renovations to achieve a U.S. Green Building Council's Leadership in Energy & Environmental Design rating of Silver to the extent practical and cost effective.

GARRISON MOBILE EQUIPMENT (GME) FLEET MANAGEMENT SYSTEM (FMS)

The Marine Corps has implemented an enterprise-level commercial vehicle fleet management system to efficiently operate its Garrison Mobile Equipment (GME) fleet. FleetFocus™ FA is a comprehensive, Web-enabled, Windows-based Fleet Management System (FMS) that can track an unlimited number of GME assets and support an unlimited number of workstations in multiple locations. This system provides comprehensive recording and reporting of GME fleet management data in order to maximize the efficient use of Marine Corps commercial vehicle assets.

The Marine Corps now has an unprecedented view of enterprise-wide GME utilization and maintenance costs. This capability supports annual GME procurement/lease decisions and forecasting future GME requirements. This database and reporting capability is supporting GME regionalization on the east and west coasts of CONUS, eliminating redundant overhead and improving uti-

lization of transportation requirements. This initiative has also returned 242 Marines to the Operating Forces. Through the use of FMS and application of lessons learned, underutilized vehicles have been removed from service keeping the overall size of the fleet in check. Additionally, the Marine Corps has maintained GME service levels despite conflicting demands of reduced petroleum consumption while supporting increased operational tempo.

Future capability enhancements include 1) expanding the FMS capability to the maintenance shop level in order to capture maintenance activity at the point of 'sale', improving data accuracy and timeliness and 2) interfacing with, or transition into, a future block of Global Combat Support System-Marine Corps when it supports Installation logistics functions.

QUALITY OF LIFE (QOL)

With priority placed on our Marines and Sailors in combat, the Marine Corps continues to focus on key impact areas to improve quality of life. Today's Marines carry on our long legacy of selfless service to the Nation and the Marine Corps honors its commitment to these warriors by ensuring they have the tools and resources to secure family readiness at home.

Last year, the Marine Corps embarked on an aggressive plan of attack to ensure our family readiness programs have fully transitioned to a wartime footing, capable of sustaining Marines and families for the Long War. The plan began with rigorous program assessments. These assessments concluded that our family support programs and processes were in need of updating to withstand the demands of our current multiple and sustained deployments. Our family readiness programs were based upon a peacetime model, with an insufficient military infrastructure, excessive reliance on volunteers, and outdated communication processes. The assessments also yielded valuable data from key family readiness stakeholders, such as Marines, families, commands, and service providers. From this data we developed and began implementation of recommendations to fully transition our Marine Corps Family Team Building (MCFTB) and Unit Family Readiness Programs to a wartime footing with stronger communication linkages and focus on helping Marines ensure personal and family readiness throughout mission, career, and life events.

Focal points of new Marine Corps family readiness functions include: a formalized relationship of all family readiness process owners to ensure their accountability and orient them to helping the individual Marine and family; expanded MCFTB programs to support the new Marine Corps family dynamic: "born into, sworn into, married into" (support extends to Marine, spouse, child, and parents), increased installation MCFTB staff; improved technology to enhance communication between commands and families; expanded training capabilities to include lifeskills education and training; and a significant reduction in the heavy reliance on volunteers. Fundamental to the success of the new family readiness capabilities is consistent communication among all individuals affected. For maximum impact and usage of the sweeping new capabilities, we are backing them with a sustained and extensive outreach campaign especially for our young family demographic.

The individual Marine, fully supported by a Unit Family Readiness Program Command Team (including the commander, executive officer, sergeant major, chaplain, and family readiness officer) and refreshed MCFTB installation support functions, is accountable for his/her personal and family readiness. The Unit Family Readiness Program Command Team provides support in the form of official communication, information and referral, and Marine and family readiness and deployment support. MCFTB

assists the Marine and unit by providing programs, services and especially key training necessary to meet successfully the challenges of the military lifestyle and mission requirements of the Marine Corps.

Just as every Marine makes a commitment to the Corps when they earn the title Marine, the Corps makes an enduring commitment to every Marine – and an enduring commitment to their family.

TAKING CARE OF MARINES AND FAMILIES

Marines make a commitment to the Corps when they earn the title Marine. The Corps makes an enduring commitment to every Marine—and an enduring commitment to their family to take care of our own. The Commandant's Planning Guidance of October 2006 defined the priorities and focus of the 34th Commandant. With the priority of Marines and Sailors in combat, improving quality of life for our Marines and our families was identified as a specific focus area.

During 2007, a series of functional assessments was conducted for the purpose of documenting service levels and evaluating the current state and sufficiency of Marine and family support programs aboard installations and at unit levels. We also collaborated with sister services and other public or private organizations to learn about their programs and service delivery methods. We augmented our assessments with customer feedback gained from thousands of Marines and their families who participated in on-line customer surveys or freely commented on issues and satisfaction with existing support at town halls or focus groups Marine Corps-wide. From our internal assessments and external collaboration we were able to identify best of breed and best of class opportunities that could be integrated throughout the Marine Corps, as well as program deficiencies.

In hearing the concerns of family members and Marines alike, the Commandant authorized key Marine and family readiness program reforms to transition Family and Single Marine Pro-

grams beginning in 2008 and continuing through 2009. Initiatives are underway to invest in Marine and family support programs by increasing staffing, exploiting technology, refreshing and expanding the scope of programs, and addressing the generational needs of Marines and their families. Specific reform will be focused on advancing capabilities to meet the needs of our junior Marines and families of the Millennial Generation.

Inherent to our program changes is the intent to create a continuum of care for our Marines and their extended families. Therefore, our program capability must include and address the needs of the families Marines were born into, sworn into, or married into. This focus of effort is important as our families are not as hardened as our warrior Marines and more significantly feel the impact of stress on the force. To strengthen our families, availability of care must be consistently established to support the lifecycle of a Marine and through their mission, life, and career events.

Programs under redesign or enhancement include those that most directly touch and help prepare or support Marines and their families including: Unit Family Readiness Program, Marine Corps Family Team Building Program, Exceptional Family Member Program, School Liaison Program, and Children, Youth and Teen Program. As a companion effort, we will take additional action to address quality of life deficiencies at remote and isolated installations, expand communication connections between

separated Marines and their families, and make needed improvements to quality of life facilities, infrastructure and equipment throughout the Marine Corps.

Family readiness is a component of mission readiness. The Commandant has

listened to his Marines and their families and taken action. Through these actions and others, the Marine Corps' quality of life will be enhanced and appropriately sustained into the future.

WOUNDED WARRIOR REGIMENT (WWR)

Formed in April of 2007, the Wounded Warrior Regiment (WWR) integrated the roles and functions of the Marine Corps' former Marine For Life (M4L) program and immediately began to assume responsibilities for non-medical wounded warrior care. The Regimental Headquarters element, located in Quantico, Virginia, coordinates the operations of two Wounded Warrior Battalions located at Camp Pendleton, California, and Camp Lejeune, North Carolina. The Regimental Headquarters is striving to eliminate any seams in the medical recovery system by providing unity of command and effort through a single commander who provides guidance, direction, and oversight to the Marine Corps wounded warrior process. The WWR also has command over Military Treatment Facilities' Patient Affairs Teams (PATs), Marine Corps liaisons at Department of Veterans Affairs Polytrauma Rehabilitation Centers, District Injured Support Cells (DISCs), Naval Hospital Liaisons, and M4L Hometown Links.

The mission of the WWR is to provide and facilitate assistance throughout the phases of recovery to wounded/ill/injured Marines, Sailors attached to or in direct support of Marine units, and their family members. In addition to the Regimental and Battalion staffs, this effort is facilitated through the dedicated on-site PATs and through regional DISCs who conduct visits and telephone outreach to Reserve and former Marines dispersed throughout the country. This effort is also accomplished through close coordination



with Inspector-Instructor sites that assist in the patient affairs mission at civilian hospitals where no PAT is located. This structure facilitates face-to-face contact when providing program information and assistance to service members, family and medical facility staff.

Some of the common assistance provided include:

- Helping wounded Marines through medical and physical evaluation boards;
- Assisting wounded Marines in making Traumatic Servicemembers Group Life Insurance claims;
- Acting as a clearinghouse for charitable donations;
- Working to ensure accountability and non-medical case management during recovery for wounded warriors;
- Ensuring that injured receive the same level of medical care regardless of geographical location;
- Oversight of the transition from Department

of Defense (DoD) care to Department of Veterans Affairs care;

- Facilitating employment opportunities through the coordinated efforts of the Department of Labor and M4L Hometown Links.

Close working relationships with other governmental agencies is an important aspect of solving the problems of our wounded, ill, and injured Marines and Sailors. With this in mind, the WWR has maintained a staff member with the DoD's Military Severely Injured Center to access DoD resources, has two field grade officers at the Headquarters of the Department of Veterans Affairs' Federal Recovery Coordinator's Office to facilitate the transition process and the receipt of benefits, and has both a Department of Labor representative and a Department

of Veteran Affairs representative at the Regimental headquarters to work in the newly established Transition Assistance Cell to find jobs for transitioning wounded warriors.

Communication is another critical element in identifying and resolving problems encountered by our wounded, ill, and injured Marines and Sailors. The Wounded Warrior Call Center will receive calls from these Marines and Sailors and their families and conduct outreach calls to those wounded, ill, and injured since 2001. Additionally, a 1-800 number has been established in Landstuhl, Germany, for families to contact their Marines and Sailors medically evacuated out of theater.

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