



U.S. MARINE CORPS  
CONCEPTS & PROGRAMS

2009

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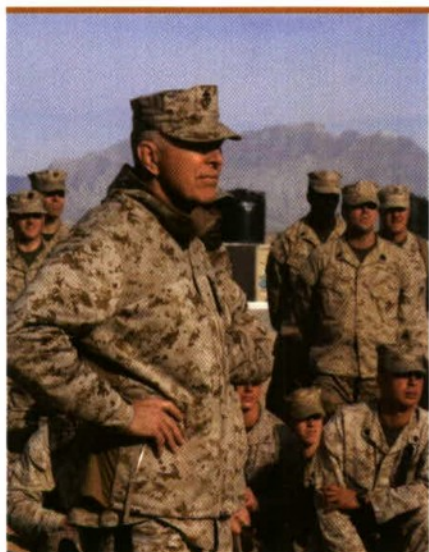


# CONCEPTS & PROGRAMS



U.S. MARINE CORPS

2009



### A Message from the Commandant of the Marine Corps

We offer this 2009 edition of *Concepts and Programs* as a current picture of the state of the Marine Corps. It reviews our current exercises and deployments and describes how we fight — our operating concepts and the organization of our forces. It contains our vision of the future and the strategic direction of the Marine Corps. It reflects current information on our programs of record and our major end item equipment. Finally, it includes our annual almanac, which contains a digest of facts and figures on our personnel and budget.

We pride ourselves on being good stewards of the resources provided by Congress. That starts with taking care of Marines and their families — our number one priority. We offer the Nation's sons and daughters the opportunity to serve a cause greater than themselves. In the crucible of war, their performance has been magnificent. They have added new pages to the illustrious battle history of our Corps.

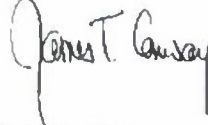
Innovation and fiscal responsibility are hallmarks of the Corps. In our ground and aviation programs, we continue to test, develop, and pursue the procurement of dual-use equipment. We look for new ways to employ emerging technology.

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Our recent publication of *Marine Corps Vision and Strategy 2025* describes a balanced, multicapable expeditionary force. To Marines, expeditionary means fast, austere, and lethal — with an emphasis on austere. We must be able to get out the door fast, deploy where there is no infrastructure, and operate with lethality. Our statutory responsibility is to be an air-ground force in readiness, capable of operating across the full range of military operations.

Change is one thing that is certain about the future. Populations and demographics in the world will shift, and peer competitors to the United States may rise. Threats to our way of life will remain. Our enemies will adapt their tactics and techniques. However, we enthusiastically accept the challenge of eternal vigilance — in defense of this great Nation.

Semper Fidelis,

A handwritten signature in black ink that reads "James T. Conway". The signature is written in a cursive style with a large, prominent initial "J".

James T. Conway  
General, U.S. Marine Corps

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# 2009 U.S. MARINE CORPS CONCEPTS & PROGRAMS

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**CHAPTER 1**

## **THE U.S. MARINE CORPS: READY TODAY...MORE CAPABLE TOMORROW**

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Marines exist to meet the security needs of the Nation, and in early 2009 we confront complex and difficult security challenges world wide. America's Marines are intensely engaged in conflict response, which is characterized by central campaigns in Iraq and Afghanistan, as well as by diverse and sustained engagement around the globe through numerous theater security cooperation, humanitarian-assistance and disaster-relief actions. The Corps' primary role in all these operations is to provide combined-arms operating forces, including integrated aviation and logistical components, for service as part of a naval expeditionary force. Marine forces significantly magnify the projection capabilities of U.S. naval forces, ensuring that they remain influential in peacetime, compelling in crisis and decisive in war.

During the past year, Marines were engaged throughout the Central Command's Area of Responsibility (AOR), in support of Operations Enduring Freedom and Iraqi Freedom (OEF/OIF). The resourcefulness and versatility of our Marines has enabled our forces in Iraq to conduct major combat operations, engage in stability and security operations, and transition to counterinsurgency (COIN) operations. The Marine success in Anbar province along with the "Surge" in Iraq reinforced hard-won successes and allowed Iraqis to take responsibility for maintaining their own security. In al Anbar province, Iraqi security forces are now in charge and, in a very real sense, this is a model for what is taking place throughout the rest of the country. While we must remain



cautious and ready to respond to spasms of violence, Al-Qaeda in Iraq is clearly on the run.

As violence subsides in Iraq, we are experiencing a different situation in Afghanistan. There, the Taliban has increased and expanded its attacks on coalition forces, which calls for an expanded commitment of Marine forces. We face an enemy and operating environment that are different than that in Iraq, and Marines are adapting accordingly. Nearly 2,600 Marines are deployed to various regions throughout Afghanistan — either as part of Special Purpose Marine Air Ground Task Force (SPMAGTF)–Afghanistan or as members of Embedded Training Teams or Individual Augmentees. The Embedded Training Teams live and work with the Afghan National Army and continue to increase the Afghan National Army’s capabilities as they grow capacity. As attacks against the Afghan people and their fledgling democracy intensify, we must be postured for an extended campaign.

The Marine Corps also deployed forces in numerous theater security cooperation tasks, from small Mobile Training Teams in Central America to MEU exer-

cises in Africa, the Middle East, the Pacific Rim. America’s Marines also supported civil-military and humanitarian-assistance operations throughout the world. During the last two years, the Marine Corps-Navy team has brought relief to thousands of people devastated by tsunamis, cyclones and hurricanes and evacuated citizens from Lebanon in the largest non-combatant evacuation since the fall of Vietnam.

While today’s Marines are performing superbly in every clime and place, it is a leadership obligation to Marines and the Nation to prepare for tomorrow’s challenges today. To meet emerging and projected security threats facing the Nation, the strategic role of the Marine Corps, as defined by the 82nd Congress, remains unchanged: To provide a capable expeditionary force in readiness that is fast, austere, and lethal. This legislated role underpins the *Marine Corps Vision and Strategy 2025* document that provides the “blueprint” and critical steps needed to shape the Marine Corps for tomorrow’s challenges and opportunities. The future Marine Corps will continue to fulfill its unique role as the world’s premier naval expeditionary fighting force. To enhance its strategic relevance and operational utility, however, the Corps must be a “two-fisted” fighter — highly effective in major contingencies but equally capable in irregular warfare. For this, we believe the individual Marine is the most formidable weapon on today’s battlefield and will remain so tomorrow. He must be well trained, broadly educated and

properly equipped for all forms of warfare. He is the cornerstone of the Corps, providing the Nation an expeditionary force of choice for tomorrow's challenges.

America's Marines are fully engaged in the fight for freedom, peace and security around the globe. Supporting them is our number-one priority.

### Today's Corps...Foundation for Tomorrow

The Marine Corps today is the Nation's *expeditionary force-in-readiness* as outlined by the U.S. Congress nearly 60 years ago. The unique capabilities of Marine forces have never been in more demand, and employment of naval forces to influence events in the littorals has become a major focus of contingency planning. Building upon the Marine Corps' current capabilities and the Service's legacy of innovation, the Corps will remain expeditionary in mindset, naval in character and committed to combat readiness. We will continue to build on this legacy and explore all opportunities to improve today's capabilities and meet our deep commitment to Marines and Marine families. To sustain and enhance our operational excellence, we are focused on the following objectives:

- Right-Size the Corps
- Reset and Modernize
- Improve Quality of Life
- Provide a Multi-Capable Naval Force
- Posture the Marine Corps for the Future



### Right-Size the Corps

In 2006, the President approved a permanent end strength increase of 27,000 Marines, from 175,000 to 202,000, and the Secretary of Defense established a timeline to complete this by the end of FY 2011. "*Growing the Force*" will enhance our ability to prepare for the full spectrum of operations, improve our posture for the prosecution of the Long War and relieve the strain on the Marines who have volunteered to fight the Nation's battles. Last year, the Marine Corps exceeded expectations in growing the force and is on track to achieve its goals



two years earlier than planned, by the end of FY 2009.

The “202K Marine Corps” provides three balanced Marine Expeditionary Forces (MEFs) and relieves stress on the Active and Reserve components as well as on individual Marines and their families. In some critical-skills areas — particularly intelligence, artillery, tracked vehicles and engineers — today’s deployment-to-dwell ratio is actually less than 1:1. That means some Marines deploy for seven months but have less than seven months “dwell” back homes. We believe that we need seven months deployed and 14 months home, which would give us the opportunity to more fully train to core competencies and to reduce the stress on our families. Achiev-

ing the Active force’s 1:2 deployment-to-dwell ratio and 1:4 for our Reserves will strengthen our capacity to train for any clime and place and fulfill our promise to be “most ready when the Nation is least ready.”

We continue to pursue policies and operational practices to develop, sustain and access the skills, knowledge and expertise of the 39,600 Marines in the Selected Marine Corps Reserve (SMCR). Our approach will provide the most effective warfighting solution for the Marine Corps’ Total Force manpower requirements. In particular, the Marine Corps is optimizing the SMCR to lessen deployment requirements for the Active Component. More than 55 percent of SMCR Marines and 10 percent of Individual Ready Reserve (IRR) Marines have been activated — with 99.6 percent of those having served in the Central Command AOR.

As we right-size the Marine Corps, we will ensure our Marines and their equipment and training will meet the full spectrum of expeditionary missions and tasks. America needs the capabilities of a “two-fisted” force. A balanced force that is fast moving and hard hitting that provides a forcible-entry capability for intense combat in a major contingency and is equally adept at providing humanitarian and disaster-relief assistance, in irregular/counter-insurgency operations. We will stay connected to our roots of a lighter, faster, hard-hitting, expeditionary and sea-based Marine Corps that is reliant on speed, maneuver, shock and surprise.

## Reset and Modernize

As we right-size the force for the Long War and prepare for the inevitable crises and conflicts that will challenge us in the future, we must *reset our forces that have been stressed by global commitments*. Intense combat operations for the Long War have had a significant impact on Marine Corps equipment. Equipment usage rates are as much as seven times greater than peacetime rates — tremendously decreasing the projected lifespan of our gear. Re-setting the force will refurbish or replace

equipment damaged or lost during combat operations and restore the capability and readiness of the Corps for future threats and operations. In addition, strategic and pre-positioned equipment stocks need to be replenished so we can remain responsive to emerging threats. In this, Active Component and Reserve Component units are treated equally, with equipment distributed to the highest-priority need established by the Commandant, regardless of component. Importantly, given the Reserve's contribution to Operations Enduring and Iraqi



Freedom, at the training centers Reserve battalions are provided equipment identical to active units, although in lesser quantity, and they marry up with equipment already in theater when they deploy.

Congress has responded rapidly and generously to our requests for equipment and increased protection for our Marines and Sailors. Our responsibility is to manage these resources prudently as we upgrade and modernize. Through FY 2008, we have invested heavily to restore combat capability and readiness and our deployed Marines are receiving the key items they need. We are constantly monitoring our total reset and investment requirements against the changing demands of the operational situation while striving to optimize industrial capacity and responsiveness.

The *U.S./Japanese Defense Policy Review Initiative* (DPRI) will strengthen Marine Corps crisis-response capabilities in the Pacific Rim while mitigating the effects of civilian and commercial encroachment on U.S. military facilities in Japan. The most significant DPRI action outlined in the U.S. Pacific Command's Guam Integrated Military Development Plan is the completion of the Futenma Replacement Facility on Okinawa, Japan, which is closely linked to the realignment of Marine units north of Kadena Air Force Base on Okinawa; shifting of KC-130s aircraft from Futenma to Iwakuni, Japan; and moving approximately 8,000 Marines and their family members from Okinawa, Japan, to Guam. This will create a sustainable, enduring presence in the Asia-Pacific region in support of U.S.



Theater Security Cooperation programs with allied and partner countries. Additionally, this will enhance regional security and build partner capacity to shoulder more of the defense and regional presence burdens. A key aspect of the successful transfer of Marines to Guam is ensuring that housing and training facilities equivalent to those on Okinawa are built.



### Equipping the Individual Marine

Marines are trained, educated and equipped to operate effectively across the broadest spectrum of missions and tasks. A Marine's focus in the field is on operational excellence and mission achievement, and the focus of our programs is on the "tools" they need to get the job done. The Marine Corps is therefore pursuing a variety of efforts to deliver advanced personal-protection and weapons — our Marines deserve nothing but the best we can afford.

Working closely with the other Armed Services, federal agencies, industry, and academia, we are developing systems that have increased effectiveness,

efficiency, lighter weight, and increased modularity, and are integrated with other infantry equipment. The *Modular Tactical Vest* (body armor), *QuadGuard* (arms and legs) and *Flame-Resistant Organizational Gear* (FROG) enhance personal protection. Individual weapons such as the *M32 40mm Multi-Shot Grenade Launcher*, *Modular Service Weapon*, and a *Scout Sniper Capability* will ensure our Marines can carry out the tasks at hand.

### Ground Tactical Mobility

The evolving threat environment requires proactive management of our tactical wheeled vehicle programs. The Marine Corps Ground Combat Tacti-

cal Mobility Strategy refines the Corps' ground mobility portfolio to sustain a large-scale MEF forcible-entry capability balanced with a mix of ground combat tactical vehicles. Working closely with the Army, the Marine Corps is an equal partner in leading joint-service development of our light, medium and heavy tactical wheeled vehicles for the joint force.

The **Expeditionary Fighting Vehicle** (EFV) is the Marine Corps' number-one priority ground program and is a principal enabler of Ship-to-Objective-Maneuver (STOM) operational concepts. The EFV provides enhanced agility, night agility, night-fighting capability, greater water speed and mobility, nuclear-biological-chemical collective protection, survivability, firepower and lethality. Initiated in response to the 2006 Strategic Planning Guidance, the Marine Personnel Carrier combat vehicle program complements the EFV by providing expeditionary protection tailored for irregular warfare (including IEDs), in combination with high off-road mobility for combat forces. The highly successful **Mine-Resistant Ambush-Protected Vehicle** (MRAP) program fulfills the urgent requirement to provide highly survivable vehicles to the OEF/OIF theater as quickly as possible. We are actively pursuing vehicle upgrades to meet emerging threats and enhance automotive performance through both engineering change proposals and new-vehicle acquisition. The **Joint Light Tactical Vehicle** (JLTV) family of vehicles is focused on flexibility, survivability, force protection, responsiveness and



agility, compared to the in-service High Mobility Multipurpose Wheeled Vehicle (HMMWV).

### MAGTF Fires

Recent studies have identified serious gaps in our organic MAGTF fire-support capabilities, especially against moving and armored targets during joint forcible-entry operations. Additionally, we found that counter-battery systems would be very effective in irregular warfare contexts. We are therefore pursuing a **Ground Fires Triad** strategy to provide responsive, precision, 24-hour ground-based fires and reactive counter-fires in all weather conditions and throughout all phases of combat operations ashore.

The **High-Mobility Artillery Rocket System** (HIMARS) consists of a guided-rocket launcher with a command and control system and resupply vehicles transportable by assault-support aircraft. The Army is the lead developer of both the HIMARS launcher and the Guided Multiple Launch Rocket System rockets, which have demonstrated 0-2 meter accuracy at ranges greater than 70 kilometers in real-world operations in Iraq. The **Lightweight 155mm Howitzer** (LW155, also known



as the M777) serves as the Marine Corps' primary direct-support artillery. Transportable by air, the LW155 howitzer has already been used extensively by the Marines in Iraq and Afghanistan. The LW155 can fire all current U.S. 155mm artillery munitions, including the Excalibur precision-guided munition. The **Expeditionary Fire Support System** (EFSS) will be the direct-support weapon system for the vertical-assault element of a STOM force. EFSS operational requirements include: the maximum range for an unassisted high-explosive round is no less than 7 kilometers; the system is internally transportable 110 nautical miles by both the MV-22 and CH-53E; and the launcher prime mover, the launcher, a portion of the basic load of ammunition and elements of the crew can be transported in a single inter/intra-theater lift aircraft.

## Marine Aviation

The Marine aviation modernization effort will replace every major aircraft type in our inventory, making the future joint force more effective across the range of military operations. Tilt-rotor and short take-off and vertical-landing aircraft (STOVL) technologies bring revolutionary enhancements to the battlefield. The greater range, speed and agility will enable flexible distributed shipboard and expeditionary airfield basing, rapid response to crises, high sortie-generation rates, a small "footprint" ashore or on ships and improved survivability. Our STOVL aircraft will thus improve the agility and utility of the MAGTF/MEF Aviation Command Element and its contribution to the joint fight. Although the Long War has resulted in aircraft usage rates that are far greater than designed or pro-

grammed, our mitigation strategies will manage our in-service inventory through their transition to newer platforms. However, projected shortfalls in legacy aircraft (especially the F/A-18D Hornet and CH-53E helicopter) underscore the urgency for next-generation STOVL and heavy-lift aircraft programs.



The STOVL *F-35 Lightning II, Joint Strike Fighter* (JSF) is a network-enabled and digitally interoperable expeditionary aviation combat element that will execute responsive, persistent, lethal and adaptive full-spectrum operations. There are three JSF variants for U.S. and international users: STOVL (U.S. Marine Corps, United Kingdom and Italy); a conventional take-off and landing variant (U.S. Air Force); and a variant tailored for aircraft carrier operations (U.S. Navy). The Marine Corps's JSF will operate from every available basing environment, including prepared airstrips, austere sites and large-deck amphibious warships. The *MV-22B Osprey* has twice the speed, three times the payload and more than six times the range compared to the CH-46E medium-lift helicopter it replaces. Operating from virtually any shore base and amphibious platform, the MV-22B's

primary missions include combat assault, combat resupply and casualty evacuation. The initial combat deployment of the Osprey, with VMM-263 in Iraq during early 2008, clearly demonstrated the effectiveness of this unique naval aircraft. The next-generation *CH-53K Heavy-Lift Helicopter* is critical to sea basing and STOM operational concepts with its ability to externally transport 27,000 pounds at ranges of 110 nautical miles, more than doubling the current, increasingly obsolescent, CH-53E lift capability. The *KC-130J Super Hercules tanker* is replacing our aging KC-130R/T tanker fleet. The KC-130J offers increased utility, increased speed and range, improved air-to-air refueling system, and night systems and survivability enhancements. It is capable of refueling both fixed-wing and rotary-wing aircraft as well as conducting rapid "hot-engine" ground refueling.

In addition to new-aircraft acquisition, The *AH-1Z Super Cobra and UH-1Y Huey Upgrade Program* will ensure that the MAGTF possesses credible rotary-wing attack and utility support platforms for at least the next 20 years. The program will reduce life-cycle costs, significantly improve operational capabilities and extend the service life of both aircraft. The two helicopters have eighty-four percent of the design in common, which greatly enhances the maintainability and deployability of the systems, particularly in light of the capability to support and operate both aircraft within the same squadron structure.

Finally, the Marine Corps operates two *Unmanned Aviation Systems* (UAS): *Dragon Eye* (in the process of transitioning to Joint Raven-B) and *Shadow*. *Dragon Eye* has flown more than 10,000 hours in support of OIF and OEF, and the *Shadow* has replaced the *Pioneer* in Iraq. The *Pioneer* had flown more than 18,000 combat hours in theater, underscoring our critical need for these systems. We are conducting an over-arching requirements study to refine future requirements for the USMC *Family of Unmanned Aviation Systems*. For example, the *Vertical Unmanned Aircraft System* (VUAS) will provide a responsive, real-time reconnaissance, surveillance, intelligence, targeting and weapons employment capabilities organic to the MAGTF and Joint Force Commanders. Its key attributes will include vertical takeoff and landing from all air-capable ships and austere land bases, sufficient speed to be responsive and tactically agile, and the survivability required to operate effectively in denied-access environments.

### Command and Control

The Marine Corps *Command and Control (C2) Harmonization Strategy* synchronizes top-down and bottom-up requirements to create a joint-integrated and resource-informed vision for MAGTF C2. It is the Marine Corps' application of Navy FORCENet capabilities and the service "plug-in" to the Net-Enabled Command Capability and Net-centric Enterprise Services. The *Common Aviation Command*

*and Control System, MAGTF C2 Systems and Applications Software Baseline*, and the *Combat Operations Center* will provide the joint task force commander maximum flexibility resulting from seamless integration with joint and coalition partners. The *Marine Corps Intelligence, Surveillance and Reconnaissance Enterprise* (MCISR-E) integrating concept is being designed to enable the MAGTF Commander to sense threats and other activities in near real time and without interruption. The MAGTF C2 family of systems will provide the interfaces necessary to integrate capabilities into combat operations centers and small unit C2 nodes. The *Global Combat Support System—Marine Corps* (GCSS-MC) is the primary technology enabler for the Marine Corps Logistics Modernization strategy. It is a portfolio of approximately 40 legacy systems that provide the backbone for all MAGTF logistics information, enabling the warfighter to operate while deployed with reach back from the battlefield.

### Improve Quality of Life Our Highest Priority — The Individual Marine

We take care of our own — period. 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 families — in peacetime and war. Our pledge is to honor those who have fallen and always

to treat their families with compassion, dignity and honor.

Others have come home, burdened by severe injuries. The **Wounded Warrior Regiment**, stood up in April 2007, is responsible for non-medical wounded warrior care. It has absorbed all facets of the Marine For Life program and will continue that function as a part of its overall responsibilities. The Regiment's mission is to provide and facilitate assistance to wounded, ill or injured Marines and their family members, throughout the phases of recovery. The Regiment maintains a "24/7" call center with links to the USMC website ([www.Marines.mil/units/hqmc/mnra/wwr/Pages/Home.aspx](http://www.Marines.mil/units/hqmc/mnra/wwr/Pages/Home.aspx)) to provide a venue where separated and active duty Marines can seek help. In addition, the program is reaching out to more than 9,000 Marines who were identified by a casualty report during OEF/OIF but are now separated from the service. The Regimental Headquarters element, located in Quantico, Virginia, coordinates the operations of the Wounded Warrior Battalions located at Camp Pendleton, California (covers Hawaii), and Camp Lejeune, North Carolina.

Among the highest-priority medical concerns for the Marine Corps are **Traumatic Brain Injury** (TBI) and **Post-Traumatic Stress Disorder** (PTSD). As many as 10 percent of returning service members have sustained a TBI during deployment, and, while 90 percent have fully recovered by their return home, many need further assistance. The Defense and Veterans Brain Injury Center maintains clinics at Camp Lejeune, Camp Pendle-

ton and in Hawaii that provide critical expertise in treating Marines with TBI. The Wounded Warrior Regiment tracks Marines who have sustained a TBI and ensures that they and their families receive the assistance they need.

Some five-to-seven percent of Marines returning from Iraq and Afghanistan report PTSD symptoms. In response, we have developed hyper-realistic stress-inoculation training that simulates as closely as possible the sights, sounds and smells of combat. Other initiatives, including the **Operational Stress Control and Readiness** (OSCAR) program, which improves access to psychological care and reduces the personal stigma that can be associated with PTSD, and the **Combat/Operational Stress Control** (COSC) program, which focuses on force preservation and readiness and long-term health and well-being, directly supports these goals.

### Marine Families

Marine families are proud of their contributions to the Long War; we owe it to those families to put our family service programs onto a wartime footing. We are enhancing family support services at every level of command and in each Marine Corps installation by:

- Increasing staffing and technological improvements at our Unit Family Readiness Program and Marine Corps Family Team Building Program
- Improving the Exceptional Family Member Program from one primarily responsible for integrity of assignments to a program



providing for the continuity of care of all our Exceptional Family Member Program members

- Establishing a school liaison capability at every Marine Corps Installation to advocate for our school age children for access and availability to quality education and seek ways to mitigate education transition issues
- Transitioning our Children, Youth and Teen Programs to ensure that our Marines' child care needs are met at remote and isolated military locations
- Expanding communication capabilities of units to Marines and their families via information technology initiatives, such as the Mass Communication Tool (interactive mass communication capabilities) and the Family Readiness Assessment Tool (provides commander with a snapshot of unit family readiness and instant feedback to Marines on their personal family readiness), and
- Accelerating our Child Development Center military construction projects

The successful Marine Corps *Public Private Venture* (PPV) and housing privatization authorities are integral to our efforts to accommodate both existing

and future family housing requirements. The need for additional family housing will increase by more than 30 percent as the "202K Marine Corps" is achieved. Our public-private venture initiatives are not only providing outstanding quality homes and community support facilities, but they are also providing significantly improved maintenance services. With strong congressional support, the Marine Corps privatized 96 percent of its worldwide family housing inventory by the end of FY 2008, and in future years we will request funding for 1,500 new PPV homes and renovation of 42 percent of our overseas family housing to keep it adequate.



### Barracks and Infrastructure Modernization

Barracks for enlisted Marines and Bachelor Officers Quarters are quality-of-life concerns that directly affect quality of service and retention. By the end of FY 2010, most of the Bachelor Enlisted Quarters associated with "Growing the Force" will be completed. Older barracks will be retained in order to provide additional "surge" living space for Marines to live until all new barracks are completed, with the permanent solution to demolish these older facilities as soon as possible.



Another 54 infrastructure projects — such as roads, water treatment and electrical-generating facilities — and operational facilities need to be completed. In FY 2008 the Marine Corps total facilities sustainment requirement was more than \$570 million to maintain approximately \$40 billion of infrastructure.

### Provide a Multi-Capable Naval Force

The enduring value of naval expeditionary forces in protecting our homeland, preventing or responding to crises, and winning our Nation's wars is a key theme of the tri-service maritime strategy, *A Cooperative Strategy for 21st Century Seapower*, and the *Naval Operational Concept*. These foundation documents underscore

the need to maintain enduring U.S. advantages in operational maneuver, projecting force to gain and maintain access, and winning the battle for influence — thus preventing conflict. Our ability to maintain a sovereign sea base off shore in critical world regions undergirds partnerships and enables selective missions. We will sustain and enhance our naval expeditionary advantages to help ensure that vital U.S. interests are safeguarded, world wide.

### Joint Seabasing

Joint Seabasing will enable forward presence and engagement while “stepping lightly” on local sensitivities and avoiding unintended political, social and economic disruptions that often result from a large American presence on foreign shores.



Seabasing allows us, in concert with our sister Services and allies, to conduct a broad range of operations. Embarked Marines on multiple platforms such as amphibious warfare ships, Maritime Prepositioning Force (Future) ships, Joint High Speed Vessels, surface connectors and future aviation platforms will enable Commanders to influence events ashore from over the horizon and play a key role in surmounting access challenges. These capabilities and programs are scalable (i.e., *Global Fleet Station*) and expand operational maneuver options and facilitate assured access from the sea. Seabasing breaks down the traditional sea-land barrier, maximizes the effect of forward presence and assures joint access.

### Amphibious Ships

Amphibious warfare ships are the centerpiece of the Navy-Marine Corps' forcible-entry and seabasing capabilities. These ships are equipped with aviation and surface-assault capabilities that, coupled with their survivability, make them ideally suited to support a broad range of mission requirements. Not only must amphibious forces maintain the ability to rapidly close, decisively employ, and sustain Marines from the sea, their capacity to provide equipment and supplies ashore both vertically and by surface connectors enables them to quickly respond to any crises or disasters on short notice around the world.

For major operations, a Marine Expeditionary Force will aggregate the assault echelons of two Marine Expeditionary Brigades to support amphibious assault. By shifting a portion of their vehicles and cargo to follow-on shipping, the assault echelon of each brigade can be accommodated on 17 ships, for a total of 34. Given an appropriate maintenance factor, this calls for an inventory of 38 amphibious ships comprising not less than 11 large-deck aviation-capable (LHA/LHD), 11 Landing Platform Dock (LPD), 12 Landing Ship Dock (LSD), and four additional ships, which can either be LPD or LSD. This force structure accepts a degree of risk but is feasible if the assault echelons can be rapidly reinforced by Maritime Prepositioning Future (MPF(F)).



*The San Antonio (LPD-17) Amphibious Transport Dock* ships are optimized for operational flexibility and designed to meet MAGTF lift requirements, including helicopter operations, 34,000 cubic feet for cargo, accommodations for approximately 720 troops (800 surge) and a medical facility (24 beds and two medical and two dental operating rooms).

The newly-designed *LHA 6 USS America* is the first of this new class of ships that will provide enhanced forward-presence and power-projection capabilities. LHA 6 will be an aviation-centric modified repeat of the LHD 8 and is scheduled for delivery to the Navy in 2013. Key differences between LHA 6 and the LHD Class ships include an enlarged hangar deck, enhanced aviation maintenance facilities, increased aviation fuel capacity, additional aviation store-rooms, removal of the well deck, and an electronically reconfigurable C4ISR suite. With elements of a Marine landing force, the LHA 6 will operate helicopters, MV-22 and Joint Strike Fighter aircraft for sustained periods. The LHA 6 will also support contingency-response, forcible-entry and power-projection operations. *Joint High-Speed Vessel (JHSV)* bridges the gap between low-speed sealift and high-speed airlift. It enables rapid closure of 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. The *Ship to Shore Connector (SSC)* is the functional replacement for the Landing Craft Air Cushion (LCAC) vehicles, providing a high-speed, over-the-beach sea base-to-shore connector capability for carrying all Marine Corps ground equipment. *Maritime Prepositioning Force (Future)* — MPF(F) — program will preposition the equipment and supplies of a Marine Expeditionary Brigade and will provide the ability to

rapidly reinforce the assault echelon of a Marine Expeditionary Force, selectively offload materiel, and assemble and project joint or multinational forces at and from sea without reliance on ports or airfields in the objective area. Additionally, these ships will augment and reinforce other naval forces for smaller contingency operations. One or more MPF(F) ships can support disaster-response operations by providing equipment and supplies, while an aviation-capable MPF(F) ship can complement an Amphibious Ready Group/Marine Expeditionary Unit (ARG/MEU) during a non-combatant evacuation by providing additional deck spots for 24-hour flight-deck operations.

Optimally, the MPF(F) squadron will include: three aviation-capable ships (two LHA and one LHD); three auxiliary cargo and ammunition ships (T-AKE); three “float-on/float-off” Mobile Landing Platforms (MLP); three Large, Medium Speed, Roll-on/roll-off (LMSR) ships; and two traditional prepositioning ships. Additionally, two squadrons of the legacy MPS will be retained. Each of these squadrons will carry the equipment and supplies of a Marine Expeditionary Brigade on board five-to-six ships.

### Posture the Marine Corps for the Future

The *Marine Corps Vision and Strategy 2025* — rooted in our traditions and core competencies, focused on today’s critical priorities, and anticipating emerging requirements of a new

era — serves several purposes. It states in fundamental terms what we will be and, most importantly, establishes the operational foundation that will guide institutional efforts to ensure the Corps is effectively organized, trained, and equipped for tomorrow’s challenges.

### Focus on the Individual Marine

The individual Marine will remain our most important warfighting asset. The recruitment, training, professional education, and retention of high-quality, disciplined warriors imbued with our core values is paramount to our mission. Marines at all levels must be prepared to excel in ambiguous and dangerous conditions and operate from a commander’s intent with minimal direct supervision. And we will continue to exploit technology to enhance the performance of the individual warrior.

### Improve Training and Education for Fog, Friction and Uncertainty

Our realistic training and education system will prepare Marines for complex conditions and to counter the unexpected. It will provide small unit leaders the tactical acumen and knowledge to develop and assess these conditions in order to make sound decisions, and the proficiency to employ supporting intelligence, fires, and information resources. Our noncommissioned and junior officers will be prepared for greater responsibility in an increasingly complex environment with the potential for operating in a decentralized manner.

## Marine Corps Vision and Strategy 2025

### Vision

The Marine Corps of 2025 will fight and win our Nation's battles with multi-capable Marine Air Ground Task Forces, either from the sea or in sustained operations ashore. Our unique role as the Nation's force in readiness, along with our values, enduring ethos, and core competencies, will ensure that we remain responsive to combatant commanders. In an uncertain and complex world, and against irregular and hybrid as well as traditional threats, we will continue to excel as the Nation's expeditionary "force-of-choice."

### Strategy

To achieve this vision, the Marine Corps will be:

**Organized** to execute operations with MAGTFs that are mission tailored and operate as part of a naval and joint team.

**Optimized** to conduct naval expeditionary operations while retaining the institutional agility, battlefield flexibility and initiative to meet constantly changing conditions of crisis and combat.

**Modernized** with equipment and logistics that expand expeditionary capability and preserve our ability to operate from the sea.

**Postured** to prevent or respond to crises with forward positioned MAGTFs — both afloat and ashore — that are engaged and ready to act decisively in response to combatant commanders' requirements.

### Expand Persistent Forward Presence and Engagement

The Marine Corps will provide tailored, persistently engaged, and contingency-capable MAGTFs in five high-priority regions:

1. East and Southeast Asian Littorals — U.S. Pacific Command (PACOM)
2. Red Sea, Arabian Gulf, and Arabian Sea Littorals — U.S. Central Command (CENTCOM)
3. East and West African Littorals — U.S. Africa Command (AFRICOM) and CENTCOM
4. Latin America and the Caribbean Basin — U.S. Southern Command (SOUTHCOM)
5. Mediterranean Sea and North African Littorals — U.S. European Command (EUCOM) and AFRICOM

Marines will be consistently deployed in the littoral areas of these regions and deliberately engaged in the campaign plans of the combatant commanders: (1) the routine, rotational deployment of Marine Expeditionary Units (MEUs) as theater "first responders"; (2) the routine, rotational deployment of Special-Purpose MAGTFs (SPMAGTFs) for such

missions as training and advising, stability, humanitarian support, and other theater security cooperation activities; and (3) providing an advisory group capacity within each Marine Expeditionary Force (MEF).

### **Posture for Hybrid Threats in Complex Environments**

Without sacrificing its conventional capabilities, the Corps will prepare to conduct operations against hybrid threats in complex environments — urbanized littorals, mountainous terrain, and dense jungles. We must successfully identify, engage, and operate against clever and cunning opponents who will exploit irregular approaches with modern lethal capabilities and advanced cyber technology. Robust intelligence capabilities will support all levels of command awareness and decision-making. Advancements in secure communications will extend the commander's operational reach and enhance force protection. Our approach to problem solving and organization, our maneuver warfare philosophy, and our combined-arms skills will continue to serve us well in these chaotic environments.

### **Reinforce Naval Relationships**

The ability to operate freely in the littorals and high seas underwrites America's access to foreign markets. Likewise, it is fundamental for our ability to carry out humanitarian and disaster-relief efforts, to support theater security cooperation strategies, and to protect our national interests in crises and conflict. The Navy

has embraced a posture of persistent presence and multifaceted engagement worldwide. The Corps' ability to integrate and operate seamlessly with the Navy — and increasingly the Coast Guard under the tri-service *Cooperative Strategy* and *Naval Operational Concept* — requires constant attention to relationships, skills and mindsets developed through years of side-by-side operations. The Corps will place renewed emphasis on training, exercises, and deployments in order to reinvigorate our expeditionary roots and the naval relationships that have served the Nation well for more than two centuries.

### **Ensure Amphibious Force Levels Meet Strategic Requirements**

We are resolved to maintain the requisite capacity of modern amphibious lift to support the Nation's ability to execute forcible-entry operations and other critical expeditionary roles, missions, and tasks in support of the regional combatant commanders. The Nation's amphibious lift requirement has two primary drivers. The first is the capacity to support joint forcible-entry operations. This is a MEF-level requirement, defined as the total shipping needed to lift a MEF command element and the assault echelon of two Marine Expeditionary Brigade equivalents, reinforced by a third MEB equivalent through the use of Maritime Prepositioning Force (Future) assets. The second driver is the combatant commanders' needs for theater security cooperation, presence, and crisis-response forces, requirements that have increased

significantly the frequency of these missions and other expeditionary and amphibious operations since the end of the Cold War.

### **Create Joint Seabasing Capabilities**

We will improve our ability to cross wide expanses of ocean and remain persistently offshore at the place and time of our choosing. Joint force commanders depend upon the sea as both maneuver space and as a secure base of operations to overcome anti-access capabilities. Seabasing is our approach to both challenges. Seabasing provides an initial port and airfield afloat in the area of operations to minimize the reliance on ports and airfields ashore in support of security cooperation activities, humanitarian assistance, disaster relief, adversary deterrence, and major combat operations. Our Maritime Prepositioning Force (Future) program, amphibious ships, and other seabasing initiatives will expand joint operational capabilities and offer tremendous flexibility to joint force commanders. The ability to conduct at-sea transfer of resources, for both ship-to-ship and ship-to-shore purposes, is a key enabler for deploying, employing, and sustaining joint forces sovereign bases at sea, while minimizing the operational and political “footprint” of our joint forces ashore.

### **Lead Joint/Multinational Operations and Enable Interagency Activities**

A clearly changing characteristic of the modern battle space is the shift from

a primarily military focus to one that achieves a greater degree of operational integration of all instruments of national power. Accordingly, we will extend our combined-arms approach and add a “combined-actions” orientation. We will integrate interagency capabilities into our training, education, campaign planning, and operations while also improving our own capabilities to lead joint task forces. We will offer training and educational venues to joint, multinational, and interagency personnel. This will assist our preparation for contingencies and build the relationships needed when the Nation calls on the Corps to lead or enable a joint, multinational, or interagency effort.

### **Maintain a Ready Sustainable Reserve**

Our total-force approach will enable the Marine Corps to meet its force-generation requirements. We will pursue policies and operational practices to better develop and access the skills, knowledge, and expertise of Marines in the Reserve Component. Optimizing the use of the Reserve Component as a Total Force provider will generate the most cost-effective solution for the Marine Corps’ manpower requirements.

### **Build and Deploy Multi-Capable MAGTFs**

Our MAGTFs will be decisive across the range of military operations with their capacity tailored to combatant commanders’ requirements. They will be optimized to operate as an integrated sys-

tem through the air, land, and maritime domains, as well as the information environment. We will be properly sized to reduce strategic and operational risks and provide our Nation's leadership with the capabilities and right capacity to execute the missions we are assigned. Operational experience reaffirms the Congress' decision to define the composition of the Corps as a combined arms team with a specified structure of three balanced, modern MEFs in the Active Component.

### Corps Competencies

Achievement of the above strategic objectives will ensure that the Marine Corps remains proficient in its six core competencies and is the primary means by which the Corps will achieve its strategic vision.

The Marine Corps is devoted to an expeditionary way of life. It requires a force that is deployed with our Navy shipmates and engaged in the littorals, shaping the operational environment, and contributing to the prevention of conflict.

- The Corps conducts persistent forward naval engagement and is always prepared to respond as the Nation's force in readiness.
- The Corps employs integrated combined arms across the range of military operations and can operate as part of a joint or multinational force.
- The Corps provides forces and specialized detachments for service aboard naval ships, on stations, and for operations ashore.
- The Corps conducts joint forcible entry operations from the sea and develops amphibious landing force capabilities and doctrine.
- The Corps conducts complex expeditionary operations in the urban littorals and other challenging environments.
- The Corps leads joint and multinational operations and enables interagency activities.

### Realizing the Vision

For more than 230 years, United States Marines have distinguished themselves in peace, crisis, and war. Forward-deployed with the Navy, other U.S. Armed Services, and the military forces of allies and friends, America's Marines deliver a "two-fisted fight" to our enemies as well as non-kinetic "soft power" — humanitarian and disaster-relief operations — for regional peace and security. Buttressed by our values, enduring ethos, and core competencies, we are highly responsive to the needs of combatant commanders in ambiguous environments and against irregular threats — as well as large-scale conventional conflict. In this, the Marine Corps will be increasingly focused on naval deployments and expeditionary capabilities.

Operating forward in fully capable combined-arms teams, Marine Corps forces will be on the scene, ever ready to protect the Nation's interests. We will remain fundamentally a naval expeditionary force, as fully capable on the seas as on land and in the air. Marine forces, with the Navy, will be able to project forces rapidly across any shore, against any foe, while sustaining ourselves from sea or expeditionary land bases. As America's expeditionary "force-of-choice" we will be responsive and agile in approach, leaner in equipment, versatile in capabilities, and innovative in mindset.

Indeed, the Marine Corps has been at the forefront of military innovation since 1775. Innovation and improvisation will remain the foundation upon

which we build the Corps of the future. The Corps will remain an adaptable organization, able to anticipate and adjust quickly to any challenge. We will continuously exploit the latest technologies, systems, concepts, and methods available to enhance the operational effectiveness of our forces.

Likewise, the Corps will continue to comprise the world's finest military professionals, thinkers, and leaders. Individual Marines will continue to be trained and educated to act intelligently, to independently seek responsibility and to be accountable. Without doubt, the individual Marine is the most formidable "weapon system" on today's battlefield... and will remain so tomorrow. We understand that a force in readiness must be well trained, broadly educated and properly equipped. We know as well that, while we must ensure that all Marines have what they need to achieve victory in the Long War, we must not lose sight of recruitment and retention, training and education, force structure, and quality of life requirements.

Our role as the Nation's expeditionary force-in-readiness remains remarkably enduring and useful despite the dramatic changes in the strategic environment. The Marine Corps will be recognized globally as the premier crisis-response force. We will be prepared to fight, anywhere, anytime, under any circumstances, and win decisively. Indeed, the strategic value of a combined-arms expeditionary and amphibious force standing most ready when the Nation is

least ready remains undiminished, if not increased today. And, our emerging joint doctrine properly reflects the criticality of integrating all service capabilities within a unified warfighting effort. In this, our near-term priorities and long-term vision are crucial as the Marine Corps responds to congressional direction for a fourth Quadrennial Defense Review (QDR) in 2009.

### 2009 Quadrennial Defense Review

The 2009 Quadrennial Defense Review marks the fourth time that the United States will reassess the Department of Defense's strategy, operational concepts, forces and modernization plans and programs. In the process, defense analysts will focus on "right-sizing" Defense forces to match the resources available. As part of the QDR, the military services will articulate their visions and competencies and will develop programmatic and budgetary plans required to meet the Nation's security challenges. The plans will address several core questions: What are the strategic and operational settings in which U.S. forces will be employed? What are the threats to U.S. forces in those settings? What capabilities should our forces possess to defeat those threats? What are the requirements-capability gaps and how should we bridge them? And, what diplomatic purposes will U.S. forces serve?

As the QDR aligns the National Military Strategy with resources to support

the Administration's national security posture, it is essential that the strategy reflect the fact that the United States is most fundamentally a maritime nation, dependent on the unfettered use of the seas for its economic well being and to project military power in support of national interests. This reality and our close linkages with regional powers and economies demand that our national security strategy be transoceanic in scope and maritime in focus. More than half of the world's population and more than three-quarters of world cities are within 50 miles of the sea, underscoring the likelihood that the littorals will remain focal points of military, economic, cultural and environmental instability, tension, crisis and conflict. To protect vital U.S. security interests, citizens and friends, and to sustain our global leadership, a U.S. strategy based on the sea power concepts of forward presence, expeditionary power projection and sea control is essential. Moreover, U.S. forces must not only be combat-effective but also diplomatically useful in preventing conflict across the widest range of scenarios.

Naval forces are uniquely suited to overcoming both diplomatic and operational impediments to access, while respecting the sovereignty of littoral states. They are powerful instruments of national policy with special strengths stemming from the complementary but distinct capabilities of Navy and Marine

Corps forces to command the seas and conduct operations ashore. More specifically, America's naval forces provide:

- ***Self-sustaining, sea based expeditionary forces***, the Nation's preeminent, combined-arms teams, uniquely tailored to fight and win from the sea. Manned, trained and equipped to operate without reliance on ports or airfields in an objective area. Expeditionary naval forces are ready to fight when they "leave the pier" and are self-sustaining throughout their extended deployments.
- ***Persistent presence without permanence***, operating forward without reliance on host-country basing or overflight permission. Forward-deployed naval forces conduct security cooperation, build partnerships, prevent and deter conflict, communicate our Nation's intent, respond to crises and, when necessary, bring the fight to our adversaries and facilitate the introduction of additional naval, joint, or multinational forces, as well as interagency, international or non-governmental organizations.
- ***Maritime domain expertise***, fully cognizant of the complexities of the water, air, and land interface, naval forces are the only forces skilled at operating at this confluence. They defend the homeland in-depth, protect national interests in the maritime domain, including space and cyberspace and safeguard the Nation's vital global interests. They fight by imposing sea control and projecting power ashore as part of a service, joint or multinational team. They employ a range of lethal and non-lethal capabilities in both irregular/hybrid and conventional conflicts. Enabled by sea basing, naval forces assure global access.
- ***Flexible force options*** are scalable with respect to capability, capacity and legal authorities. Our forward-deployed posture is a cost-effective means of proactively influencing events and responding to crises. When

required, other naval forces surged from globally dispersed locations can rapidly reinforce forward-deployed naval forces. Their inherent mobility, organizational agility and self-sustainability provide the combatant commanders with a variety of options, including the ability to command and control joint task forces from afloat and ashore, for missions across the spectrum of operations.

- **Comprehensive deterrence**, via the ability to conduct or support proactive, unconventional activities designed to prevent conflict, complemented by a credible, maneuverable and scalable ability to retaliate against aggression using conventional and nuclear weapons.
- **Joint, multinational and interagency enabling**, facilitating the integration and application of all elements of national power for activities across the spectrum of operations.

Victorious on hundreds of battlefields across more than two centuries, Marines have repeatedly demonstrated global relevance and combat effectiveness to the Nation and our friends and enemies world wide. Today's domestic and global environments pose complex and daunting economic and security challenges to America — global recession and continuing war efforts in the CENTCOM AOR — that will demand balanced apportionment of limited resources. In this, the Marine Corps has identified four critical issues that must be addressed and prioritized by the QDR:

- First, we must re-establish the relevance of our naval forces' global posture as essential to the Nation's security.
- Second, we must hold the gains made in Afghanistan this past year and prepare for even greater efforts next year.

- Third, we must ensure a lasting transition from conflict to post-conflict actions in Iraq.
- And, fourth, we must re-establish our maritime expeditionary character.

The Marine Corps will be an important factor in the Nation's response to these issues, and the need for the Corps to have additional resources to secure these goals must be addressed.

The Marine Corps believes the QDR will revalidate the unique contributions made to national defense by Navy and Marine Corps expeditionary forces. Indeed, the Corps has demonstrated its ability to grow without reducing standards while at the same time satisfying increased combatant commander demands. Marines will ensure regional stability by supporting statecraft, protecting vital interests and, when necessary, projecting decisive combat power. Marines will remain the *sine qua non* for America's 21st Century global engagement.

The remainder of the 2009 edition of *Concepts & Programs* describes our concepts and organization, research and development, acquisition programs, and current operations that are guided by our fundamental principles.





## CHAPTER 2

## CONCEPTS AND ORGANIZATION

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### Introduction

The Marine Corps-Navy Team is engaged in a focused, long-term transformation that will allow us to respond to a changing national security environment. This transformation is dedicated to greatly expanding the worldwide, sovereign options available to the President of the United States across the full spectrum of warfare, by exploiting one of our nation's asymmetric advantages, control of the sea. To this end, this chapter addresses our current warfighting concepts.



**CHAPTER 2**

**PART 1**  
**CONCEPTS**



### United States Marine Corps Strategy And Concepts

The United States Marine Corps has partnered with the Navy and Coast Guard to produce a family of strategy and concept documents that articulate a singular vision of the naval contribution to fulfilling the National Defense Strategy. These publications provide a hierarchy of mutually supporting ideas that guide capability development in the naval service.

*A Cooperative Strategy for 21st Century Seapower* describes how the Navy, Marine Corps and Coast Guard contribute to achieving enduring objectives. The *Naval Operations Concept 2008* describes how, when and where U.S. naval forces will contribute to preventing conflict and, when necessary, prevailing in war, in order to guide maritime strategy implementation. The *Marine Corps Vision and Strategy 2025* document provides guidance and direction for the future and describes our core competencies — “what we do.” The Marine Corps:

- Conducts persistent forward naval engagement and is always prepared to respond as the Nation’s force in readiness.
- Employs integrated combined arms across the range of military operations, and can operate as part of a joint or multinational force.
- Provides forces and specialized detachments for service aboard naval ships, on stations and for operations ashore.

- Conducts Marine Expeditionary Force (MEF)-level joint forcible-entry operations from the sea and develops amphibious landing force capabilities and doctrine.
- Conducts complex expeditionary operations in the urban littorals and other challenging environments.
- Leads joint and multinational operations and enables interagency activities.

Nested among these publications, the *Marine Corps Capstone Concept* provides a bridge from vision and strategy to the service-specific operating concepts and capabilities envisioned in *Marine Corps Operating Concepts for a Changing Security Environment* (MOC). Numerous supporting and enabling concepts, articulated separately from the MOC, amplify key ideas. This body of work is meant to inspire discussion, debate and innovation in order to guide capability development. The MOC describes how Marine Corps forces must be organized, based, trained, and equipped for:

- Forward Presence and Security Cooperation
- Crisis Response and Conflict
- Amphibious Operations
- Sustained Littoral Operations
- Stability Operations and Counterinsurgency

The Marine Corps is the Nation's naval expeditionary, combined-arms force-in-readiness. We have throughout our history routinely task-organized agile and adaptable forces, adjusted operations and developed innovative tactics — such as amphibious assault and seabasing — to meet the demands of the Nation. The multi-mission capability the Marine Corps delivers addresses the full range of

military operations. This proficiency includes maintaining a persistent forward presence, providing response to a variety of man-made and natural crises and engaging in irregular and conventional conflict.



In the 21st Century our adversaries are driven to dispersed employment of conventional and irregular tactics and techniques in combination — *hybrid conflict* — as a means of countering the United States' pre-eminence in conventional capabilities. Concurrently, diplomatic challenges to overseas access are on the rise, even as global climate changes and population shifts to the urban littorals magnify the likelihood of humanitarian disasters. Furthermore, the speed of modern communications has given global visibility to events in remote locations, often generating calls for U.S. action.

Given our core competencies described in the Commandant's *Vision and Strategy*, the Marine Corps is uniquely suited to address the strategic challenges of the 21st Century. The MOC describes how the Marine Corps can make modest



refinements in organizing, training and equipping Marines, further enhancing the Corps' capability and capacity to better perform in the anticipated range of distributed and sea based operations. These refinements are focused on enhancing the organizational "sweet spot" of the Marine rifle company and increasing the Marine Air Ground Task Force's (MAGTF's) ability to operate across the range of military operations. While the MAGTF is made up of key supporting elements, it is the rifle company that remains the primary organizational focus of Marine Corps operations. In an uncertain future, it is the rifle company, with the MAGTF's supporting elements, that enables the Marine Corps to meet tomorrow's challenges.

In December 2007, the Commandant approved a force-employment concept that specifically addresses how the Marine Corps will support geographic combatant commanders' engagement activities in their areas of responsibility. Known as *The Long War Concept*, this force-employment concept articulates how the Marine Corps plans to organize, train and equip forces to constitute multi-capable MAGTFs that will be as adept at operations on the low end of the range of operations as they are at the high end. Capitalizing on the increased capabilities afforded by the growth in Marine Corps end strength to 202,000, the Commandant has directed that the Marine Corps be postured to support a

greater forward presence abroad. In addition to three Marine Expeditionary Units (MEUs), the Marine Corps will organize and deploy *Security Cooperation MAGTFs* (SC MAGTFs) that are specifically tailored to training partner-nation security forces and alleviating some of the underlying drivers of instability. Sourced from regionally focused units in the MEFs and supported by initiatives that increase regional understanding within the operating forces, SC MAGTFs will be organized based upon specific requirements requested by the geographic combatant commanders and validated by the Global Force Management process. SC MAGTFs will be deployed from Continental U.S. (CONUS) and Outside CONUS (OCO-NUS) main operating bases to support specific training and operational events and re-deployed to home station at the end of the event. In addition to conducting security cooperation activities, the SC MAGTFs will be capable of providing crisis-response capabilities commensurate with their organic capabilities.

Additionally, SC MAGTFs will be capable of supporting Navy efforts to conduct security cooperation activities along the littoral regions of the world. Capitalizing on the strength of the Navy-Marine Corps team, SC MAGTFs are expected to deploy on Navy *Global Fleet Stations* that are forward deployed to provide a more persistent maritime presence to support the combatant commanders. The *Long War Concept* calls for three MEUs, re-initiation of the Unit Deployment Pro-

gram, and SC MAGTF detachments as required to support *Global Fleet Stations*, and land-based security cooperation activities in all of the geographic combatant commanders' areas of responsibility.

***The Concept for Enhanced Company Operations*** describes an approach to the operational art that maximizes the tactical flexibility offered by true decentralized mission accomplishment, consistent with commander's intent and facilitated by improved command and control, intelligence, logistics, and fires capabilities. ***Enhanced Company Operations*** will be reliant on increased access to, and organic control of, functional support, as well as excellence at the individual, squad, and platoon levels. As such, it builds on the results of ***Distributed Operations*** experimentation and capability development to provide battalion commanders the critical link between operational planning and squad level tactical execution.

***Enhanced Company Operations*** will drive the full range of combat development activities towards delivering fully tested and operationally ready military capabilities to the company commander. Graduated experimentation, in-depth Wargaming, and unbiased analysis will guide the identification and integration of solutions that address all facets of capability development, across battlefield functions, Phase 0 through Phase 5 of the joint campaign.

Informed by the numerous documents mentioned above, the MOC 3rd edition will be published in early 2009.



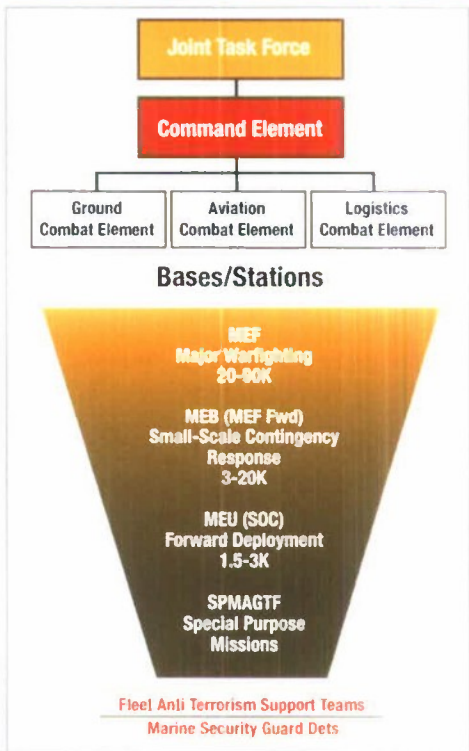


**CHAPTER 2**

**PART 2**  
**ORGANIZATION**

## Marine Air Ground Task Force (MAGTF)

The MAGTF is the Marine Corps' principal organization for conducting missions across the spectrum of military operations. MAGTFs provide combatant commanders or joint task force commanders with scalable, versatile expeditionary forces able to respond to a broad range of crisis and conflict situations. They are balanced, combined-arms force packages containing organic command, ground, aviation and sustainment elements. A single commander leads and coordinates this combined-arms team from peacetime training through all phases of deployment and employment. MAGTF teams live and train together, further increasing their cohesion and fighting power.



### MAGTF Capabilities

The naval character of MAGTFs enhances their global mobility, lethality and staying power. Embarked aboard amphibious ships, forward-deployed MAGTFs provide U.S. civilian and military leaders with the ability to do the following:

- Move forces into crisis areas without revealing their exact destinations or intentions
- Provide continuous presence from secure sea bases in international waters
- Provide immediate national response in support of humanitarian and natural-disaster relief operations
- Provide credible but non-provocative combat power over-the-horizon of a potential adversary for rapid employment as the initial response to crisis
- Support diplomatic processes for peaceful crisis-resolution before employing immediate response combat forces
- Project measured degrees of combat power ashore — at night and under adverse weather conditions, if required
- Introduce additional forces sequentially into a theater of operations
- Operate independent of established airfields, basing agreements, and over-flight rights

- Conduct combat operations ashore, using inherent combat service support that is brought into the theater of operations
- Enable the introductions of follow-on MAGTF or joint and/or combined forces by securing staging areas ashore
- Operate in rural and urban environments, and during hostile nuclear, biological and chemical situations
- Withdraw rapidly at the conclusion of operations or remain to help restore stability to the affected areas
- Plan and commence execution of a mission within six to 48 hours of receiving a warning order

Along with the MAGTF, other special-purpose forces introduce additional depth to Marine Corps capabilities in support of joint operations.

### MAGTF Composition

The Marine Corps task-organizes for combat in accordance with its statutory mandate to provide forces of combined arms, including aviation by forming integrated, combined-arms MAGTFs. As the name indicates, MAGTFs are task-organized and specifically tailored by mission, as well as for rapid deployment by air and/or sea. However, no matter what their mission or mode of deployment, MAGTFs comprise four deployable elements, supported by a fifth element — our bases and stations.

**Command Element (CE):** The CE contains the MAGTF headquarters and other units that provide intelligence, communications and administrative support. As with all other elements of the MAGTF, the CE is scalable and task-organized to provide the command, control,

communications, computers, intelligence (C4I) and joint interoperability necessary for effective planning and execution of operations.

**Ground Combat Element (GCE):** The GCE is task-organized to conduct ground operations to support the MAGTF mission. This element includes infantry, artillery, reconnaissance, armor, light armor, assault amphibian, engineer and other forces as needed. The GCE can vary in size and composition. It can consist of a light, air-transportable battalion; a relatively heavy and mechanized unit that includes one or more Marine divisions; or another type of Marine Corps ground combat unit that meets the demands of a particular mission.



**Aviation Combat Element (ACE):** The ACE conducts offensive and defensive air operations and is task-organized to perform those functions of Marine aviation required to support the MAGTF mission. This element is formed around an aviation headquarters with appropriate air-control agencies, combat, combat support and combat service support units. The ACE can vary in size and composition from an aviation detachment of specifically required aircraft to one or more Marine Aircraft Wings (MAWs).

### **Logistics Combat Element (LCE):**

The LCE is task-organized to provide the full range of combat logistics functions and capabilities necessary to maintain the continued readiness and sustainability of the MAGTF as a whole. It is formed around a combat service support headquarters and may vary in size and composition from a support detachment to one or more Marine Logistics Groups (MLGs).

### **Types of MAGTFs**

Four types of MAGTFs can be task-organized: the Marine Expeditionary Force, Marine Expeditionary Brigade, Marine Expeditionary Unit (Special Operations Capable) and Special Purpose.

### **Marine Expeditionary Force (MEF):**

The MEF is the principal Marine Corps warfighting organization, particularly during larger crises or contingencies. It

is normally commanded by a lieutenant general. A MEF can range in size from less than one to multiple divisions and aircraft wings, together with one or more Marine Logistics Groups. MEFs are capable of both amphibious operations and sustained operations ashore in any geographic environment. With appropriate augmentation, the MEF command element is capable of performing as a Joint Task Force (JTF) headquarters.

MEFs are the primary “standing MAGTFs” that exist in peacetime, as well as wartime. Currently, the Marine Corps is organized with three standing MEFs, each with a Marine Division (MAR-DIV), MAW and MLG. The 1st Marine Expeditionary Force (I MEF) is located at bases in California and Arizona. The 2nd Marine Expeditionary Force (II MEF) is located at bases in North Carolina and South Carolina. The 3rd Marine Expedi-

### **Locations of MEFs, Maritime Prepositioning Ship Squadrons, and MARFORS**



tionary Force (III MEF) is based in Okinawa, mainland Japan, and Hawaii.

MEFs are the “reservoirs” from which all other Marine Corps capabilities emanate. Marine component headquarters, MARFORCOM or MAR-FORPAC, may form smaller MAGTFs from these MEFs. A MEF will normally deploy in echelon and will designate its lead element as the MEF (Forward).

**Marine Expeditionary Brigade (MEB):** The MEB is the mid-sized MAGTF (up to 20,000 Marines) that is normally commanded by a brigadier general. The MEB provides transitional capability between the forward-deployed MEU and the MEF, which is our principal warfighting force. A reinforced infantry regiment, a composite Marine Aircraft Group (MAG) and a Combat Logistics Regiment (CLR) comprise a notional MEB. The command element of the MEB is embedded within the command element of its parent MEF; the deputy MEF commander serves as the MEB commander.

MEBs provide supported combatant commanders with a scalable, warfighting capability across the spectrum of military operations. As an expeditionary force, it is capable of rapid deployment and employment via amphibious shipping (normally 17 amphibious ships), strategic air/sea-lift, geographic or maritime pre-positioning force assets, or any combination thereof. With 30 days of accompanying supplies, MEBs can conduct amphibious assault and sustained operations ashore in any geographic environment.

A MEB can operate independently or serve as the forward echelon of a MEF. With additional MEF Command Element augmentation, a MEB is also capable of acting as a JTF headquarters. Currently, the 1st, 2nd, and 3rd MEB Command Elements are embedded within the CEs of I, II and III MEF, respectively.

**Marine Expeditionary Unit (MEU) and Marine Expeditionary Unit (Special Operations Capable), or MEU (SOC):** Forward-deployed MEUs and /or MEU(SOC)s embarked aboard Amphibious Ready Groups (ARG) operate continuously in the areas of responsibility of various unified combatant commanders. The MEU(SOC) is differentiated from the MEU by the addition of a Marine Special Operations Company (MSOC) provided by Marine Forces Special Operations Command (MEU + MSOC = MEU(SOC)). Overall, these units provide the President and the unified combatant commanders a forward-deployed, flexible sea-based Marine Air Ground Task Force (MAGTF), capable of conducting: Amphibious operations, specific subsets within the Range of Military Operations (ROMO), supporting operations, to include enabling the introduction of follow on forces, and, when the associated MARSOF is embarked, Special Operations missions. MEUs are characterized by their sea-based forward presence, expeditionary nature, ability to plan and respond to crises, combined arms integration, and their interoperability with joint, combined and special operations forces.

The MEU is commanded by a colonel and deploys with 15 days of accompanying supplies. Prior to deployment, a MEU undergoes an intensive six-month training program, focusing on its Mission Essential Task List (METS) and interoperability with a MARSOE. The training culminates with a thorough evaluation and certification as “Operationally Ready to Deploy” and “interoperable” with its associated MARSOE.

The organic capabilities of the MEU are:

- Amphibious Operations:
  - Amphibious Assault
  - Amphibious Raid
- Range of Military Operations:
  - Humanitarian Assistance
  - Non-Combatant Evacuation Operations
  - Security, Stability, Transition and Reconstruction Operations
- Supporting Operations:
  - Joint and Combined Operations
  - Theater Security Cooperation Activities
  - Airfield and Port Seizures
  - Tactical Recovery of Aircraft and Personnel
  - Aviation Operations from Expeditionary Sites
  - Visit, Board, Search, and Seizure
  - Long Range/Deep Reconnaissance

The additional capabilities provided by the MEU (SOC) are:

- Special Operations:
  - Direct Action
  - Special Reconnaissance

#### ***Special Purpose MAGTF (SPMAGTF):***

A SPMAGTF is task-organized to accomplish a specific mission, operation, or regionally focused exercise. As such, SPMAGTFs can be organized, trained and equipped to conduct a wide variety of expeditionary operations, ranging from

crisis-response to training exercises and peacetime missions. They are designated as SPMAGTF with a mission, location or exercise name, for example, “SPMAGTF (X),” “SPMAGTF UNITAS” or “SPMAGTF Afghanistan.” Their duties cover the spectrum from security cooperation to non-combatant evacuation and disaster relief to major combat operations.

#### **Unique Unified Commander Support**

A combatant commander or subordinate joint force commander may also require Marine forces that do not possess all elements of a MAGTF. These forces are not given a MAGTF designation. Examples are installation security forces, engineer and medical support teams for humanitarian operations, deployments for training, law enforcement operations and mobile training teams. In these cases, forces will be designated by the name of the senior headquarters having operational control, for example, 1st Combat Engineer Battalion (Rein), 1st Marine Division.

#### **Other Special-Purpose Marine Corps Forces**

The MAGTFs discussed above provide a continuum of capabilities to support naval, unified combatant commander and national requirements. These MAGTFs are joined by other unique Marine forces to help the Corps deal with a full range of conventional and unconventional threats and assignments.

## Global Response Forces

Marine Corps Global Response Forces (GRFs) are standing contingency forces that can respond rapidly to emerging crises anywhere in the world. COMMARFORPAC and COMMARFORCOM maintain GRFs in continuous states of readiness, enabling JFCOM to provide combatant commanders with the appropriate GRF as soon as the SecDef directs. Marine GRFs provide great versatility: they can be immediately employed from U.S. Navy amphibious ships, fly into a crisis area and marry-up with equipment from the Maritime Prepositioned Force or conduct security and enabling functions as the lead element of a MEF. Additionally, the Chemical and Biological Incident Response Force (CBIRF) — a unique Marine Corps capability — maintains a high-state of readiness to respond to asymmetric enemy action at home or abroad.

## MAGTF Sustainability

A fundamental characteristic of a MAGTF is its ability to operate for extended periods as an expeditionary force, relying on internal resources for sustainment. All MAGTFs have inherent sustainability that allows them to be self-sufficient for planned periods. Larger MAGTFs have a deeper, broader, and more capable organic support capability. Different-sized MAGTFs deploy with sufficient accompanying supplies to support joint operations.

MAGTFs can augment their organic sustainability by using external support

from Navy organizations, host-nation support (HNS) agreements, inter-service support agreements (ISSAs) and in-theater cross-service support.



## Maritime Prepositioning Force (MPF)

The Maritime Prepositioning Force is a strategic power-projection capability that combines the lift capacity, flexibility, and responsiveness of surface ships with the speed of strategic airlift. Strategically positioned around the globe, the Maritime Prepositioning Ships (MPS) of the MPF provide Geographic Combatant Commanders (GCC) with persistent forward presence and rapid crisis response. The MPF is organized into three Maritime Prepositioning Ships Squadrons (MPSRON): MPSRON-1, based in the Mediterranean; MPSRON-2, based at Diego Garcia in the Indian Ocean; and MPSRON-3, based in the Guam-Saipan area. These three interoperable MPSRONS are each designed to couple with a Fly-In Echelon (FIE) to support the rapid closure of a Marine Expeditionary Brigade (MEB). The MPF can also support smaller or larger Marine Air-Ground Task Forces (MAGTFs) by employing as few as one or as many as 16 MPS. The MPS include government-owned ships and long-term-

leased ships operated under charters to Military Sealift Command (MSC).

When needed, these ships move to a crisis region and offload either in port or in-stream offshore. Offloaded equipment and supplies are then married up with Marines arriving at nearby airfields. The end result is a combat-ready MAGTF rapidly established ashore, using minimal reception facilities. The MAGTF combat capability provided by MPF supports GCC military operations that defeat adversaries and win wars, but has also supported regional crises that require rapid and effective humanitarian assistance and disaster relief.

MAGTF deployment planning and training is conducted by the Commanding Generals, II Marine Expeditionary Force (MEF) — MPSRON-1; I MEF — MPSRON-2; and III MEF — MPSRON-3. The Commander, Marine Corps Logistics Command (MARCORLOGCOM) is responsible for obtaining, prepositioning, and maintaining MPF supplies and equipment, primarily through the Marine Corps Support Facility at Blount Island (MCSF-BI) in Jacksonville, Florida. This is conducted in conjunction with operating forces through a maintenance-cycle program at MCSF-BI.

The MPF program is in transition. From 2008-2010, Marine Corps and Navy headquarters will transfer three Large Medium Speed Roll-on Roll-off vessels (LMSRs) from the Military Sealift Command's Surge Fleet to the MPF, while divesting older and less-capable Maersk Class vessels. The LMSRs will enhance the ability

of the current MPF program to lift our armored rolling stock as well as preposition more of the MEB's equipment and ammunition afloat. Each LMSR has the same gross square-foot capability as nearly three of the Maersk MPS and has a maximum draft comparable to other MPS. This increase in the MPF's capability will reduce force-closure time and demands on the Air Mobility Command (AMC), in the U.S. Transportation Command (US-TRANSCOM), to close the FIE during operations. It also facilitates interoperability and seabasing experimentation and provides a bridge between the MPF and MPF (Future) programs. The first new-build LMSR in the Marine Corps MPF Program was loaded with equipment and supplies in September 2008.

### Marine Corps Prepositioning Program – Norway (MCPN)

Marine Corps Prepositioning Program-Norway enhances all Geographic Combatant Commanders operational responsiveness by providing mission-tailored, prepositioned war reserve materiel that supports global Marine Corps expeditionary operations. MCPN's prepositioned war reserve materiel is stored in six caves and two airfields throughout Norway and is available for rapid preparation and marshalling to aerial/sea/rail ports of debarkation in support of deploying MAGTFs. Forward-prepositioned war reserve materiel reduces reaction time and CONUS-based lift requirements.

## Supporting Establishment

Marine Corps bases and stations, often referred to as the fifth element of the MAGTF, consist of those personnel, bases and activities that support the Marine Corps' operating forces. This infrastructure consists primarily of 15 major bases and stations in the United States and Japan, as well as the personnel, equipment and facilities required to operate them.

The supporting establishment also includes the Marine Corps Recruiting Command, Marine Corps Combat Development Command, and Marine Corps Logistics Command as well as all training activities and formal schools. Additionally, the supporting establishment includes those civilian activities and agencies that support the Marine Forces.

## U.S. Marine Corps Forces, Special Operations Command

U.S. Marine Corps Forces, Special Operations Command (MARSOC) is the Marine Corps component of U.S. Special Operations Command (USSOCOM). As such, MARSOC trains, organizes, equips and, when directed by the Commander USSOCOM, deploys task-organized, scalable and responsive Marine Corps Special Operations Forces (MARSOFF) worldwide in support of combatant commanders and other agencies.

In October 2005, the Secretary of Defense directed the Marine Corps to form a service component of USSOCOM and begin providing forces to the Com-

mander of USSOCOM. Formally established on February 24, 2006, MARSOC is headquartered at Camp Lejeune, North Carolina, and will ultimately comprise approximately 2,600 Marines, Sailors and civilian employees. MARSOC includes five subordinate units: Marine Special Operations Advisor Group (MSOAG), 1st and 2d Marine Special Operations Battalions (MSOBs), Marine Special Operations Support Group (MSOSG) and the Marine Special Operations School (MSOS).

A Marine Corps Major General commands MARSOC with a supporting staff designed to be compatible in all functional areas with both USSOCOM and Headquarters, Marine Corps (HQMC). The MARSOC headquarters is responsible for identifying Marine special operations-unique requirements; development of MARSOFF tactics, techniques, procedures and doctrine; and execution of assigned missions in accordance with designated conditions and standards.

From August 2006 to late 2008, MARSOC units conducted 51 operational overseas deployments, continuously deploying Marine Special Operations Teams (MSOTs) and Marine Special Operations Companies (MSOCs) in support of all of the Geographic Combatant Commanders. Missions have included conducting combat operations in Afghanistan and training foreign SOF in Africa, Asia, South America, Central Asia and the Middle East.

## MARSOC Core Capabilities

MARSOC is tasked by SOCOM with providing Marines who are specially trained in the following primary SOF disciplines:

- Direct Action (DA) — short-duration strikes and other small-scale offensive actions taken to seize, destroy, capture, recover or inflict damage in denied areas
- Special Reconnaissance (SR) — actions conducted by SOF to obtain or verify, by visual observation or other collection methods, information concerning the capabilities, intentions and activities of an actual or potential enemy
- Foreign Internal Defense (FID) — participation by civilian and military agencies of a government in any of the programs taken by another government to free and protect its society from subversion, lawlessness and insurgency
- Counterterrorism (CT) — offensive measures taken to prevent, deter and respond to terrorism

MARSOC also provides support for the following:

- Unconventional Warfare (UW) — a broad spectrum of military and paramilitary operations, normally of long duration, predominantly conducted by indigenous or surrogate forces organized, trained, equipped, supported and directed in varying degrees by an external source
- Information Operations (IO) — use of offensive and defensive information means to degrade, destroy, and exploit an adversary's information-based process while protecting one's own

## MARSOC Subordinate Units

MARSOC includes five subordinate units: Marine Special Operations Advisor Group (MSOAG), 1st and 2d Marine Special Operations Battalions (MSOBs), Marine Special Operations Support Group (MSOSG) and the Marine Special Operations School (MSOS). See chart on page 61 for more details.

## How the Marines are Organized

The United States Marine Corps is organized as a “force-in-readiness,” one that is able to support a wide range of national military requirements. The service is divided into three broad categories:

- Headquarters Marine Corps
- Operating forces
- Reserves

### Headquarters Marine Corps

Headquarters, U.S. Marine Corps (HQMC) consists of the Commandant of the Marine Corps and those staff agencies that advise and assist him in discharging his responsibilities prescribed by law and higher authority. The Commandant is directly responsible to the Secretary of the Navy for the total performance of the Marine Corps. This includes the administration, discipline, internal organization, training, requirements, efficiency and readiness of the service. The Commandant also is responsible for the operation of the Marine Corps material support system.

### Operating Forces

Operating forces — the heart of the Marine Corps — comprise the forward-presence, crisis-response, and fighting power that the Corps makes available to U.S. unified combatant commanders. The Marine Corps has permanently established three combatant level service components in support of Unified Commands with significant Marine forces assigned: U.S. Marine Forces Command (MARFORCOM), Marine Forces Pacific

(MARFORPAC) and Marine Forces, Special Operations Command (MARSOC). The Commander, U.S. Marine Forces Command (COMMARFORCOM) is assigned to the Commander, U.S. Joint Forces Command (USJFCOM). He provides the 2nd Marine Expeditionary Force (II MEF) to USJFCOM. Likewise, the Commander, U.S. Marine Forces, Pacific (COMMARFORPAC) is assigned to the Commander, U.S. Pacific Command (US-PACOM). COMMARFORPAC provides I and III MEFs to USPACOM. The Commander Marine Forces Special Operations Command (COMMARSOC) is assigned to the Commander, Special Operations Command (USSOCOM). He provides assigned forces to USSOCOM. These assignments reflect the peacetime disposition of Marine Corps forces. Marine forces are apportioned to the remaining geographic combatant commands — the U.S. Southern Command (USSOUTHCOM), U.S. Northern Command (USNORTHCOM), U.S. European Command (USEUCOM), U.S. Central Command (USCENTCOM), U.S. Africa Command (USAFRICOM), and U.S. Forces Korea (USFK) — for contingency planning and are provided to these commands when directed by the Secretary of Defense.

### Reserves

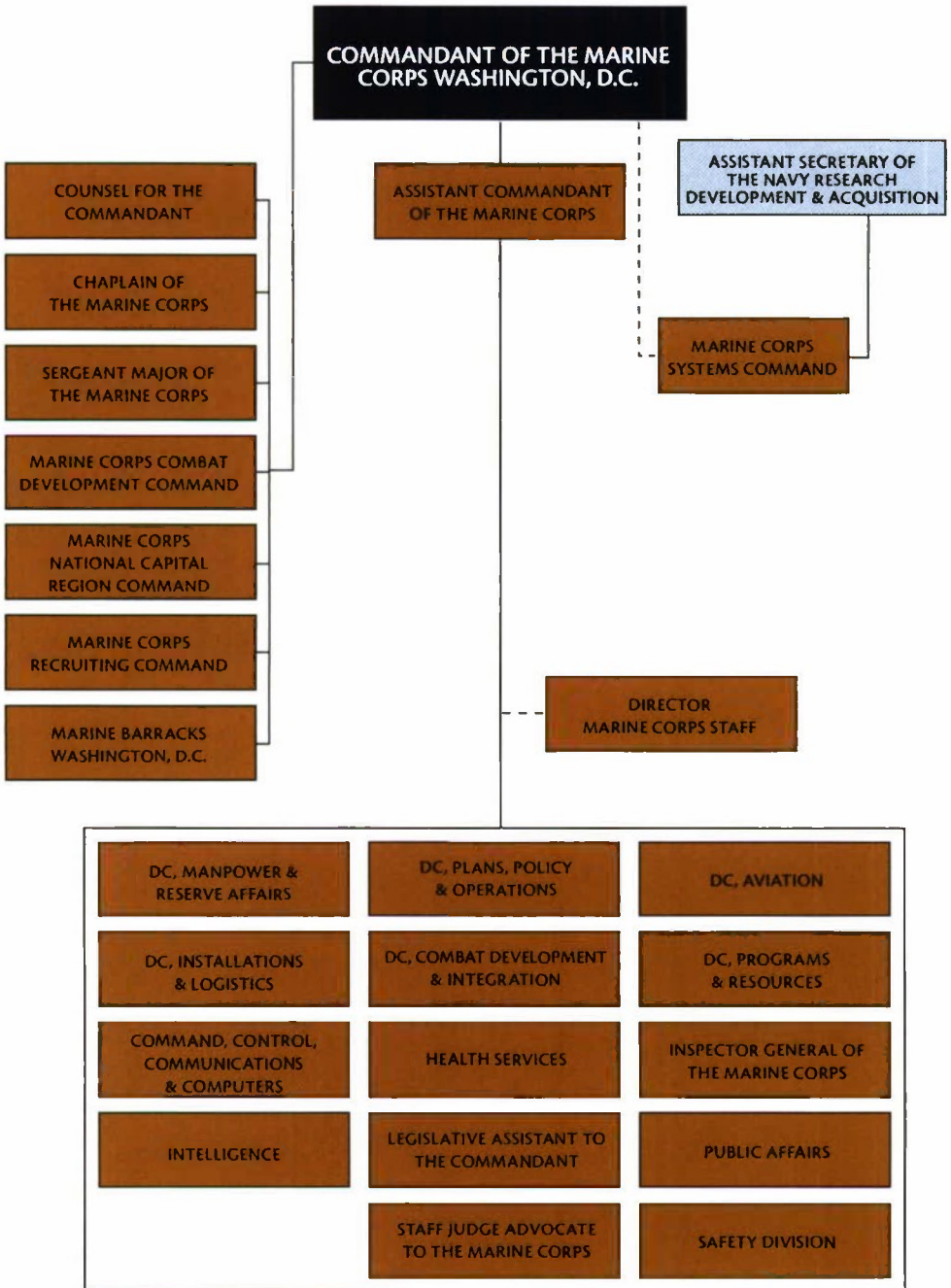
The United States Marine Corps Reserve is responsible for providing trained units and qualified individuals to be mobilized for active duty in time of

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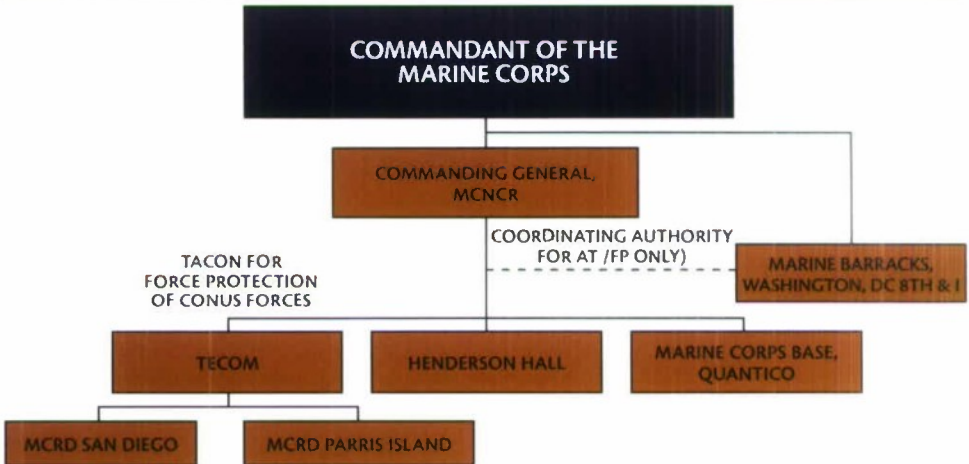
war, national emergency or contingency operations, and to provide personnel and operational tempo relief for active component forces in peacetime. Marine Corps force expansion is made possible by activation of the Marine Corps Reserve, which, like the active forces, consists of a combined-arms force with balanced ground, aviation and logistics combat support units. Organized under the Commander, Marine Forces Reserve (COMMARFORRES), units of this command are located at 185 training centers in 47 states, Puerto Rico and the District of

Columbia. Over the past several years, the Reserve Component has been closely integrated with the Active Component under the Marine Corps' Total Force concept. The Reserves provide individuals and specific units to augment and reinforce active capabilities. The ethos for Marine Forces Reserve is mobilization and combat readiness. This ensures the men and women of Marine Forces Reserve stand ready, willing and able to answer the Nation's call at home and abroad at a moment's notice.

# Headquarters, U.S. Marine Corps



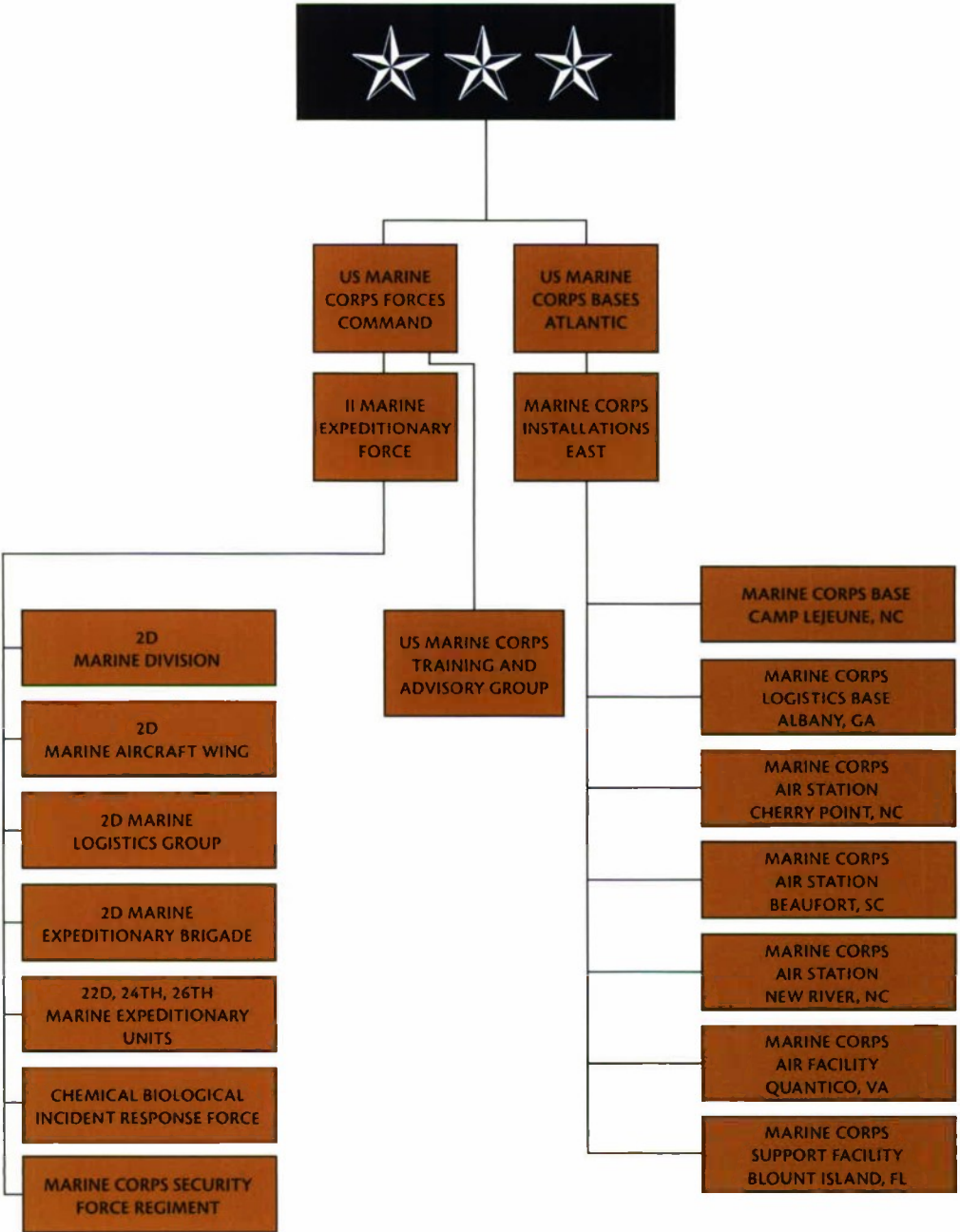
## U.S. Marine Corps National Capital Region Structure



Deputy Commandant, Combat Development & Integration\*/  
 CG Marine Corps Combat Development Command\*\*/  
 Commander Marine Forces Strategic Command\*\*\*/  
 CG Marine Corps Installations National Capital Region



# U.S. Marine Corps Forces Command, Marine Corps Bases Atlantic



## U.S. Marine Corps Forces Command Ground Units

### Marine Corps Base Camp Lejeune, NC

#### II MARINE EXPEDITIONARY FORCE

II Marine Expeditionary Force Headquarters Group

8th Communication Battalion

2d Intelligence Battalion

2d Radio Battalion

2d Force Reconnaissance Battalion

2d Marine Expeditionary Brigade

22d Marine Expeditionary Unit

24th Marine Expeditionary Unit

26th Marine Expeditionary Unit

#### 2D MARINE LOGISTICS GROUP

Marine Logistics Group Headquarters

Combat Logistics Regiment 27

Combat Logistics Battalion 22

Combat Logistics Battalion 24

Combat Logistics Battalion 26

Combat Logistics Regiment 2

Combat Logistics Battalion 2

Combat Logistics Battalion 6

Combat Logistics Battalion 8

Combat Logistics Regiment 25

2d Maintenance Battalion

2d Supply Battalion

2d Medical Battalion

Combat Logistics Company 21 (Cherry Point, NC)

Combat Logistics Company 23 (Beaufort, SC)

8th Engineer Support Battalion

2d Dental Battalion

#### 2D MARINE DIVISION

Headquarters Battalion

2d Marine Regiment

1st Battalion (1/2)

2d Battalion (2/2)

3d Battalion (3/2)

2d Battalion, 9<sup>th</sup> Marines (2/9)

6th Marine Regiment

1st Battalion (1/6)

2d Battalion (2/6)

3d Battalion (3/6)

3d Battalion, 9<sup>th</sup> Marines (3/9)

8th Marine Regiment

1st Battalion (1/8)

2d Battalion (2/8)

3d Battalion (3/8)

1st Battalion, 9<sup>th</sup> Marines (1/9)

10th Marine Regiment

1st Battalion (1/10)

2d Battalion (2/10)

3d Battalion (3/10)

5th Battalion (5/10)

2d Tank Battalion

2d Assault Amphibian Battalion

2d Light Armored Reconnaissance Battalion

2d Combat Engineer Battalion

2d Reconnaissance Battalion

## U.S. Marine Corps Forces Command Aviation Units

### 2d Marine Aircraft Wing

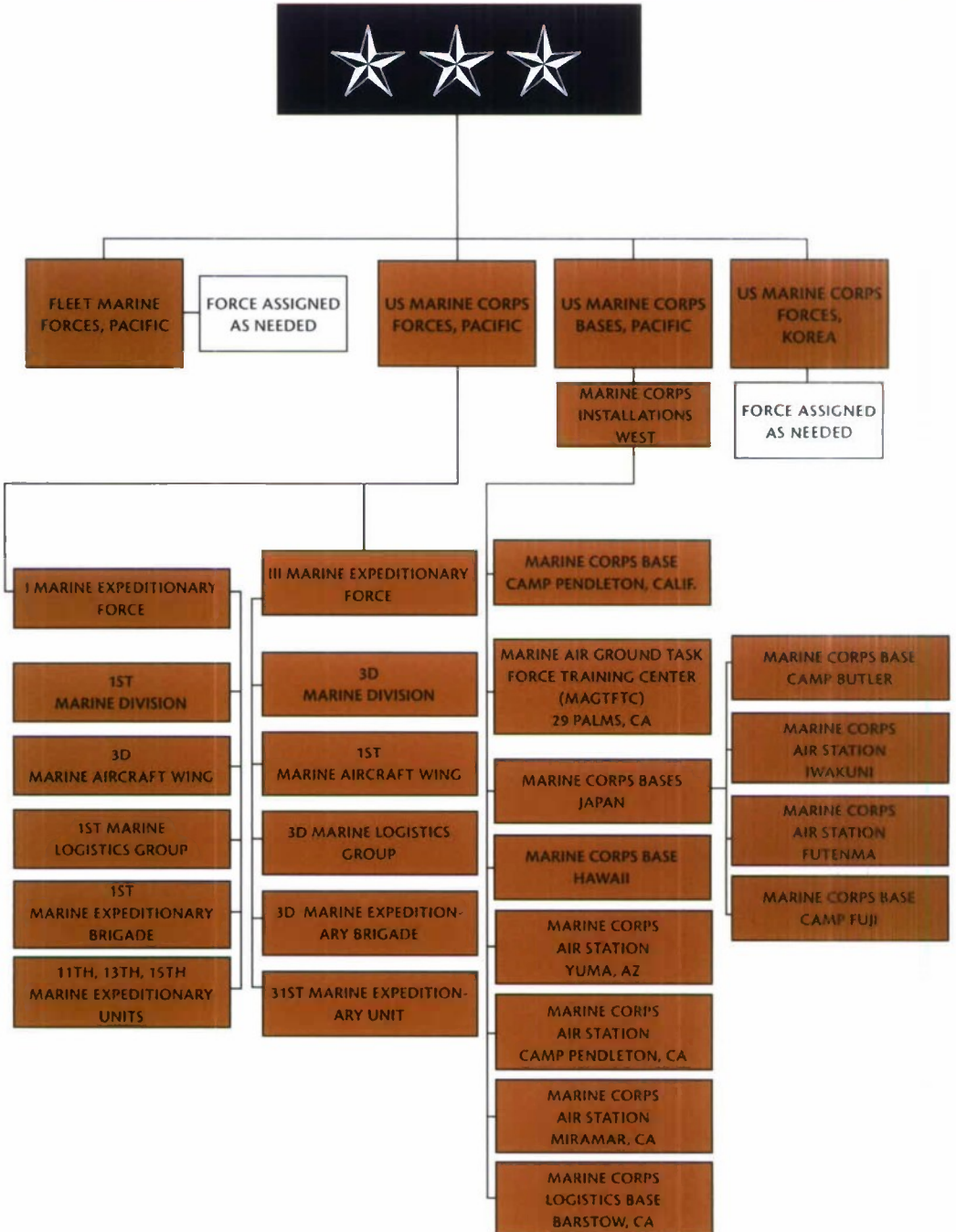
#### MARINE CORPS AIR STATION CHERRY POINT, NC

Headquarters, 2d Marine Aircraft Wing  
 Marine Wing Headquarters Squadron 2  
 Marine Aircraft Group 14  
 Marine Aviation Logistics Squadron 14  
 Marine Tactical Electronic Warfare Squadron 1  
 Marine Tactical Electronic Warfare Squadron 2  
 Marine Tactical Electronic Warfare Squadron 3  
 Marine Tactical Electronic Warfare Squadron 4  
 Marine Attack Training Squadron 203  
 Marine Attack Squadron 231  
 Marine Attack Squadron 223  
 Marine Attack Squadron 542  
 Marine Aerial Refueler Transport Squadron 252  
 Marine Light Attack Helicopter Squadron 467  
 Marine Air Control Group 28  
 Marine Tactical Air Control Squadron 28  
 Marine Wing Communications Squadron 28  
 Marine Air Control Squadron 2  
 Marine Aircraft Support Squadron 1  
 Marine Unmanned Aerial Vehicle Squadron 2  
 2d Low Altitude Air Defense Battalion  
 Marine Wing Support Group 27  
 Marine Wing Support Squadron 274  
 Air Traffic Control Detachment  
**BOGUE AIRFIELD, NC**  
 Marine Wing Support Squadron 271  
 Air Traffic Control detachment

#### MARINE CORPS AIR STATION NEW RIVER, NC

Marine Aircraft Group 26  
 Marine Aviation Logistics Squadron 26  
 Marine Medium Helicopter Squadron 261  
 Marine Medium Helicopter Squadron 266  
 Marine Medium Tiltrotor Squadron 264  
 Marine Heavy Helicopter Squadron 461  
 Marine Heavy Helicopter Squadron 366  
 Marine Light Attack Helicopter Squadron 167  
 Marine Medium Tiltrotor Training Squadron 204  
 Marine Aircraft Group 29  
 Marine Aviation Logistics Squadron 29  
 Marine Medium Tiltrotor Squadron 162  
 Marine Medium Tiltrotor Squadron 263  
 Marine Medium Tiltrotor Squadron 365  
 Marine Heavy Helicopter Squadron 464  
 Marine Light Attack Helicopter Squadron 269  
 Marine Helicopter Training Squadron 302  
 Marine Wing Support Squadron 272  
 Air Traffic Control Detachment  
**MARINE CORPS AIR STATION BEAUFORT, SC**  
 Marine Aircraft Group 31  
 Marine Aviation Logistics Squadron 31  
 Marine Fighter Attack Squadron 115  
 Marine Fighter Attack Squadron 122  
 Marine Fighter Attack Squadron 251  
 Marine Fighter Attack Squadron 312  
 Marine All Weather Fighter Attack Squadron 224  
 Marine All Weather Fighter Attack Squadron 533  
 Marine Wing Support Squadron 273  
 Air Traffic Control Detachment

## U.S. Marine Corps Forces Pacific, Korea



## U.S. Marine Corps Forces Pacific & Korea, Ground Units

### Marine Corps Base Camp Pendleton, CA

#### I MARINE EXPEDITIONARY FORCE

- I Marine Expeditionary Force Headquarters Group
  - 9th Communication Battalion
  - 1st Intelligence Battalion
  - 1st Radio Battalion
  - 1st Force Reconnaissance Battalion
- 1st Marine Expeditionary Brigade
- 11th Marine Expeditionary Unit
- 13th Marine Expeditionary Unit
- 15th Marine Expeditionary Unit
- 1st Force Reconnaissance Company

#### 1ST MARINE LOGISTICS GROUP

- Marine Logistics Group Headquarters
  
- Combat Logistics Regiment 17
  - Combat Logistics Battalion 11
  - Combat Logistics Battalion 13
  - Combat Logistics Battalion 15
  
- Combat Logistics Regiment 1
  - Combat Logistics Battalion 1
  - Combat Logistics Battalion 5
  - Combat Logistics Battalion 7
  
- Combat Logistics Regiment 15
  - 1st Maintenance Battalion
  - 1st Supply Battalion
  - 1st Medical Battalion
  - Combat Logistics Company 11 (Miramar, CA)
  - Combat Logistics Company 16 (Yuma, AZ)

- 7th Engineer Support Battalion
- 1st Dental Battalion

#### 1ST MARINE DIVISION

- 1st Marine Regiment
  - 1st Battalion (1/1)
  - 2d Battalion (2/1)
  - 3d Battalion (3/1)
  - 1st Battalion, 4th Marine Regiment (1/4)
  
- 5th Marine Regiment
  - 1st Battalion (1/5)
  - 2d Battalion (2/5)
  - 3d Battalion (3/5)
  - 2d Battalion, 4th Marine Regiment (2/4)
  
- 11th Marine Regiment
  - 1st Battalion (1/11)
  - 2d Battalion (2/11)
  - 5th Battalion (5/11)
  
- 3d Assault Amphibian Battalion
- 1st Light Armored Reconnaissance Battalion
- 1st Combat Engineer Battalion
- 1st Reconnaissance Battalion

## U.S. Marine Corps Forces Pacific & Korea, Ground Units

### Twentynine Palms, CA

#### I MEF ASSETS LOCATED AT THE MARINE CORPS AIR-GROUND COMBAT CENTER

7th Marine Regiment  
 1st Battalion (1/7)  
 2d Battalion (2/7)  
 3d Battalion (3/7)  
 3d Battalion, 4th Marine Regiment (3/4)

11th Marine Regiment  
 3d Battalion (3/11)

1st Tank Battalion

3d Assault Amphibian Battalion  
 D Company

Combat Logistics Battalion 7

3d Light Armored Reconnaissance Battalion

### Marine Corps Base Kaneohe Bay, HI

#### III MEF ASSETS LOCATED AT

Marine Corps Base Kaneohe Bay  
 3d Marine Regiment  
 1st Battalion (1/3)  
 2d Battalion (2/3)  
 3d Battalion (3/3)

1st Battalion, 12th Marine Regiment (1/12)

Combat Logistics Battalion 3  
 3d Radio Battalion

## U.S. Marine Corps Forces Pacific & Korea, Ground Units

### Okinawa, Japan

#### III MARINE EXPEDITIONARY FORCE

III Marine Expeditionary Force Headquarters Group  
7th Communication Battalion  
3d Intelligence Battalion

3d Marine Expeditionary Brigade  
31st Marine Expeditionary Unit

#### 3D MARINE LOGISTICS GROUP

Marine Logistics Group Headquarters

Combat Logistics Regiment 37  
Combat Logistics Battalion 31

Combat Logistics Regiment 3  
Combat Logistics Battalion 3 (Hawaii)  
Combat Logistics Battalion 4

Combat Logistics Regiment 35  
3rd Maintenance Battalion  
3rd Supply Battalion  
3rd Medical Battalion  
Combat Logistics Company 36

9th Engineer Support Battalion  
3rd Dental Battalion

#### 3D MARINE DIVISION

4th Marine Regiment  
4 Unit Deployment Program Battalions

12th Marine Regiment  
Echo Battery, 2d Battalion, 12th Marines (2/12)  
3d Battalion, 12th Marines (3/12)  
Combat Assault Battalion  
3d Force Reconnaissance Battalion

## U.S. Marine Corps Forces Pacific & Korea, Aviation Units

### 1st Marine Aircraft Wing

#### MARINE CORPS AIR STATION FUTENMA, OKINAWA, JAPAN

##### Marine Aircraft Group 36

- Marine Aviation Logistics Squadron 36
- Marine Medium Helicopter Squadron 262
- Marine Medium Helicopter Squadron 265
- Marine Heavy Helicopter Squadron –  
(Unit Deployment Program)
- Marine Light Attack Helicopter Squadron –  
(Unit Deployment Program)
- Marine Aerial Refueler Transport  
Squadron 152

##### Marine Air Control Group 18

- Marine Tactical Air Command Squadron 18
- Marine Wing Communications Squadron 18
- Marine Air Control Squadron 4
- Marine Air Support Squadron 2

##### Marine Wing Support Squadron 172

#### MARINE CORPS BASE CAMP BUTLER, OKINAWA, JAPAN

##### 1st Marine Aircraft Wing

- Marine Wing Headquarters Squadron 1
- Marine Wing Support Group 17

#### MARINE CORPS AIR STATION IWAKUNI, JAPAN

##### Marine Wing Support Squadron 171

##### Marine Aircraft Group 12

- Marine Aviation Logistics Squadron 12
- Marine Fighter Attack Squadron / Navy Fighter Attack  
Squadron – (Unit Deployment Program)
- Marine Fighter Attack Squadron  
All Weather 242
- Marine Fighter Attack Squadron –  
All Weather (Unit Deployment Program)
- Marine/Navy Tactical Electronic Warfare Squadron –  
(Unit Deployment Program)
- Marine Heavy Helicopter Squadron –  
(Unit Deployment Program)

#### MARINE CORPS BASE KANEHOE BAY, HI

##### Marine Aircraft Group 24

- Marine Heavy Helicopter Squadron 362
- Marine Heavy Helicopter Squadron 363
- Marine Heavy Helicopter Squadron 463
- Marine Aviation Logistics Squadron 24

## U.S. Marine Corps Forces Reserve Ground Units

### 4TH MARINE DIVISION

New Orleans, LA

Headquarters, Headquarters Battalion

Tampa, FL

Headquarters, 4th Assault

Amphibian Battalion

Fort Worth, TX

Headquarters, 14th Marines

San Bruno, CA

Headquarters, 23d Marines

Kansas City, MO

Headquarters, 24th Marines

Worcester, MA

Headquarters, 25th Marines

San Diego, CA

Headquarters, 4th Tank Battalion

Bessemer, AL

Headquarters, Anti-Terrorism Battalion

Mobile, AL

Headquarters, 3d Force

Reconnaissance Company

San Antonio, TX

Headquarters, 4th Reconnaissance Battalion

Kaneohe Bay, HI

Headquarters, 4th Force Reconnaissance

Company

Camp Pendleton, CA

Headquarters, 4th Light Armored

Reconnaissance Battalion

Baltimore, MD

Headquarters, 4th Combat

Engineer Battalion

Broken Arrow, OK

TOW Training Company

### 4TH MARINE LOGISTICS GROUP

New Orleans, LA

Headquarters, 4th FSSG

Marietta, GA

Headquarters, Headquarters and Service Battalion

Portland, OR

Headquarters, 6th Engineer

Support Battalion

Red Bank, NJ

Headquarters, 6th Motor Transport Battalion

Newport News, VA

Headquarters, 4th Supply Battalion

Charlotte, NC

Headquarters, 4th Maintenance Battalion

El Lewis, WA

Headquarters, 4th Landing Support Battalion

Brooklyn, NY

Headquarters, 6th Communications Battalion

San Diego, CA

Headquarters, 4th Medical Battalion

Marietta, GA

Headquarters, 4th Dental Battalion

Camp Pendleton, CA

4th MIG Forward West

Camp Lejeune, NC

4th MIG Forward-East

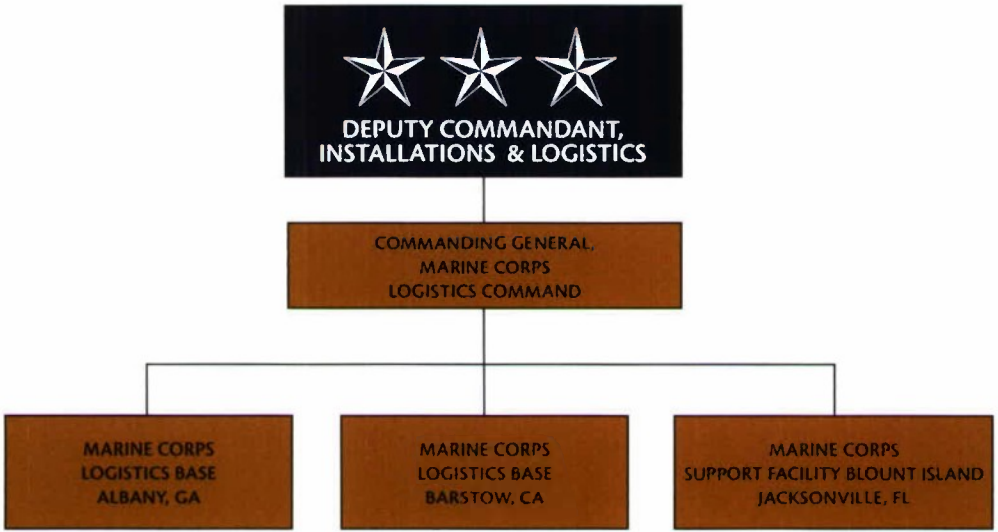
## U.S. Marine Corps Forces Reserve Aviation Units

### 4TH MARINE AIRCRAFT WING

Marine Aircraft Group 41	Ft. Worth, TX
Marine Fighter Attack Squadron 112	Ft. Worth, TX
Marine Aerial Refueler Transport Squadron 234	Ft. Worth, TX
Marine Aviation Logistics Squadron 41	Ft. Worth, TX
Marine Fighter Attack Squadron 142	NAS Atlanta, GA
Marine Medium Helicopter Squadron 774	NAS Norfolk, VA
Marine Light Attack Helicopter Squadron 773 (-)	NAS Atlanta, GA
Detachment, A	NAS/IRB Belle Chasse, LA
Marine Aircraft Group 46 Headquarters	MCAS Miramar, CA
Marine Heavy Helicopter Squadron 769	Edwards AFB, CA
Marine Medium Helicopter Squadron 764	Edwards AFB, CA
Marine Light Attack Helicopter Squadron 775 (-)	MCB Camp Pendleton, CA
Marine Fighter Training Squadron 401	MCAS Yuma, AZ
Marine Wing Support Group 47 Headquarters	Mt. Clemens, MI
Marine Wing Support Squadron 471	Minneapolis, MN
Marine Wing Support Squadron 472	NAS Willow Grove, PA
Marine Wing Support Squadron 473	MCAS Miramar, CA
Marine Air Control Group 48 Headquarters	Great Lakes, IL
Marine Wing Communication Squadron 48	Great Lakes, IL; MCAS Miramar, CA
Marine Tactical Air Command Squadron 48	Great Lakes, IL
Marine Air Support Squadron 6	Westover AFB, MA; MCAS Miramar, CA
Marine Air Control Squadron 23	Aurora, CO
Marine Air Control Squadron 24	Great Lakes, IL; Ft. Worth, TX
4th Low Altitude Air Defense Battalion	Pasadena, CA
Marine Aircraft Group 49 Headquarters	NAS/IRB Willow Grove, PA
Marine Aerial Refueler Transport Squadron 452	Stewart ANGB, NY
Marine Heavy Helicopter Squadron 772	NAS/IRB Willow Grove, PA
Marine Medium Helicopter Squadron 774	NAS Norfolk, VA
Marine Medium Helicopter Squadron 773 (-)	NAS/IRB Willow Grove, PA
Marine Aviation Logistics Squadron 49	Stewart ANGB, NY
Detachment, HMLA-775	Johnstown, PA (ADCON to MAG-49)
Detachment A	NAS/IRB New Orleans, LA

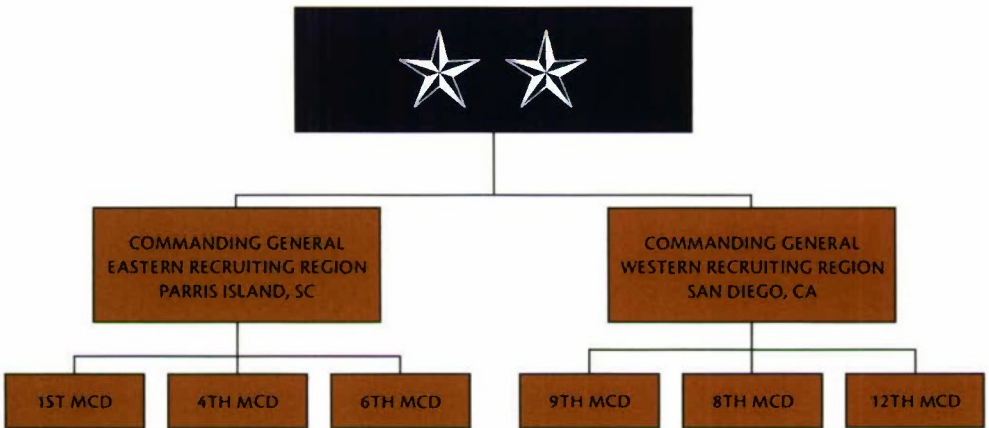
## U.S. Marine Corps Installations & Logistics

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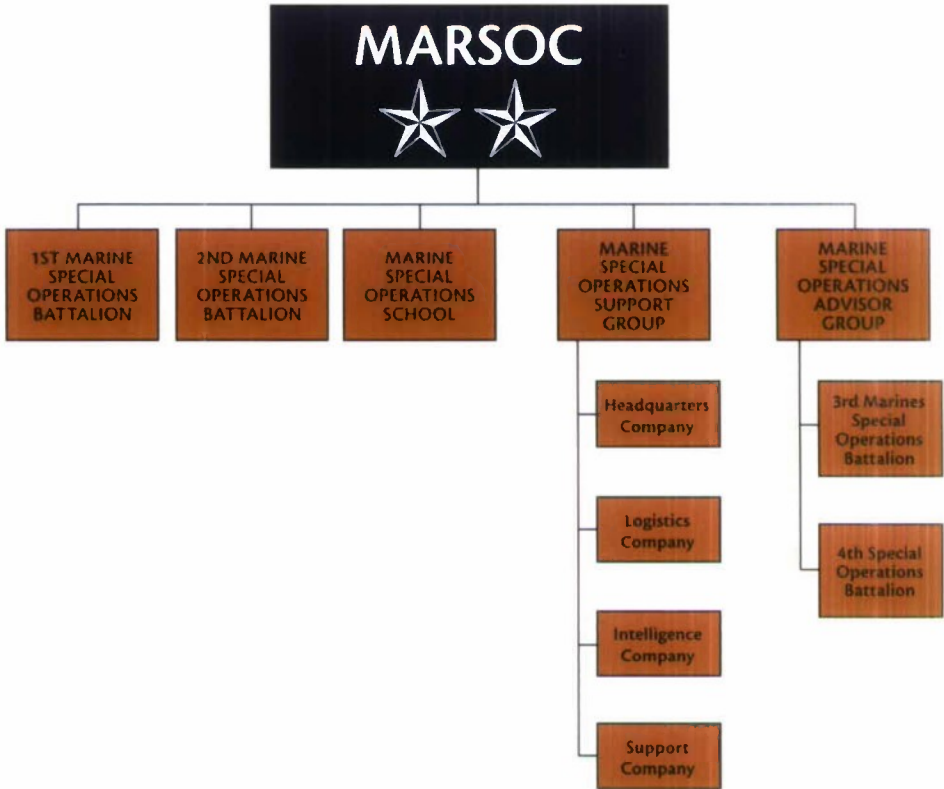


## U.S. Marine Corps Recruiting Command

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# MARSOC





## CHAPTER 3

## PROGRAMS

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### Introduction

The Marine Corps primary role in the 21st Century is to be the Nation's "expeditionary force-in-readiness" that provides combined-arms operating forces, including integrated aviation and logistical components, for service as part of naval, joint and combined forces world wide. Marine forces magnify the projection of U.S. naval forces, ensuring that they remain influential in peacetime, compelling in crisis and decisive in war. As we look ahead, we will return to our roots of a lighter, faster, hard-hitting, expeditionary and sea-based Marine Corps that is reliant on agility, shock and surprise.

Congress has responded generously to our requests. In this, innovation and fiscal responsibility are hallmarks of the Corps. We continue to invest scarce resources to restore combat capability and enhance our Marines' readiness at home and in overseas operating areas. We are constantly monitoring our total investment requirements against the changing demands of the situation.

In our ground and aviation programs we continue to test, develop and procure dual-use, and employ emerging technology. Our focus is on the Individual Marine's ability to carry out the tasks at hand.

Chapter Three of this 2009 edition of *Concepts and Programs* provides information on our programs of record and our major end-item equipment, which will ensure that today's and tomorrow's Marines have what they need to get the job done.



**CHAPTER 3**

**PART 1**  
**THE INDIVIDUAL MARINE**

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## Introduction

The “Individual Marine” is the heart and soul of the Nation’s Marine Corps. The individual Marine is trained, educated and equipped to operate across the broadest spectrum of missions and tasks — a “two-fisted” fighter highly effective in major contingencies but equally capable in irregular warfare.

While today’s Marines are superbly in every clime and place, it is a leadership obligation to Marines and the Nation to prepare for tomorrow’s today. Even as we grow the force to 202,000 Marines, however, the individual Marine will remain our number-one priority. And, while a Marine’s focus in the field is on excellence and mission, the focus of our programs is on the “tools” needed for operational success: our Marines deserve nothing but the best we can afford. For example, working closely with the Army and Air Force, we are developing systems that have increased effectiveness, efficiency, lighter weight and increased, and are integrated with other equipment.

Our commitment to our Marines extends to those who have returned with severe injuries. The Wounded Warrior Regiment is key to continuing to provide and facilitate assistance to wounded, ill or injured Marines and their family members, throughout the phases of recovery. Likewise, we look to our Marine families as a source of strength for our Marines, particularly when they are deployed overseas. In short, we take care of our own.

## Marine Expeditionary Rifle Squad (MERS)

The Marine Expeditionary Rifle Squad (MERS) is a program charged with applying a system's engineering approach to equipping a Marine rifle squad, our most fundamental warfighting unit. The focus of the program is to view the Marine rifle squad in a holistic manner — one in which the squad comprises a whole much more effective than the sum of its individual members. The integration and configuration management of all components that are worn, carried and consumed by the squad will increase lethality, mobility, and flexibility of infantry forces. MERS is the steward of the Marine rifle squad's suite of equipment and works with all the Program Managers at Marine Corps Systems Command to optimize and integrate the rifle squad's equipment. The program has founded the *GRUNTWORKS* Squad Integration Facility. The facility provides a venue to engineer, evaluate, and try the capabilities and limitations of all equipment in development and under consideration for procurement that will be delivered to the infantry squad. This dynamic facility utilizes a human factors lab, equipment prototyping and modification workshop, a mobility platform integration area, and an infantry immersive environment focused on equipment evaluation in a foreign environment to accomplish equipment modernization and integration initiatives. Human factors and ergonomics are applied to the physical integration of the infantry squad's equipment. The physiological and performance impacts

of fielding new equipment creates a constant set of trade-offs between weight and volume management, comfort, usability, simplicity, lethality, survivability, mobility, sustainment, and training given that it must perform in combat in any clime and place. MERS will highlight these trade offs and refine solutions that incorporate the capabilities of the Marine rifle squad as an integrated system.

MERS works closely with the MCCDC MERS Capabilities Development Officer and the HQMC PP&O MERS Infantry Advocate and the triad has established an Integrated Infantry Working Group in order to ensure that the operating forces are equipped with optimal solutions. Infantry Battalion surveys are continuously conducted in theater and post deployment in order to identify trends and issues with infantry equipment. In 2008, a thermal analysis was conducted with 1/9 and 3/4 to determine exactly how hot Marines were actually getting in the Iraq summer heat conditions while on patrols.

Integration efforts during 2009 include:

- Integration of all the items worn on a Marine's head into an optimized system of components of a headborne system
- Improvements in weapon weight characteristics and integration with equipment that is worn.
- Integration and human factor improvements to MTV and Scalable Plate Carrier
- C2 / Situational Awareness integration and information presentation methods
- Squad electrical power analysis and power/ data distribution on the Marine

- 
- Integration and anthropometry of the Marine in mobility platforms under development such as JLTV and MPC.
  - Integration of the various unique items carried in the billet positions within the squad

Human factors efforts during 2009 include:

- Squad Weight Study – Isolate what equipment and weight degrades a Marines performance when conducting physically demanding tasks in a fatigued and non-fatigued state.
- Thermal Analysis – Determine what the actual core temperature, heart rate, and respiratory rate are during operations with squads in various environmental and operational conditions.

The MERS Program Office is also the Enhanced Company Operations (ECO) Equipping Coordinator for Ma-

rine Corps Systems Command. MERS also coordinates the R&D efforts for the long term objective of Distributed Operations. Infantry Battalions are nominated by the MEF's for ECO equipping and new equipment training. ECO equipment is currently listed in the battalions table of equipment. The robust C2 package combined with appropriate training will empower the non-commissioned officers (NCO) at the fire team and squad level and increase the battalion's capabilities across all six warfighting functions. At the end of FY-2008, 15 of the 36 active and reserve Infantry Battalions had been equipped with ECO items that were available.

## Marine Enhancement Program (MEP)



The Marine Corps stood up the Marine Enhancement Program (MEP) in 1989 in response to congressional guidance for the Corps to establish programs dedicated to improving the “lethality, comfort and survivability” of the individual Marine. The primary focus of the program is on low-cost, low-visibility materiel solutions that can be rapidly fielded and that typically do not compete well against larger, high-profile items in the Department of the Navy’s budget.

The MEP thus ensures improvements for the individual Infantryman are identified and quickly transitioned into practical solutions. This goal is achieved through an accelerated acquisition process that takes advantage of commercially available technologies to provide lighter, more improved “infantry items” to the Marines as quickly as possible. Depending upon when the item is needed, its complexity, risk and cost, it can take from 90 days to two years to test, modify as appropriate, procure and field the item to the Marine.

Items procured and fielded under the MEP seek to reduce the load, increase the survivability, enhance the safety and improve the lethality of the individual Marine Infantryman across the spectrum of operational environments. MEP systems are intended primarily for the Marine

Infantryman within the Ground Combat Element (GCE). When applicable, MEP items have also transitioned to support other Military Occupational Specialties (MOSs) within the GCE (e.g., Combat Engineers and Artilleryman) and across the Marine Air Ground Task Force (e.g., Supply, Maintenance, Administration and Ordnance). In recent years, the MEP has funded several critical programs, including: Combat Shotgun, Field Tarp, Flame-Resistant Organizational Gear, Modular Tactical Vest, Multi-Purpose Bayonet, Rifle Combat Optic, Individual Water Purification Block 1 (Miox Pen), Enhanced Hearing Protection, Grip Pod for the M16, Handheld Flashlight and 3-Seasons Sleep System.

The MEP Working Group includes core representatives from Plans, Policies and Operations, Marine Corps Combat Development Command and Marine Corps Systems Command. Nominations for the MEP initiatives come from Marines via the website, email and the Advocate, or through review of the U.S. Army’s Soldiers Enhancement Program (SEP) for capabilities matching a Marine Corps need. Nominated capabilities must focus on Commercial-Off-The-Shelf or Non-Developmental Items that can be executed quickly. The 2009 MEP priority list includes: M16A4/M4 RCO Optic Mount Enhancement; Improved Eye Protection; Small Unit Leaders Tactical Notebook; Fire-Suppression System; Sniper Concealment Suit; Magazine Follower; Grip Pod for the M203; Safety Blank Fire Adapter; Sling Keeper for the M203; Data Capture Pen; Wire Cutters; Individual Water Purification Block II; and Cooling Vest.

## Infantry Automatic Rifle (IAR)



### Description

The Infantry Automatic Rifle (IAR) program seeks to replace the current M249 Squad Automatic Weapon (SAW) in all infantry, reconnaissance and Light Armored Reconnaissance squads. The IAR will be a non-developmental, 5.56mm automatic rifle that is lighter, more durable, and more reliable than the M249 SAW.

### Operational Impact

Use of the automatic rifle will significantly enhance the automatic rifleman's maneuverability and displacement speed, while providing the ability to suppress or destroy targets of most immediate concern to the fire team.

### Program Status

The IAR program entered the system development and demonstration phase during 2nd Qtr FY 2008 following a successful Milestone B decision. A Milestone C decision is expected during 4th Qtr FY 2009, after which the program will enter into the production and deployment phase. Initial operational capability is scheduled to be achieved during 1st Qtr FY 2011 and full operational capability is scheduled to be achieved during 1st Qtr FY 2012.

Procurement Profile:	FY2009	FY2010
Quantity	30	12

### Developer/Manufacturer:

Systems from multiple contractors will be used during FY 2009 Verification Testing II, the results of which will support the decision that selects the Marine Corps' IAR. Systems from the IAR contractor that will be used during FY 2010 Initial Operational Test and Evaluation.

## Modular Weapon System (MWS)



### Description

The M16A4 rifle and an M4 carbine are the two weapons that satisfy the capability requirements of the Modular Weapon System (MWS) program. An M1913 Rail Adapter System (RAS) replaces the upper hand guards and incorporates a removable rear-carrying handle that were standard on M16A2 rifles. The RAS provides the capability to mount various accessories, such as a modified M203 launching system, high-intensity flashlights and infrared laser illuminators, as well as optics. The MWS M4 carbine variant is selectively fielded to Marines whose billet and/or mission requires the use of the shorter carbine.

### Operational Impact

The MWS significantly improves the ability to mount various accessories and will enhance accuracy, target detection, and engagement capabilities in both day and night conditions.

### Program Status

Fielding of the MWS began in FY 2003. An increase in the Approved Acquisition Objective (AAO) due to complete replacement of M16A2 rifles Marine Corps-wide has extended fielding through fiscal year 2010. The AAO is now approximately 163,002 M16A4 rifles and approximately 77,502 M4 carbines.

Procurement Profile:	FY2009	FY2010
Quantity	35,203	10,000

#### Developer/Manufacturer:

M4: Colt Manufacturing Company, Inc.,  
Hartford, CT

M16A4: Fabrique National Military Industries, Columbia, SC

## Image Intensifier Systems

### Description

The AN/PVS-14, Monocular Night Vision Device (MNVD) is a lightweight optical night vision device with 3rd generation image intensifier technology. The AN/PVS-14 can be used as a hand-held pocket scope. It can also be worn with a head, helmet, or weapon mount. The Individual Weapon Night Sight–Image Intensified (IWNS I2) is an individual imaging device capable of acquiring targets at night with increased recognition certainty when used in conjunction with the Rifle Combat Optic (RCO–AN/PVQ-31A/B) variants. IWNS I2 is mountable on all versions of the M16 and M4 series weapons equipped with integral MIL-STD-1913 rail systems. The IWNS I2 is an in-line image intensifying clip-on night sight.

### Operational Impact

The monocular style of the AN/PVS-14 allows the Marine to maintain night eye adaptation in one eye while using the night vision device with the other eye. The AN/PVS-14 can be used in climates ranging from -49 to +123 Fahrenheit thus providing the Marine night vision capa-

bility in virtually any climate. The IWNS I2 clip-on device allows the Marine Infantryman to quickly transform the RCO into a night optic sight, keeping the RCO permanently mounted on the rifle. This provides an additional night sight capability within the Marine Infantry Squad.

### Program Status

The total of 121,000 MNVDs have been procured through FY 2007 with deliveries extending to FY 2009. The IWNS I2 contract was awarded in 4th Qtr FY 2007 for the approved acquisition objective of 8,051 systems. Deliveries began in 2nd Qtr FY 2008 and extend through fiscal year 2009.

Procurement Profile: FY2009  
 AN/PVS-14: 15,040  
 IWNS I2: 5,051

Developer/Manufacturer:  
 AN/PVS-14: ITT Industries Inc.,  
 Roanoke, VA  
 IWNS I2: Insight Technology,  
 Londonderry, NH

## Laser Targeting and Illumination Systems

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### Description

The AN/PEM-1 is a Class 2 laser device that emits a highly collimated beam of visible light for precise zeroing. This system facilitates zeroing of 12 sights, thermal weapon sights, and laser aiming devices. The AN/PEM-1 has a low power laser setting that is useful when performing weapon bore sighting during daylight, low light and darkness conditions.

The AN/PEQ-16A is a Class 3b laser device that provides a highly collimated beam of infrared energy for weapon aiming and an adjustable focus infrared beam for target illumination. The AN/PEQ-16A also has a white light illuminator that provides target identification and illumination without the use of night vision devices.

The HPLP (IZLID) is a Class 4 infrared laser pointer and illuminator for use with night vision or infrared sensitive camera systems. The beam is adjustable from tight pinpoint to a wide flood beam with a quick twist of the lens. A multi-position switch allows the laser to operate at 3 different power levels: LOW (500mW); HIGH (900mW); and PULSE (1000mW@304Hz).

The AN/PSQ-18A Grenade Launcher Day Night Sight Mount (GLDNSM) is an enhanced aiming device designed to enable the Marine to rapidly and precisely fire the M203 40mm grenade launcher in daylight, low light, and night conditions.

### Operational Impact

The AN/PEM-1 (LBS) enables Marines to quickly and accurately establish or reconfirm battle site zero (BZO) to weapons without consuming ammunition to verify the zero. The LBS is optimized for 5.56mm, 7.62mm, and .50 caliber weapons and their ancillary targeting devices (i.e., aiming lights, optical night vision, and thermal sights). In the training mode, the LBS will provide Marines with a training tool to practice zeroing skills. Employment of the LBS will reduce ammunition consumption associated with zeroing, and will expedite the mission interchange of sights and targeting devices between weapons.

The AN-PEQ-16A will provide increased accuracy for every Marine by providing a laser aiming capability and the ability to illuminate targets in low light and night conditions when using a night vision device, a visible aiming light and an illumination capability to Marines that do not possess a night vision capability, and a visible white light that will allow the Marines to identify/illuminate targets in a low light environment.

The HPLP (IZLID) gives the Marine the option of using a pinpoint target pointer or a wide flood beam with the quick twist of a switch and allows the Marines to use three different power levels, low, high and pulse.

The AN/PSQ-18A GLDNSM provides Marine grenadiers increased first or second round accuracy to within five meters.

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### Program Status

Procurement of an additional 2,251 LBS systems occurred during FY 2008. Procurement of 45,728 AN/PEQ-16As began in FY 2007 and will extend through FY 2008 with fielding scheduled to begin second quarter of FY 2009. A total of 27 HPLP systems were procured in fiscal year 2006 with an additional 720 systems in fiscal year 2008 due to urgent need requirements to support Operation Iraqi Freedom. An additional 501 AN/PSQ-18A GLDNSMs were procured (for a total of 5,322) and fielding is continuing in FY 2009.



## CHAPTER 3

### **PART 2** COMMAND & CONTROL (C2) / INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR)

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## Introduction

Leading-edge technologies and systems are dramatically increasing the tactical “reach” of the Individual Marine, which is no longer limited by the range of his rifle or the distance he can throw a hand grenade. Indeed, operations at the squad level and Individual Marine — the “pointed end of the spear” — can have now far-reaching operational-level if not strategic impacts. The need is thus growing for enhanced command-and-control capabilities, which include communications, intelligence, surveillance and reconnaissance, to network operational relationships from the headquarters to the Individual Marine on the ground or in the air. For example, we are fielding additional equipment to infantry battalions to enable Individual Marines to fight and win on the distributed and non-linear battlefield.

The Marine Corps Command & Control (C2) Harmonization Strategy incorporates joint integrating concepts and C2 mandates and articulates our goal of delivering an end-to-end, fully integrated, cross-functional capability to include forward-deployed and reach-back functions. The strategy’s goal is a seamless capability that crosses warfighting functions and supports the Individual Marine from the supporting establishment at home to our Marines in contact with the enemy, taking the best of emerging capabilities and joint requirements to build a single solution. Our C2 Harmonization Strategy will also increase our capability to train our stalls through MAGTF Integrated System Training Centers.

A critical first step in this direction is the ongoing development of the Common Aviation Command and Control System (CAC2S). CAC2S provides a complete modernization replacement for the C2 equipment of the Marine Air Command and Control System (MACCS) which is nearing the end of its service life. CAC2S replaces single mission, stove piped military specification, legacy systems while providing commonality in training and logistics support. CAC2S fulfills joint net-ready capability standards required of all DoD C2 systems and remedies the operational, technical, and performance deficiencies of the existing MACCS.

The Marine Corps continues to increase its ISR capabilities through the use of an enterprise approach known as the Marine Corps ISR Enterprise (MCISR-E) — resulting in a fully integrated architecture compliant with joint standards for data interoperability. MCISR-E will provide networked combat information and intelligence down to the squad level across the range of military operations. To ensure Marines have access to these new capabilities, our MAGTF C2 systems feed combat operation centers with information from wide-field-of-view persistent surveillance systems, traditional ISR systems such as our family of Unmanned Aircraft Systems and unattended ground sensors, and non-traditional collection assets such as Ground-Based Operational Surveillance System.

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The programs discussed in this section will enable MAGTF commanders to exercise effective command and control and conduct ISR operations. In addition, these programs support the ability of MAGTFs to participate in or lead joint and multinational operations. Importantly, they will ensure that Individual

Marines understand their commanders' intent and can carry out complex operations — in peacetime, crisis and war — that safeguard vital U.S. interests, citizens and friends.

## Distributed Common Ground System–Marine Corps (DCGS-MC)

### Description

The Distributed Common Ground System–Marine Corps (DCGS-MC), in compliance with the Department of Defense DCGS Family of Systems concept, is a service-level effort to migrate select USMC Intelligence, Surveillance and Reconnaissance (ISR) processing and exploitation capabilities into a single, integrated net-centric baseline. As the Processing, Exploitation, Analysis and Production component of the Marine Corps ISR Enterprise, DCGS-MC will comprise functional capability sets that support Marine intelligence analysts across the Marine Air Ground Task Force (MAGTF) by making organic and external all-source ISR data more visible, accessible and understandable.

The DCGS-MC concept originated with the DCGS Mission Area Initial Capabilities Document Joint Requirements Oversight Council Memorandum 001-03, dated 6 January 2003, which established the overarching requirements for a collection of net-centric capable systems that will contribute to joint and combined warfighter needs for ISR support. Each service was directed to pursue a coordinated developmental path based on the implementation of common enterprise standards and services consistent with the Department of Defense's net-centric vision. The DCGS Integration Backbone (DIB) is the basic building block for interoperability between the Services' DCGS programs. The DCGS DIB is currently managed by a separately chartered DIB Management Office that directs day-to-day developmental efforts

in coordination with the Army, Navy, Marine Corps and Special Operations Command. The DCGS program offices have oversight from the Office of the Under Secretary of Defense (Intelligence).

### Operational Impact

DCGS-MC will migrate selected ISR processing and exploitation capabilities, resulting in increased unit- and enterprise-level capacities for handling sensor data, streamlining the production of finished intelligence information and products, while providing enhanced management of finished intelligence products.

### Program Status

The DCGS-MC program is proceeding as an Acquisition Category III program with Commander, Marine Corps Systems Command designated as the program's Milestone Decision Authority. The program entered the technology development phase on 5 November 2008 and will fully leverage the developmental efforts of its sister Services' DCGS programs, as their own developmental efforts are fully underway. The program acquisition strategy is based on an incremental development path optimized to rapidly introduce government and commercial technologies, enterprise standards, and modular hardware components in order to minimize costs and program risk. The program will subsume the Tactical Exploitation Group (TEG) and Topographic Production Capability (TPC) programs during FY10 as part of the Increment 1 development.

## Marine Corps Intelligence, Surveillance and Reconnaissance Enterprise (MCISR-E)

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Marine Corps Intelligence is evolving from an assortment of partially connected units and systems into an enterprise that incorporates all Marine Corps ISR assets and functions. When fully implemented, the MCISR-E will provide each component element with access to the shared awareness, data, resources, and expertise of the enterprise as whole. The enterprise will also be networked with Marine Air Ground Task Force command and control, facilitating the use of operational reporting and non-traditional ISR data by elements of the MCISR-E and providing for timely dissemination and sharing of relevant intelligence with Marine leaders at every echelon. Through our enterprise capabilities, Marine Corps ISR also harnesses interoperable national, joint and combat support agency capabilities to address MAGTF requirements while serving as a contributing partner to those agencies.

MCISR-E includes all USMC ISR assets and functions, covering the entire range of people, doctrine, policy, organizations, training, education, equipment, and facilities. Our equipment acquisition strategy initially focuses on the intelligence processing, exploitation, analysis and production systems within the Distributed Common Ground System–Marine Corps (DCGS-MC). Other functions of the MCISR-E include persistent ISR and actionable intelligence. Persistent ISR provides the means for tasking, direction, and collection, while actionable intelligence addresses the systems associated with dissemination, utilization and feedback of intelligence. Through persistent ISR, we

will also seek to leverage diverse battle-field sensors that, while not intelligence systems, they are capable of providing non-traditional ISR support. Within the enterprise construct, we are also developing capabilities to enable tactical units to collect, report, receive, and use intelligence and combat information. This includes company-level intelligence cells focused on gathering the information, providing an initial assessment for the company-specific operational area, and feeding data into intel systems for higher level analysis. An additional example is the recent initiation of the Counter Intelligence/Human Intelligence (CI/HUMINT) enterprise, which includes developing tactical questioners and tactical debriefers.

The organizational relationships, resources, and systems architecture of the MCISR-E provides each element with extensive access to the broad capabilities of the enterprise, the means to contribute its data and analysis to the enterprise and the ability to collaborate across the enterprise. By providing common access to situational awareness, understanding and predictive analysis of the threat and relevant aspects of the operating environment, this enterprise enables and enhances decision-making by leaders at all echelons. The MCISR-E provides an adaptive, flexible ISR framework supporting the intelligence requirements of a multi-capable MAGTF as it executes expeditionary operations against hybrid threats in a complex environment.

## Aviation Command and Control

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The Marine Air Control Group provides the Aviation Combat Element (ACE) commander with the Marine Air Command and Control System (MACCS) agencies necessary to exercise command and control of aviation assets in support of Marine Air Ground Task Force (MAGTF), naval and joint operations. These agencies provide the ability to plan, coordinate, command and supervise the application of the six functions of Marine Aviation.

While the MACCS agencies are sustaining existing systems to support today's combat operations, they are also modernizing expeditionary air command and control (C2), sensor and weapons capabilities to be fielded between FY 2009 and FY 2017. The key thrusts of this modernization effort are focused on expeditionary packaging, modern information technology and joint integration.

In conjunction with equipment modernization, Marine Aviation C2 is supporting several initiatives that will bring new capabilities and improved doctrine and training that will ensure more efficient and effective aviation support to expeditionary naval, joint and coalition forces. This effort is being guided by the Aviation C2 Transformation Task Force (C2 TTF) under the guidance of Headquarters Marine Corps Aviation Command and Control (APC).

### Aviation C2 Transformation Task Force

The Deputy Commandants for Aviation and Combat Development chartered the Aviation C2 TTF in November 2002 to ensure the effective introduction of the Aviation C2 family of systems (FoS) into the operating forces. The Marine Corps has programmed the FoS fielding between FY 2009 and FY 2017. The cornerstone of the Aviation C2 FoS, the Common Aviation C2 System (CAC2S), will reach Initial Operational Capability (IOC) in FY 2010. Next, networked ground-based sensors and unmanned aerial vehicles are scheduled to reach IOC between FY 2010 and FY 2011. The C2 TTF provides a proactive mechanism for Headquarters Marine Corps advocates, expeditionary force development organizations, acquisition commands, supporting establishment activities and operating forces to formulate and implement changes to Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities (DOTMLPF). The C2 TTF's membership includes operating force and supporting establishment stakeholders.

### MACCS-X

To support testing and combat development of future Aviation C2, the Marine Corps established the MACCS-X Operational Development Team (ODT) in July 2005. The mission of MACCS-X ODT is to provide developmental and opera-

## Ground/Air Task Oriented Radar (G/ATOR)

### Description

Ground/Air Task Oriented Radar (G/ATOR) is an expeditionary, single materiel solution to fill the Multi-Role Radar System operational requirements. G/ATOR has four incremental deliveries. Increment I is a medium-range air surveillance radar used to detect and track aircraft, cruise missiles, and unmanned aerial vehicles. The system will serve as a gap-filler radar by providing three-dimensional coverage of those areas out of view of the AN/TPS-59 (V) 3. The radar is intended to replace all the missions currently associated with the AN/TPS-63 and AN/MPQ-62 radars. Increment II provides the next-generation ground weapon locating radar. The G/ATOR will replace the AN/TPQ-46A as the Marine Corps hostile indirect-fires target-locating system. The primary mission of the G/ATOR, employed in the counter-fire role, is to locate mortar, artillery and rocket threats and provide accurate location information to friendly counter-fire weapons. The secondary role of the counter fire G/ATOR is to provide "did hit" data to friendly weapon systems for adjust-fire and battle-damage assessment. Increment III will improve upon Increment I's air mission capabilities. Enhancements include: Advance Combat ID circuitry and software (non-cooperative target recognition), advanced ECCM capabilities (decoys), Radar Environmental Simulator and Integrated Data Environment capabilities. Increment IV will add

air traffic control functionality and replace the AN/TPS-73 radar and the Airport Surveillance Radar portion of the AN/TPN-31A Air Traffic Navigation, Integration, and Coordination System.

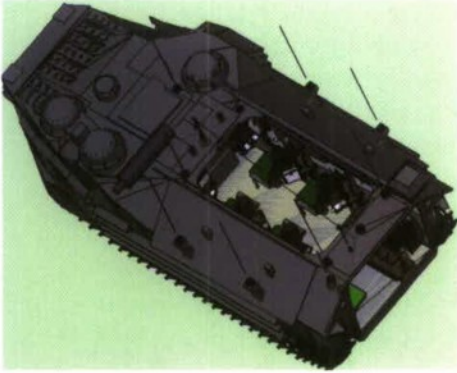
### Operational Impact

G/ATOR will have the responsiveness needed to detect, identify and track enhanced, low-level air-breathing targets, as well as indirect-fire threats during the execution of Expeditionary Maneuver Warfare operations. In addition, the radar will be capable of cueing and reporting on targets detected within its coverage limits to designated air and ground command and control agencies. The reduced logistical footprint of the radar will enhance the capabilities of the Marine Air Command and Control System and artillery regiments in support of all phases of MAGTF operations. It will possess the mobility required to keep pace with supported maneuver elements and will complement the Marine Corps long-range radar, the AN/TPS- 59 (V) 3, by providing accurate low-level tracks. The G/ATOR's ground and air mission capabilities give the MAGTF commander a unique operational flexibility.

### Program Status

G/ATOR is currently in the System Development and Demonstration Phase.

## Assault Amphibious Vehicle–Command; Command and Control Upgrade Program (AAVC7A1 C2 Upgrade)



### Description

The Assault Amphibious Vehicle–Command; Command and Control Upgrade Program (AAVC7 C2 Upgrade) is focused on providing an improved command and control (C2) capability to the operating forces until the Expeditionary Fighting Vehicle reaches its scheduled Full Operational Capability (FOC) in 2025. The AAVC7 C2 Upgrade Program will include replacement of the current antiquated VHF tactical radios with the currently fielded radio systems, integration of a UHF Line Of Sight (LOS) and UHF Satellite Communications (SATCOM) capability, replacement of the obsolete vehicle intercommunications system, integration of a Blue Force Situational Awareness (BFSA) capability, redesign of the staff workstations and integration of a tactical data network capable of hosting applicable Marine Air Ground Task Force C2 applications (Advanced Field Artillery Tactical Data System (AFATDS), and the C2 Personal Computer (C2PC)). Additionally the C2 upgrade includes the installation of a Auxiliary Power Unit (APU) that provides power to the C2 suite for extended periods without the

need to idle the AAVC7 engine in support of silent-watch operations requirements.

### Operational Impact

The last C2 improvements to the AAVC7 were fielded in 1994. The AAVC7 C2 upgrade program will provide the supported infantry battalion/regimental staffs with an improved C2 capability to address the gap that currently exists during amphibious operations and extended operations ashore. Specific operational improvements are updated tactical radios, the addition of a UHF LOS-SATCOM capability, integration of a Battle Force Situational Awareness (BFSA) capability, and the integration of a tactical data network capable of hosting AFATDS and C2PC. These additional capabilities will align the AAVC7 with the common network architecture utilized by today's ground forces at the battalion and regiment levels.

### Program Status

The AAVC7 C2 Upgrade Program was designated an Acquisition Category IV (T) program on 4th Qtr FY 2007. Preliminary Design Review (PDR) was conducted 4th Qtr FY 2008, Critical Design Review 2nd Qtr FY 2009, and Milestone C 4th Qtr FY 2009. Initial Operational Capability is planned for FY 2009 and Full Operational Capability is planned for FY 2010.

Procurement Profile:	FY2009	FY2010
Quantity:	20	50

Developer/Manufacturer:  
SPAWAR Systems Center Charleston, SC

## Intelligence Analysis System Family of Systems (IAS FoS)



### Description

The Intelligence Analysis System (IAS) Family of Systems (FoS) uses a three-tiered approach for receiving, parsing, analyzing and disseminating fused, all-source intelligence data. The first tier, the Marine Expeditionary Force (MEF) IAS, is a mobile system that supports the MEF Command Element. The second tier, the Intelligence Operations Server (IOS-v2a or IOSv3), is a team-portable system designed to support the intelligence operations of Major Subordinate Commands (MSC). The third tier, the Intelligence Operations Workstation (IOW), serves as the intelligence link for battalions, squadrons and companies to their higher headquarters; it is also capable of operating as a stand-alone system. The IAS FoS program utilizes a mature hardware design consisting of Commercial-Off The Shelf and Government-Off The Shelf (COTS/GOTS), Marine Common Hardware Suites (MCHS) components and software that is fully interoperable with the current Global Command and Control System-Integrated Imagery and Intelligence Initiative (GCCS-I<sup>3</sup>) baseline. The IAS FoS also uses an internally developed software program called “MarineLink” to fuse disparate data sources into single intelligence tracker database repositories for increased battlespace awareness.

### Operational Impact

Fielding of the MEF IAS has provided Marine Air Ground Task Force commanders with a mobile, all-source, intelligence data fusion and dissemination capability. The IOSv2a (Unix) and IOSv3 (Windows) give the commander at the MSC, Marine Expeditionary Unit, regiment and group levels access to time-sensitive intelligence data that is crucial to the decision making process and the conduct of Intelligence Preparation of the Battlefield. The IOW is the company, battalion and squadron link to intelligence data, using client/server technology to “reach back” to higher commands for intelligence information updates. The IOW can also function as a stand-alone workstation, operating with certain limitations in a disconnected environment.

### Program Status

The MEF IAS is currently in the post production/fielding phase of the acquisition process. All systems were fielded to the operational forces and receiving Marine Reserve units. The entire IAS FoS was refreshed during fiscal year 2006 with the next iteration taking place in 2009. The MEF IAS is scheduled to transition to the DCGS-MC program Increment 2 during 2012 timeframe. The IOS and IOW portions of the IAS FoS will continue to be a separate program of record that migrate to a net-centric environment as part of the larger DCGS-MC Enterprise.

<b>Procurement Profile:</b>	<b>FY2009</b>	<b>FY2010</b>
Software:	1	1
Service Pack:	1	1
IAS FoS Refresh	1	

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The IAS FoS executes periodic hardware and peripheral refreshes as per the Program Manager Navy Marine Corps Internet/Information Technology refresh schedule. One major software fielding and one service pack is fielded per fiscal year.

Developer/Manufacturer: MTC Services Corporation, Stafford, VA; KnowBiz, San Diego, CA; EMA, Charleston, SC; and SPAWAR, Charleston, SC

Hardware components: COTS and non-developmental items.

Software components:

Various COTS and GOTS developers

Key GOTS software developers:

System integration of hardware and software: EMA, Charleston, SC; Dynamic Tactics for C4ISR Solutions, Charleston, SC; L-3 Communications, Virginia Beach, VA; SRC, Charleston, SC; and SPAWAR, Charleston, SC

## Joint Surveillance Target Attack Radar System, Common Ground Station (JSTARS)

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### Description

The Joint Surveillance Target Attack Radar System (JSTARS) is a long-range, air-to-ground surveillance system which consists of an airborne element and a ground element. The airborne element — the E-8C aircraft — contains a large phased array radar mounted on the fuselage and multiple operator terminals. Radar data are distributed via an encrypted, jam-resistant Surveillance and Control Data Link (SCDL) for transmission to one of two JSTARS ground systems: the Common Ground Station (CGS) or Joint Services Workstation (JSWS). The sensor suite provides detection and tracking data on targets through the use of the Moving Target Indicator (MTI), Fixed Target Indicator (FTI) and Synthetic Aperture Radar (SAR). FTI and MTI data are used to detect, locate and identify the movement of enemy targets, while SAR identifies critical fixed targets such as bridges, harbors, airports, buildings or stationary vehicles. The CGS is a ground-based receiving and processing display system that receives JSTARS data directly from the E-8C JSTARS aircraft through the SCDL to the Ground Data Terminal. Once JSTARS data are collected at the ground receive site, MTI/FTI/SAR data are sent across the Marine Air Ground Task Force Command, Control, Communications, Computers and Intelligence network. The CGS is also capable of receiving and fusing imagery data from unmanned aerial systems directly with JSTARS data, providing an enhanced collection processing capability. The JSWS is a functionally equivalent,

transit cased subset of the CGS. While the JSWS can be used in conjunction with a dedicated SCDL, it normally receives its JSTARS data via a classified network connection or satellite communications feed.

### Operational Impact

The CGS and JSWS support a wide range of global missions including wartime battlefield management, peacekeeping operations, the war on drugs and contingency operations. The CGS and JSWS are capable of operating in diverse climates (geographic and weather conditions) and provide an increased level of certainty to commanders by providing them with a different view of the battlespace prior to making decisions. As all-weather, organic Marine Corps intelligence assets, the CGS and JSWS have played a crucial role on the Global War on Terrorism, resulting in JSTARS assuming an additional mission of Improvised Explosive Device prevention and detection.

### Program Status

JSTARS is post-Milestone C, and in the Operations and Support phase. The Marine Corps has fielded three JSTARS CGSs and five JSWSs. Each Marine Expeditionary Force has a CGS and JSWS. The remaining two JSWSs are used for testing, evaluation and development of future MTI capabilities. During FY 2008, the Marine Corps JSTARS approved acquisition objective was increased by two JSWS systems as a result of the Grow-The-Force initiative. These systems will

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be fielded to 1st and 2nd Intelligence Battalions during FY 2009. The program is currently conducting two levels of effort: maintenance and upgrade of the current JSTARS ground systems; and research and development of future MTI collection capabilities in a net-centric environment as part of the DCGS-MC Enterprise.

Procurement Profile:	FY2009	FY2010
Quantity:	2	0

Developer/Manufacturer:

Prime Hardware Integrator: General Dynamics Command, Control, Communications, and Computers (GC4S), Scottsdale, AZ

Software Integrator: Harris Corporation, Melbourne, FL

Surveillance Control Data Link (SCDL)  
Developer: Cubic Defense Systems,  
San Diego, CA

## Marine Air-Ground Task Force Secondary Imagery Dissemination System (MSIDS)

### Description

The Marine Air Ground Task Force (MAGTF) Secondary Imagery Dissemination System (MSIDS) provides organic tactical digital imagery collection, transmission and receiving capability to the MAGTF Commander. MSIDS is comprised of Commercial Off The Shelf (COTS) components necessary to enable Marines at all echelons of the Marine Expeditionary Force, including to capture, manipulate, annotate, transmit and receive images in near-real-time. The MSIDS capability resides at the MAGTF intelligence sections, ground reconnaissance units, and infantry battalion Scout Sniper platoons. MSIDS is currently employed in every location where the Marine Corps conducts military operations.

### Operational Impact

MSIDS provides the only self-contained, hand-held, ground-perspective imagery capability to MAGTF units and is essential in mission planning and intelligence collection. Other MAGTF near real-time imaging systems, such as unmanned aerial systems and the F/A-18 Advanced Tactical Airborne Reconnaissance System, provide overhead imagery that cannot capture the detail and ground perspective attainable through MSIDS. In asymmetric threat environments — where targets of interest are often small, highly mobile units such as terrorists or guerilla groups — it is imperative that a MAGTF be able to identify individuals and structures from the ground level. The required level of detail is not available from aerial sources. Technology inser-

tions via an increment refresh plan provide MSIDS equipped Marines with the ability to receive needed technological upgrades in a timely manner.

### Program Status

The Marine Corps refreshed the entire MSIDS imagery capability during Fiscal Year 2005. The approved MSIDS acquisition strategy specifies a refresh of one-third of the system's components yearly through a spiral increment of the COTS hardware and software components. The Fiscal Year 2009 refresh will replace components of the VEW along with continuing the Grow the Force (GTF) initiative fielding. The Video Exploitation Workstation (VEW) GTF effort originally called for an AAO increase of 2, it has now grown to 122 and includes systems being delivered to Intelligence and Infantry Battalions, Wings and Squadrons. The Fiscal Year 2010 refresh will replace Personal Data Controller, software and camera components and is essential to MSIDS life-cycle support.

Procurement Profile:	FY2009	FY2010
Quantity:		
MSIDS computers/SW:	SW-897	0
Personal Data		
Controllers:	100	600
Cameras	90	3000
Night Vision	400	0
Thermal:	148	0
VEW	140	0

Developer/Manufacturer:  
 Canon, Panasonic, ITT, ViaSat and FLIR  
 MTSC, Stafford, Virginia  
 EYAK Technologies, Anchorage, Alaska  
 Integrity Data Inc, Colorado Springs,  
 Colorado

## Tactical Data Network (TDN)



### Description

The Current Tactical Data Network (TDN) augments the existing Marine Air Ground Task Force (MAGTF) communications infrastructure by forming the communications backbone for MAGTF tactical data systems. The TDN system consists of gateways (TDN Gateways) and servers (TDN DDS), interconnected with one another and their subscribers via a combination of common-user, long-haul transmission systems, in conjunction with local area networks (LANs). TDN brings a scalable system of devices that will provide a robust data communications backbone to the commander.

### Operational Impact

TDN provides its subscribers with secure and non-secure access to strategic, supporting establishment, joint and other-service component tactical data networks; with the capability to send and receive electronic messages and share files; and a solid backbone for an Active Directory architecture.

### Program Status

The Marine Corps has completed fielding and New Equipment Training (NET) of TDN Data Distribution Systems Reset (DDS-R) in response to an urgent and compelling GWOT requirement.

TDN (Gateway) Refresh will complete OA testing during 3rd Qtr FY 2009, with fielding to begin 4th Qtr FY 2009.

The contract to procure a modular DDS variant was awarded to General Dynamics in March 2008.

Procurement Profile:	FY2009	FY2010
Quantity:		
Modular DDS variants:	365	147

Developer/Manufacturer:

TDN (DDS-R): General Dynamics

Communication Systems, Taunton, MA

TDN (Gateway): SPAWAR, Charleston, SC

Modular DDS variants (DDS-M): General Dynamics Communication Systems, Taunton, MA

## Tactical Exploitation Group (TEG)

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### Description

The Tactical Exploitation Group (TEG) is the Marine Corps' primary tactical imagery exploitation system. The TEG is modular and scalable, employing a tiered approach which consists of two echelon-tailored configurations — the TEG-Main (TEG-M) and the TEG-Remote Workstation (TEG-RWS). The TEG-M is employed at the Marine Expeditionary Force (MEF) level and serves as the deployable Imagery Intelligence (IMINT) ground station capable of data linking imagery directly from theater and tactical reconnaissance platforms such as the F/A-18D, U-2 and Global Hawk. The TEG-RWS supports echelons below the MEF and is a deployable IMINT workstation designed to access national, theater and tactical imagery repositories via classified networks and/or the Global Broadcast System to support tailored on-site imagery analysis during deployments. The TEG disseminates secondary imagery products and imagery exploitation reports to the MEF commander and subordinate commanders in support of tactical operations, strike planning, precision mensuration, detection and location of targets of opportunity and battle damage assessment for re-strike planning and intelligence assessment. The TEG employs commercial off-the-shelf, government off-the-shelf, and non-developmental item computer hardware and software to enable rapid upgrades, as well

as maintain commonality and interoperability with other Marine Corps and joint IMINT systems.

### Operational Impact

The TEG provides the MAGTF and/or Joint Task Force commander with an organic capability to produce IMINT in support of operations. Planned upgrades will enable the processing of imagery from additional unmanned aerial systems, emerging sensors and platforms; improve video capture and exploitation capabilities; enhance net-centric functionality; and increase modularity.

### Program Status

The TEG is an Acquisition Category III program that received a favorable Milestone C fielding decision in FY 2005 and was granted approval by the Milestone Decision Authority to enter the Production and Deployment phase. Initial operational capability was achieved in FY 2005 and fielding of TEG-M occurred during FY 2006. The TEG-M has begun a spiral upgrade focusing on increased modularity and net-centric capability as the result of an engineering change proposal (ECP). Production is underway with a first article delivery planned for first quarter calendar year 2009 with full operational capability anticipated during FY 2010. The TEG-RWS completed a technology refresh as the result of an

ECP during FY 2006 which included a transition from a UNIX operating system to Windows. The TEG-RWS is scheduled for a Spiral III upgrade beginning in fiscal year 2009 which will focus on merging the TEG/RWS and TPC/DIGITAL TERRAIN ANALYSIS MAPPING SYSTEM (DTAMS) hardware solutions. In fiscal year 2010, TEG will begin transitioning to solely a maintenance and sustainment phase as the program is migrated to the Distributed Common Ground System-Marine Corps (DCGS-MC). TEG is one of the two programs that will comprise DCGS-MC 1 with an initial fielding scheduled for fiscal year 2011. Once

DCGS-MC Increment 1 is fully fielded, TEG will be retired.

Procurement Profile:	FY2009	FY2010
Quantity:		
TEG Main	6	N/A
TEG RWS	128	N/A

Developer/Manufacturer:  
Prime Hardware Integrator: Northrop Grumman, Linthicum, MD

Software Integrator: Northrop Grumman, Linthicum, MD

Common Data Link: L-3 Communications, Salt Lake City, UT

## Marine Corps Enterprise Network (MCEN)

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The Marine Corps Enterprise Network (MCEN) consists of our unclassified and classified networks and provides the reliable, secure interoperability needed to collaborate internally and with our joint partners from home station to the tactical edge of the battlefield. The MCEN provides end-to-end information technology capabilities that allow the Marine Corps to operate within the Global Infrastructure Grid (GIG), command at all levels (strategic, operational and tactical) and conduct business operations.

Currently, the Marines Corps receives the majority of our garrison unclassified Non-Secure Internet Protocol Routing Network (NIPRNET) services through the Navy Marine Corps Intranet (NMCI). We are partnering with the Department of the Navy to transition to the Next Generation Enterprise Network (NGEN). This transition will provide the Marine Corps government ownership and operation of our networks and increase network security and flexibility. NGEN will provide the Marine Corps the agility and flexibility to support its business domains, and will easily integrate into our warfighting networks. NGEN will be implemented through an incremental approach, with the first phase scheduled to begin in October 2010, to provide information infrastructure across the Marine Corps. The remainder of the Marine Corps' unclassified services are provided through legacy Marine Corps networks. Legacy network reduction, in preparation for NGEN, is ongoing and will assist in the continued streamlining of Marine Corps-wide infrastructure.

The Marine Corps classified networks are the backbone of our command and control system, and a robust, secure and interoperable Secret Internet Protocol Routing Network (SIPRNET) allows timely and effective command and control of our forces. To provide a highly secure and trusted classified network, the Marine Corps continues to invest in the expansion of our SIPRNET capability and capacity to meet operational and sensitive business requirements.

As an integral part of the Marine Corps regionalization concept and in support of centralized command and decentralized control principles, Marine Corps network operations are designed and organized to effectively manage, modify and defend Marine Corps networks. This network regionalization alignment provides maximum operational flexibility to commanders, increases security and provides an organizational construct that supports network operations. Enterprise-level oversight will be provided by the Marine Corps Network Operations and Security Center (MCNOSC). In addition to their network defense responsibilities, the MCNSOC executes numerous other enterprise-wide activities:

- **Operations Center** monitors and maintains situational awareness of MCEN operations 24 hours a day, 7 days a week.
- **Defense Messaging System (DMS) Central Operations Center** provides continuous, centralized management and control of DMS and Automated Message Handling Service operations.
- **Expeditionary Support Team** provides network support to deploying and deployed Marine forces.

- **Mainframe Enterprise Services** provides enterprise mainframe management and support.
- **Enterprise Directory Management** provides standardized implementation, operations and support of MCEN directory services.
- **E-LMR** provides enterprise engineering and technical support for the Enterprise Land Mobile Radio.
- **Network Plans and Engineering** personnel evaluate and develop network-based technical solutions and capability improvements in support of the warfighter mission.

The four Regional Network Operations and Security Centers (RNOSCs) provide regional-level oversight and system-level control of their areas, which includes information assurance support. Providing technical control of local operations are the seven MAGTF Information Technology Support Centers (MITSCs) which provide the computing infrastructure and the local base, post and station personnel support.

The Marine Corps has enhanced our security posture with a defense-in-depth strategy to actively respond to an ever-increasing cyber threat and at the same time as maintained network accessibility and responsiveness. This layered approach, aligned with Department of Defense standards, provides the Marine Corps networks that support our warfighting and business operations while protecting our Marines, Sailors, and their families' personal information. Marine Corps network defense consists of the policies and procedures that prepare networks

and systems, the information technology equipment (hardware and software) necessary to defend the network and the personnel to defend the network. Specific areas the Marine Corps network defense focuses on are:

- **Marine Corps Computer Emergency Response Team** that enables global network operations of the MCEN through protection, detection, and effective net defense response actions.
- **Marine Corps Information Assurance Red Team** that performs Defensive Information Operations (D-IO) for the MCEN and all connected systems.
- **Public Key Infrastructure (PKI)** personnel conduct enterprise operations, planning and support for the implementation of PKI across the MCEN.
- **Infrastructure Security** personnel operate and control Point of Presence equipment at all MCEN boundaries.
- **Vulnerability Management Teams** detect and remediate information assurance vulnerabilities across the enterprise.
- **Training** to ensure a core of ready, trained personnel that can effectively protect USMC networks.

The MCEN allows the Marine Corps to operate across the spectrum of conflict from flagpole to fighting hole. Successful Marine Corps operations require the MCEN be operated, maintained and defended effectively and efficiently with trained, capable personnel.

## Global Command and Control Systems-Integrated Imagery and Intelligence (GCCS-I<sup>3</sup>) Initiative

### Description

The Global Command and Control Systems-Integrated Imagery and Intelligence initiative (GCCS-I<sup>3</sup>) provides the software segment, development and technical integration among the Joint GCCS-I<sup>3</sup> architecture, the Marine Corps' Intelligence Analysis System (IAS) and the Tactical Control and Analysis Center. The U.S. Navy is the executive agent for GCCS-I<sup>3</sup> software development and maintenance and executes this role through the Joint Deployable Intelligence Support Systems Joint Program Office (JDISS JPO). GCCS-I<sup>3</sup> software, loaded on the IAS Family of Systems (FoS), provides analytical capability at all levels from the Battalion/Squadron to the Marine Expeditionary Force.

GCCS-I<sup>3</sup> provides the operational commander with increased situational awareness, track management, imagery and other intelligence data. This is accomplished by using a standard set of integrated, linked tools and services that maximize commonality via the Common Operational Picture across the tactical, theater and national levels. GCCS-I<sup>3</sup> operates in joint and service specific environments and is interoperable and compliant with the Common Operational Environment, which facilitates the migration of USMC systems to the Global Information Grid Enterprise Services and Net-Centric Enterprise Services.

### Operational Impact

GCCS-I<sup>3</sup> is the core software for the IAS FoS and works to ensure that the IAS FoS software is interoperable with the Marine Corps' communication and data transmission systems. Several Marine Corps intelligence systems use GCCS-I<sup>3</sup> as their core software and/or individual segments as major components of their software baseline, including:

- Technical Control and Analysis Center
- Topographic Production Capability
- Tactical Exploitation Group
- Counterintelligence and Human Intelligence Equipment Program
- Tactical Remote Sensor System
- Joint Surveillance Target Attack Radar System
- Tactical Electronic Reconnaissance Processing and Evaluation System

### Program Status

The GCCS-I<sup>3</sup> initiative has several long-term and short-term goals to enhance the interoperability and procurement decisions for Marine Corps intelligence systems. In the long-term, this program seeks to achieve integrated, fully interoperable Marine Corps intelligence systems. In the near-term, the program seeks to establish a process and a corresponding set of procedures designed to allow the Marine Corps to make informed procurement decisions in its efforts toward achieving the long-term goal. The GCCS-I<sup>3</sup> initiative has four mission areas: Administration and Infrastructure Support; Program Manager-Level Configuration Management Processes and Functions; Science and Technology Engineering Support; and Integration Support Team.

## Counterintelligence and Human Intelligence Equipment Program (CIHEP)



### Description

The Counterintelligence and Human Intelligence Equipment Program (CIHEP) consists of 12 modules to support the full spectrum of CI/HUMINT operational requirements. The suite includes imagery; commercial satellite communications; Very High Frequency (VHF), Ultra High Frequency (UHF) and UHF tactical satellite communications; power; automated data processing; and technical support equipment. All equipment is stored and transported in lightweight, modular and deployable cases to facilitate task organization of equipment for assigned missions. The CIHEP Software Baseline is standardized among the computer assets in the suite and provides reporting, low-level analysis, com-

munications, mapping, still and video image processing, and Common Operational Picture (C2PC) applications. It also integrates with the IAS FoS using the MarineLink application suite.

### Operational Impact

CIHEP enhances HUMINT Exploitation Teams' (HET) ability to conduct HUMINT and CI operations and to accomplish other assigned tasks in support of Marine Air Ground Task Force (MAGTF) missions at the tactical, operational and service levels. The equipment suite provides HETs an organic capability to research collection requirements, process collected information, produce intelligence reports and disseminate those

reports securely over-the-horizon to supported commanders and intelligence officers. The suite also includes equipment to provide limited organic technical support to CI and HUMINT operations.

### Program Status

In May 1999, CIHEP was designated an Abbreviated Acquisition Program of Record. A Limited User Evaluation was performed in March 2000, with a Milestone C production and fielding decision in April 2000. Initial Operational Capability was achieved in September 2001 with fielding of completed modules to the Marine Expeditionary Forces (MEF), Reserves and the Navy and Marine Corps Intelligence Training Center (NMITC). Full Operational Capability was reached in September 2002. The program was restructured in 2006, creating 10 modules vice a single system. This streamlined program management by grouping equipment capabilities and enhanced logistics management and equipment task organization by unit mission. In 2008, two additional modules (media exploitation capabilities) were added, bringing the total to 12 modules. CIHEP is currently in a maintenance and refresh cycle; with selected components of modules refreshed as required. CIHEP continues to procure and field equipment to meet the demands of the total force structure increase, the Grow the Force initiative, and the addition of the Marine Special Operations Command. Of the twelve modules in CIHEP, ten are fielded exclusively to CI/HUMINT organizations at various levels of command. The Media Exploitation-Light module is fielded to both CI/

HUMINT and Radio Battalion (RadBn) assets, and the Media Exploitation-Heavy will be fielded exclusively to the RadBns.

Procurement Profile:	FY2009	FY2010
Software Baseline:	1	1
Data Processing Module:	102	0
Advanced Imagery Module:	133*	0
Commercial Handheld SatCom Set:	0	95
Commercial SatCom Set:	139	0
Tactical SatCom Set:	146	0
Tactical Handheld Communication Set:	0	385
Surveillance Comm Module:	120	0
Technical Support Set:	0	112*
Technical Surveillance Module:	11*	0
Vehicle Accessory Module:	71	0
Media Exploitation-Light:	203*	0
Media Exploitation-Heavy:	0	56

\* Will refresh selected components  
 Developer/Manufacturer:  
 MTCSC Stafford, VA; KnowBiz, Inc. San Diego, CA; Ideal Technology Corp Orlando, FL; Klas Telecom, Inc., Washington, D.C.; Thales Communications, Inc. Clarksburg, MD; Harris Communications Corp, Rochester, NY; Panasonic Corp, Secaucus NJ; Automated Business Power, Gaithersburg, MD

Program and Logistics Support:  
 L-3 Communications, Stafford, VA; General Dynamics, Stafford, VA (ICE2); MTCSC Stafford, VA; SPAWAR Systems Center Charleston, Charleston, SC

## Expeditionary Intelligence Support

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The Marine Corps Intelligence Activity (MCIA) provides tailored intelligence products and services to the Marine Corps, other services and the Intelligence Community based on expeditionary mission profiles in littoral areas. As the Marine Corps' Intelligence Production Center, MCIA plays a key role in the development of service doctrine, force structure, training and education and systems development and acquisition.

MCIA comprises a command element; a production and analysis element that includes analysis, imagery, and topographic support; a counterintelligence/human intelligence element; and a cryptologic support element. Each element provides unique capabilities that enable MCIA to fully support intelligence requirements in all facets of expeditionary operations. Together, these elements deliver "excellence in expeditionary intelligence" to MCIA's broad and growing customer set.

MCIA engages with Marine units scheduled for deployment ensuring that each command understands MCIA capabilities and limitations in providing support during pre-deployment, deployment, and post-deployment. Frequently, pre-deployment engagement includes command site visits encouraging the full identification of specific, detailed intelligence requirements and preliminary estimates of supportability, not only using

MCIA's own internal capabilities but also its unique ability to leverage the larger Intelligence Community to help solve Marine Corps operating forces intelligence challenges.

During deployment, MCIA maintains contact with the deployed unit ensuring continued support to operational requirements. Additionally, during a deployment MCIA may provide a liaison officer facilitating direct representation and a better understanding of intelligence requirements. All intelligence requirements adhere to appropriate chains of command to include each supported Combatant Command.

After the deployment ends, MCIA coordinates and conducts a post-deployment brief. This brief includes not only the supported units and MCIA, but also any other organizations that contributed to the intelligence support effort. The intent is to review the intelligence requirements submitted with the intelligence support provided and determine what worked well, what needs improvement and capture lessons learned for the future.

This unyielding focus on supporting Marine Forces — be they deployed in harm's way, preparing to deploy, or safely returned to their homeport — is the hallmark of MCIA's expeditionary intelligence support.



**CHAPTER 3**

**PART 3**  
**GROUND MOBILITY AND**  
**FIRE SUPPORT**

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## 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 and 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 U.S. Armed 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 armoring kits and up-armored High Mobility 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 reconfirmed our development of the Triad of Ground Indirect Fires.

Several innovative systems related to fire support significantly enhance the war-fighting efficiency and effectiveness of the MAGTF, including 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 and subsequent 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 (AAV7A1) 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 maneuverability, 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 warfighting functions.

### Program Status

The EFV program is in the Systems Development and Demonstration (SDD) Phase of the acquisition process. This phase was extended to FY 2012 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 six of the seven 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. As a result of the extensive design for reliability activities, the program released a design at Critical Design Review (CDR) in 1st quarter FY 2009 that met all allocated requirements including reliability. These improvements will be demonstrated during Developmental Test and Operational Test (DT&OT) starting 2nd quarter FY 2010 on seven prototypes currently being manufactured. The Low Rate Initial Production (LRIP) decision (Milestone C) is programmed for FY 2012. The Joint Services Manufacturing Center in Lima, Ohio, will be the production and assembly site for the EFV. The current acquisition objective is to produce 573 EFVs. Initial Operational Capability is scheduled for 2015 and Full Operational Capability for 2025.

**Procurement Profile:** Low Rate Initial Production is scheduled to begin in FY 2012 with Full Rate Production to begin in FY 2015.

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

## Marine Personnel Carrier (MPC)



### Description

The Marine Personnel Carrier (MPC) will serve as a medium lift personnel carrier. The Marine Personnel Carrier is a combat vehicle program complementing the EFV by providing expeditionary protection tailored for irregular warfare (including IEDs), in combination with high off road mobility for combat forces.”

### Operational Impact

The MPC will provide landward lift to Infantry battalions. One Infantry battalion can be lifted by one MPC company along with the Infantry battalion’s organic wheeled assets. Two MPC-Personnel Carriers can lift a reinforced Infantry squad.

### Program Status

The Marine Corps is deferring Milestone A (MS A) for the MPC program. This decision to delay the MPC program to the FY10 time-frame allows the Marine Corps to effectively prioritize near-term investment decisions, providing a synchronized mobility strategy with respect to the capabilities MPC, the EFV and JLTV offer for the future.

## Mine Resistant Ambush Protected Vehicle (MRAP)



### Description

MRAP vehicles are V-shaped hulled, raised chassis, armored vehicles with blast resistant underbodies designed to protect crews from mine blasts, as well as fragmentary and direct fire weapons. Three categories of MRAP vehicles are currently being developed and fielded:

- **Category I** vehicles support operations in an urban environment and other restricted/confined spaces; including mounted patrols, reconnaissance, communications, ambulance and command and control.
- **Category II** vehicles support multi-mission operations such as convoy lead, troop transport, explosive ordnance disposal (EOD), ambulance, and combat engineering.
- **Category III** vehicles support Mine/Improvised Explosive Device (IED) clearance operations and explosive ordnance disposal.

### Operational Impact

MRAP vehicles 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 mine/IED, small arms fire, rocket propelled grenade and vehicle borne IED attacks. Marines participate in and/or respond rapidly to a variety of offensive, stability and security operations without a large security contingent and they need a vehicle capable of functioning in a counter attack after surviving a “first blow” ambush or attack. 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 has used a series of Low Rate Initial Production (LRIP) delivery orders with five of the vendors to order a majority of the vehicles.



A total of 16,238 vehicles are being procured for the Army, Marine Corps, Air Force, Navy, and SOCOM. The Marine Corps is executing the joint program on behalf of the Navy (lead Service). To date, the Joint Program Office (JPO) has acquired 16,222 vehicles (including 137 legacy systems) to satisfy the acquisition objective.

Force Protection, Industries, Inc. (FPII) has completed production of all MRAP CAT I and II vehicles for the Marine Corps and the JPO. The MARCENT objective was reached in June 08. The last production vehicles for home station training and five enhanced maneuverability test vehicles were delivered in Nov 08. International customer vehicle production will continue at FPII.

As of 6 Jan 09, 15,106 MRAP vehicles have been accepted by the government in CONUS and Kuwait 10,902 vehicles have been fielded to units in theater (9,490 in IZ; 1,271 in AF; and 141 in KU, QA, BH).

The JPO has initiated a new contracting effort for an additional 8 CAT III vehicles in the current acquisition objective for the Marine Corps. The request for proposal was released to Force Protection Industries, Inc. for acquisition of the next

generation MRAP Buffalo (CAT III), the MK3A2. The three-year contract contains provisions to order up to 50 vehicles and logistics and engineering services. The MK3A2 will provide an enhanced route clearance capability for USMC combat engineer and explosive ordnance disposal (EOD) units.

The JPO is actively pursuing vehicle upgrades to meet emerging threats, enhance vehicle mobility and improve automotive performance through incorporating engineering changes in current production, planned orders and fielded vehicles. In Dec 08 the JPO initiated a contracting effort for an MRAP-All Terrain Vehicle (M-ATV) that is lighter, and more maneuverable but with MRAP survivability for urgent warfighting requirements in Afghanistan.

#### Procurement Profile: FY07-FY10

Quantity:	Army	12,010
	Marine Corps	2,627
	Navy	544
	Air Force	538
	SOCOM	386
	Test Vehicles	133

#### Developer/Manufacturer:

BAE, York, PA

BAE-TVS, Sealy, TX

Force Protection, Industries, Inc. (FPII),  
Charleston, SC

General Dynamics Land Systems-Canada  
(GDLS-C), London, Ontario

Navistar Defense, LLC, Warrenville, IL

## 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 is a Joint Army/Marine Corps program, which consists of a family of vehicles with companion trailers capable of performing multiple mission roles that will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full Range Of Military Operations (traditional to irregular). The JLTV will be strategically and operationally transportable; and tactically mobile across all terrain.

### Operational Impact

The Joint Light Tactical Vehicle (JLTV) will enhance light tactical mobility combat arms, combat support, combat service support by providing the following characteristics:

- **Protection:** Scalable armor to provide mission flexibility while protecting the force.
- **Sustainment:** Reliable, maintainable, maximum commonality across mission role variants, onboard and exportable power, and reduced fuel consumption while accounting for added armor protection.
- **Networking:** Connectivity for improved awareness of the operational environment and responsive, well-integrated Command and Control (C2) for embarked forces.
- **Transportability:** Transportable by a range of lift assets, including rotary wing aircraft, to

support concepts across the Range of Military Operations (ROMO).

- **Mobility:** Maneuverability to enable operations across the spectrum of terrain, including urban areas.

### Program Status

Joint Light Tactical Vehicle (JLTV) is a Joint Army/Marine Corps program with the U.S. Army designated as the lead service, with a Joint Program Office (JPO) at Army TACOM under the leadership of the Program Executive Office for Combat Support/Combat Service Support and a Program Office under the leadership of the Program Officer for Land Systems (PEO LS) Marine Corps at Quantico, VA. The Marine Corps AAO for Increment I = 5,500 vehicles.

**Procurement Profile:** JLTV is undergoing a government-funded 27-month Technology Demonstration Phase and no procurement is planned for FY09.

**Special note at publication time:** The Army-Marine Corps Team awarded contracts to three Industry teams in October 2008 which included General Tactical Vehicles (AM General and General Dynamics land Systems joint venture), BAE Systems and Lockheed Martin. Northrop Grumman and Textron filed protests with GAO in November 2008 concerning the contract awards. The GAO report with recommendations to the Services is expected during the February/March 2009 timeframe.

**Developer/Manufacturer:**  
TBD

## Internally Transportable Vehicle (ITV)



### 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 allow MAGTF commanders to take maximum advantage of the speed and range offered by the MV-22 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.

### Program Status

The ITV Program is currently in production and deployment. A full rate production decision was achieved in July 2008 and initial operational capability is planned for January 2009, when one infantry battalion receives 15 ITVs.

Procurement Profile:	FY2009	FY2010
Quantity:	44	52

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

More than 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 mobility mover.

### 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 10,796 and MAS to 5,077 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:	FY2009	FY2010
Quantity:	95	25

Developer/Manufacturer:  
Oshkosh Truck Corporation, WI

## 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 preci-

sion 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 that accurately engages targets at long ranges (70+ 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

The HIMARS program is in the operations and support phase. HIMARS achieved initial operational capability in 4th quarter fiscal year 2008. Full operational capability will be achieved in fiscal year 2010.

Procurement Profile:	FY2009	FY2010
Quantity:	7	0

Developer/Manufacturer:  
 Launcher and MFOM: Lockheed Martin Corporation, Missiles & Fire Control Division, 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 that 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 compared to the M198 system (>7,000 pounds.). 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 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.

### Program Status

The LW 155 program entered full-rate production in 2005. The Marine Corps currently is contracted for 409 systems.”

#### Procurement

Profile:	FY2009	FY2010
USMC Quantity:	24	18

#### 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 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. Full rate production was approved in June 2008 and initial operational capability is planned for February 2009, when one artillery regiment receives six EFSS systems.

Procurement Profile:	FY2009	FY2010
Quantity:	24	20

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



**CHAPTER 3**

**PART 4**  
**AVIATION SUPPORT**

## Introduction

Fixed and rotary-wing aircraft organic to the Marine Air Ground Task Force (MAGTF) shape the battlespace and fight the battle, often in direct support of individual Marines on the ground. This air-ground combined-arms team has proven unequalled in answering our nation's calls across the spectrum of operations, from humanitarian assistance and disaster relief to delivering ordnance on target during crisis and conflict. Regardless of the multifaceted and dynamic threats we face, our mission remains unchanged: we are the MAGTF's aviation force in readiness.

Today, our priority is to replace legacy aircraft — some of which have been flying since the Vietnam War — with vastly more-capable aircraft. Our challenge is to remain engaged operationally, sustaining the force while executing our transition strategy for the future. The Marine Aviation Plan is a phased, multi-year plan incorporating force structure changes to better balance the Active Duty and Reserve Component. We are introducing generation-skipping technologies, while simultaneously providing critical 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 proactively planning our transition from 13 types of legacy aircraft to seven new platforms.

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 command and control systems as well as our aviation ground support systems in four concurrent programs:

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

We will transition to our new aircraft and systems on schedule and within established budgets. The overarching Transition Strategy detailed in the Marine Aviation Plan is our roadmap for navigating through this challenge. This is a keystone, “living” document outlining the Marine Corps’ multiyear transition plan to a dramatically changed fleet:

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

## 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 Marine Corps' 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 critical roles in Operation Iraqi Freedom and Operation Enduring Freedom. Sustainability, performance improvements and payload recovery programs are essential to ensure the platform continues to meet Marine Air Ground Task Force (MAGTF) and joint warfighting 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 to mitigate enemy threats, including the missile warning system, countermeasures dispensing system and infrared missile jamming system. Numerous weight re-

duction initiatives have commenced and target 1,000 pounds of payload recovery. Lightweight ceramic armor is replacing the original steel armor, providing greater protection at significantly reduced weight. CH-46E readiness and utilization rates are at historic highs, and the efforts underway will help these aircraft 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 warfighting concepts as currently envisioned. The current fleet of aircraft will reach the end of its fatigue life during this decade and until the aircraft can be replaced, a sustainment strategy has been implemented to address critical fatigue, obsolescence, and reliability issues. 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 warfighting 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 more than 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-pound variants of the Joint Direct Attack Munitions (JDAM) 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 and 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/joint tactical 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 Marine Air Ground Task Force (MAGTF) until the Tactical Aviation (TacAir) Integration implemen-

tation 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, capable F/A-18 airframes are instrumental in supporting the Navy-Marine Corps Tac-Air Integration plan.

The F/A-18D Advanced Tactical Airborne Reconnaissance System (ATARS) provides manned airborne tactical reconnaissance capability to the Marine Air Ground Task Force (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 were operational in all five Marine Corps F/A-18D squadrons in January 2009.

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 provide improved target recognition and identification, and 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 operations, the Marine Corps has modified expeditionary F/A-18, as well as EA-6B, aircraft to carry the LITENING pod. It is a proven capability that 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, a program that will culminate in one Type/Model/Series tactical aerial refueler/assault support aircraft for the Marine Corps.

## EA-6B Prowler



EA-6B Prowlers are an essential, combat-proven element of the MAGTF and Joint Force whose primary mission is Airborne Electronic Warfare (AEW) that includes Electronic Attack (EA), Electronic Support (ES) and Electronic Protect (EP). Current EA-6B aircraft and systems are in the process of a modification and upgrade effort introducing the Improved Capabilities III (ICAP III) weapon system for both Marine and Navy squadrons. The core of ICAP III is the ALQ-218 digital receiver system, the cornerstone of advanced signal targeting. This is the first receiver upgrade to the EA-6B since its fleet introduction more than 30 years

ago. The improved receivers and computers will enable more precise jamming, improve aircrew situational awareness and reducing life cycle costs.

ICAP III attained initial operational capability for the Navy in FY 2005 and will be introduced to Marine squadrons in 2010. The Marine Corps will complete the transition to an all ICAP-III fleet as the Navy transitions out of Prowlers by 2012. During this transition, the Marine Corps will stand up an Aircrew Fleet Replacement Squadron (FRS) co-located with the Marine EA-6B fleet, ready for training in FY10. By FY2011 the USMC BAA will increase from 20 to 32 with the addition of the FRS, test, pipeline, and attrition aircraft, all ICAP-III configured. The Prowler community will continue training aircrew through 2016, when sundown will commence with approximately one squadron standing down per year until complete in 2019. There will be no single platform to follow the EA-6B, rather the EW capability for the Marine Air Ground Task Force (MAGTF) will be captured across numerous airborne and ground systems. MAGTF EW will comprise both manned and unmanned surface, air and space-based assets, fully networked and collaborating to provide the MAGTF and Joint Force Commanders the ability to dominate the EM spectrum at the time and place of their choosing.

## Aviation Ground Support (AGS)

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 might be required. Aviation Ground Support 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 and capability enhancements to rapidly plan, deploy, and provide AGS to the ACE Commander's 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.

### The Future Of Aviation Ground Support Capability Enhancements

Continued operational, training and equipment enhancements will keep AGS on par with evolving Marine Corps future operational and logistics concepts. Future AGS capability must provide measured AGS; that is, precise amounts of fuel, ammunition, logistics and ACE-specific services at a time and place of the ACE Commanders' choosing. The MWSS will maintain its core capability to establish and operate one Forward Operating Base (FOB/main airfield) and two Forward Arming and Refueling Points (FARPs) simultaneously. Embedded within the MWSS will be



tasked-organized and equipped capability sets (internal to the squadrons and loaded aboard Maritime Prepositioning Force ships) that can be rapidly employed for ACE mission tasking.

Through capability enhancements, the MWSS will reduce its footprint ashore and have the ability to set up rapidly, provide necessary AGS for short-duration operations, displace and relocate within minutes. Using mobility to reduce vulnerability will be central to ACE force protection; the reintegration of military police into the MAW enables self-defense capability should the ACE be engaged at FOB and FARP sites.

### ACE Command and Control

Key to the effective sustainment of the ACE and Marine Air Ground Task Force (MAGTF) fight will be a greater level of integration into the ACE command and information architecture. To ensure seamless mission planning and operations for AGS, the MWSS Aviation Ground Support Operations Center (AGSOC) will be linked to the ACE command information network and site command network to monitor ACE support requirements, provide increased situational awareness to higher and adjacent commands, and to act rapidly to support ACE operations.

## Logistics Integration

The integration of all logistics assets ashore will be a critical enabler to MAGTF operations. Interoperability between the Logistics Combat Element (LCE) and the MWSS must be seamless. The MAGTF Logistics Integration (MLI) initiative between the departments of Aviation and Installations and Logistics will continue to ensure that combat service support and AGS continue to seek integrated processes, systems, command and control, and missions planning.

## Expeditionary Airfield / Aircraft Rescue and Fire Fighting Modernization

The AGS modernization initiative will ensure that the MWSS is capable of supporting the ACE during Expeditionary Maneuver Warfare operations. The intent of the Expeditionary Airfield (EAF) / Aircraft Rescue and Fire Fighting (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 F-35B Lightning II (JSF). EAF/ARFF Modernization programs include:

- Advanced lightweight matting capable of supporting F-35B Lightning II operations
- Man portable, all-weather airfield lighting systems
- Rapidly deployable, self contained, airfield damage-repair systems
- Modernized firefighting vehicles and systems

## Meteorological Mobile Facility Replacement—Next Generation

The next-generation Meteorological Mobile Facility Replacement (METMF(R)

NEXTGEN) will replace the legacy METMF (R) “weather van” and provide networked meteorological capability throughout the area of operations using a High Mobility Multi-Wheeled Vehicle mounted facility capable of providing real-time environmental sensing and weather data in support of the ACE during expeditionary operations. The METMF(R) NEXGEN will enable the Marine METOC analyst to effectively turn relevant environmental data into actionable intelligence, which in turn will facilitate timely operational decision-making.

## Regional Meteorological Centers

The Regional Meteorological Centers (RMC) became operational in Fiscal Year 2008 and provide consolidated hubs on each coast (Cherry Point, North Carolina, and Miramar, California) to distribute meteorological forecast, weather alerts and tactical weather products to Marine Corps Air Stations and Facilities in the continental United States. 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 in garrison as well as expeditionary operations.

## AGS Expansion

The expansion of AGS capability will include the establishment of an MWSS detachment to support Marine Air Group(MAG)-24 and Marine Aviation units operating in Hawaii and Guam. Requirements will continue to be monitored to ensure that AGS capabilities are adequate to support the emerging MAG-24 operational and logistics needs.

## Theater Battle Management Core System (TBMCS)

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### Description

Theater Battle Management Core System (TBMCS) is an airwar 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 (MAGTF) 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. Service Pack 18 is currently being fielded during 2009.

## F-35B Lightning II Short Take-Off Vertical Landing (STOVL) Joint Strike Fighter (JSF)



### Description

The F-35B Lightning II Short Take-Off Vertical Landing Joint Strike Fighter is a single-engine, stealthy, supersonic strike-fighter aircraft capable of short take-offs and vertical landings ashore and at sea. The multi-capable JSF combat system will combine the basing flexibility of the AV-8B with the multi-role capabilities, speed and maneuverability of the F/A-18 to fulfill the Marine Corps air-to-ground and air-to-air requirements, while being co-located with Marine Air Ground Task Force (MAGTF) maneuver elements in support of the commander's intent. The very low radar cross-section, superior sensor integration and robust net-enabled capabilities far exceed even the most advanced legacy aircraft in the areas of survivability, lethality and supportability. Designed from the outset with all six functions of Marine air in mind, the F-35B will ensure that the MAGTF commander can maneuver in time and space at his discretion, will be able to deliver kinetic, non-kinetic and Intelligence, Surveillance and Reconnaissance (ISR) resources, scaled appropriately, precisely when and where they are needed. The F-

35B will replace the Marine Corps' AV-8B and F/A-18A/C/D fleets, as well as become a critical node in the future of MAGTF Electronic Warfare (EW), 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 MAGTF with a platform capable of tactical air control and tactical reconnaissance. Additionally, the aircraft will be able to provide destruction of enemy air defenses in addition to electronic warfare — both electronic surveillance and electronic attack. The requirements for this aircraft are focused on readiness, the combined arms concept, expeditionary capability and the ability to conduct Expeditionary Maneuver Warfare. The F-35B is intended to be a MAGTF integrator, bringing capabilities to the decision maker, where he is in the battle space.

### Program Status

The JSF is a joint program with the Air Force, Navy, Marine Corps and the United Kingdom as Level I partners. Additional international partners are Italy, The Netherlands, Canada, Denmark, Norway, Turkey and Australia. After reassessing the program baseline, the Systems Development and Demonstration (SDD) 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 and Joint Force Commanders. Since completing the critical design review, the prime contractor has begun assembling the long lead items in preparation for starting Low Rate Initial Production. The first STOVL

test article, BF-1, successfully completed first flight in June 2008. Additional test articles are in production and will be ready to begin a robust developmental test schedule followed by operational test where the design will be evaluated for operational suitability and employment with our operating forces. Initial Operational Capability is scheduled for 2012.

Procurement Profile: FY2009    FY2010  
 Quantity:                    7                    16

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, Navy and United Kingdom (UK). The JSF family of aircraft includes the short takeoff, vertical landing (STOVL) variant for the Marine Corps and UK, conventional takeoff and landing (CTOL) for the Air Force and aircraft carrier-capable (CV) variant for the Navy. Commonality among the variants helps reduce both development and life-cycle costs, and will result in the greatest “bang for the buck” 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 radar (AESA), 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 aircraft carriers, “L” class amphibious assault ships, main

operating bases and austere sites ashore. The STOVL F-35B 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 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 ship-launched missions. The United Kingdom’s Royal Air Force, Royal Navy, and the Italian Navy will employ the STOVL variant aboard their air-capable ships. Several other U.S. Foreign Military Sales (FMS) countries have also expressed interest in the F-35B.

The Corps will employ the F-35B to support the six functions of Marine Corps Aviation. This remarkable breadth of employment will allow the Marine Corps to decrease its tactical aviation (Tac-Air) inventory, while increasing lethality, survivability, and supportability when compared to legacy aircraft. The Marine Corps’ requirement for STOVL is 420 aircraft allowing the Corps to field an “all-STOVL force”.

The current JSF acquisition strategy continues to reflect the Marine Corps’ vision of an “all-STOVL” force. In accordance with an August 2002 Memorandum of Understanding among 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.

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Once the F-35B begins entering service, the Marine Corps will begin retirement of AV-8Bs and F/A-18 Hornets. As currently planned, all legacy strike TacAir platforms should be retired by 2024. The Corps will incorporate an airborne electronic attack capability into the baseline F-35 to address the eventual retirement of EA-6B Prowlers. This EA capability in STOVL will compose a portion of the system-of systems-approach where our

electronic warfare capabilities are distributed across manned and unmanned aerial systems.

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 Program



### 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 mount-

ed 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.

The Marine Corps' transition from the CH-46E to the MV-22 began with HMM-263 in June 2005, when the first group of maintenance Marines entered training at Marine Corps Air Station (MCAS) New River. The remainder of the CH-46E and one CH-53D squadron are anticipated to transition to the Osprey at the rate of two squadrons per year.

### 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

The MV-22 reached Initial Operational Capability (IOC) in June 2007. The MV-22 is currently deployed and in direct support of Marine Air Ground Task Force (MAGTF) 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. 29 Block A aircraft have been delivered and are in service at MCAS 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 August 2008, 33 Block B aircraft had been deliv-

ered 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 are projected to be delivered to the fleet in Fiscal Year 2012.

**Procurement Profile:**

(Block B):	FY2009	FY2010
Quantity:	30	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 Program (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 workload, 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 (MAGTF) 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 (UH-1Y/AH-1Z) resolves existing operational UH-1N power margin and AH-1W aircrew workload issues while significantly enhancing the tactical capability, operational effectiveness and sustainability of our attack and utility helicopter fleet. The Marine Corps' UH-1Ns are reaching the ends of their useful lives. Due to airframe and engine fatigue, they routinely take-off at maximum gross weight with no margin for error. Rapidly fielding the UH-1Y remains a Marine Corps Aviation priority with the first deployment of UH-1Ys scheduled for the 13th MEU in January 2009.

Due to significant operational demands and aircraft attrition in the existing attack and utility helicopter fleet, the Marine Corps adopted a “build new” strategy for the UH-1Y. Similarly, the Marine Corps began investing in Non-Recurring Engineering (NRE) for the production of a limited number of AH-1Z “build new” aircraft. These AH-1Zs will augment the existing AH-1Ws that will be remanufactured. This combined “build new” and remanufacture strategy will enable the Marine Corps to rapidly increase the number of AH-1s available to support the Marine Corps' growth

to 202K Marines while moderating the inventory short-falls caused by aircraft attrition.

To fully support the Commandant's 202K decision three new HMLAs are being established. HMLA-467 stood-up 23 October 2008. HMLA-469 will stand-up in June 2009 and HMLA-567 in FY11.



### Program Status

Twenty-five production aircraft (19 UH-1Ys/6 AH-1Zs) have been delivered through FY2008. Operation and Evaluation (OPEVAL) Phase II completed

23 April 2008, and showcased the strengths of the upgraded aircraft. Full Rate Production of the UH-1Y (and the contract award of Lot 5 aircraft) date will be set at the DAB, 17 September 2008. The UH-1Ys reached Initial Operational Capability (IOC) on 8 August 2008. The AH-1Z testing continues to proceed with the plan to IOC in FY11. The new total program objective is 123 UH-1Ys and 226 AH-1Zs.

Procurement Profile:	FY2009	FY2010
Quantity:	16	28

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) compared to 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. 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.

### 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 (TRAP) support. This force multiplier is well suited to the mission needs of the forward-deployed MAGTF. With its satellite communications system capability, survivability enhancements, aerial refueling and rapid ground refueling capabilities, and improved aircraft systems reliability, the KC-130J will bring increased capability and mission flexibility to combat planning and operations.

### 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:	FY2009	FY2010
Quantity:	2	0

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. However, the CH-53E cannot support the range and payload requirements necessary to the Marine Corps future warfighting concepts. 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 warfighting requirements during 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 support 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 pounds of cargo out to 110 nautical miles (nm), generating more than 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, whose operating costs are 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 December 2005, and the System Development and Demonstration contract was awarded in April 2006. Initial operational capability will be reached in 2015.

## Unmanned Aircraft Systems (UAS)



The Marine Corps has employed unmanned aerial vehicles (UAVs) since 1986.. The demand for Intelligence, Surveillance, and Reconnaissance (ISR) 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.

The Marine Corps' 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 and Raven-B are nominally employed at the company 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 135 Dragon Eye systems flying in early 2009, and the Marine Corps plans to procure 348 Raven-B systems — three air vehicles per system — to replace the Dragon Eye. In addition to Raven, the USMC is also purchasing 135 micro-UAVs, the Wasp, to serve in Iraq and Afghanistan.

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 a capability gap in OIF and two additional Scan Eagle systems in OEF. The current contract will continue to provide this capability through 2010 while a full program of record is developed. The multi-service sponsored Tier II UAS program Initial Capabilities Document (ICD) was approved by the Joint Requirement Oversight Council in December 2006. 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 RQ-7B Shadow is the USMC's interim Tier III UAS.

The Marine Corps transitioned to the Shadow system during the fourth quarter of Fiscal Year 2007 and deployed the Shadow-capable VMU to support current OIF operations in September 2007. In OIF, Shadows have provided the ISR necessary to make the difference between success and failure. Using electro-optical and infrared cameras and communications relay payloads, ground units have visual access to their areas of responsibility and

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routes, and force protection enhancers prior to, during and after their missions. By FY 2011, 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 stood-up a third VMU in

September 2008. Initially home-based at Marine Corps Air- Ground Combat Command in Twenty-Nine Palms, California, 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. A fourth VMU, in the Reserves, is scheduled to begin stand-up in FY 2010 and reach IOC by FY 2011.

## 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. Examples (by type of aircraft) that illustrate Marine Corps OSA's relevance to the Global War on Terrorism (GWOT) include the following:

- 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. They also 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, while also providing airlift support to MAGTF-8.
- The C-20G (based at Marine Corps Air Station Kaneohe Bay, Hawaii) 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 employed for efficient, expeditious transportation of key personnel. Marine Corps UC-35s 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 operates the Joint Operational Support Aircraft Center to maximize use of all available continental United States OSA assets, regardless of service. USTRANSCOM additionally supports 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 (COTS) aircraft with minimal militarization provides MAGTF commanders swift, on-demand support and ensures the availability of short-notice, time-critical, logistical air support using the right type of aircraft that is fully integrated into Marine Corps operations.

## Marine Aviation Logistics Transformation

Marine Aviation is reshaping our aviation logistics elements to enable more responsive, flexible and reliable combat support needed for future conflicts, while continuing to meet today's readiness needs. Previously, Current Readiness (CR), End to End (E2E) *AIRSpeed*, and Marine Aviation Logistics Support Package II (MALSP II) were viewed as separate and discrete pillars to improving Marine Aviation readiness. During the next three years, we will aggressively mature these transformational strategies so they become mutually reinforcing and provide direct alignment with the Marine Corps Vision and Strategy 2025.

### Current Readiness (CR)

Marine Aviation commanders and leaders, in concert with the Naval Aviation Enterprise (NAE), will plan, execute and manage the Current Readiness (CR) process, maximize readiness of equipment and people, optimize material resource allocations and expenditures and minimize logistics downtime and delays. Leaders will drive CR operations to align Marine Aviation with enabling organizations. This alignment will effectively and predictably achieve readiness levels required to produce core competent aviation units (squadrons/detachments) for warfighting missions.



### Marine Aviation Logistics Support Program II (MALSP II)

For Marine Aviation, *AIRSpeed* dramatically improves expeditionary logistics for the warfighter. Specifically, the Naval Aviation Enterprise's continuous process improvement strategy (*AIRSpeed*) is the key enabler to modernizing the time-tested Marine Aviation Logistics Support Program (MALSP). Applying *AIRSpeed*, MALSP-II becomes the comprehensive aviation logistics program that expands future Aviation Combat Element's (ACE's) operational freedom of maneuver with a more reliable and effective logistics system that is lighter, adaptive, and proactive. MALSP-II increases Marine Aviation's ability to rapidly de-

ploy, 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)

The introduction of new logistics processes and technology will significantly impact on the organization of the MALS of the future. Under MALS(F), Aviation Logistics is exploring how the future MALS will be organized in an AIRSpeed-MALSP II environment. The analysis will identify notional skill sets, distribution capabilities and maintenance capabilities for the future MALS. The Doctrine, Organization, Training, Material, Leadership and Education, Personnel and Facilities (DOTMLPF) process provides the framework by which Marine Aviation will 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 MALS Future.



### Marine Air-Ground Task Force (MAGTF) Logistics Integration (MLI)

The Marine Air Ground Task Force (MAGTF) is supported by two separately funded logistics systems: one that supports the Aviation Combat Element of the MAGTF, and another, known as the Logistics Combat Element (LCE), that supports the Ground Combat Element (GCE). Under MLI, Marine Aviation Logistics is partnering with our Ground Logistics counterparts to integrate these logistics processes in support of future expeditionary and sea based operations

## Naval Aviation Enterprise (NAE) FY 2009

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The Naval Aviation Enterprise (NAE) comprises the Aviation element of the Navy, Marine Corps and Coast Guard. Its mission is to support combatant commanders by providing combat-ready Naval Aviation forces which are fully trained, properly manned, interoperable, well-maintained and combat-sustainable.

Working within the enterprise construct brings our collective combat leadership and warrior ethos to bear on the difficult problems we face as we execute our responsibility to man, train, equip, and maintain the best aviation warfighters in the world. The NAE will achieve these goals through three main priorities: Current Readiness, Future Capability and people.

The Marine Corps is a full partner within the NAE and we will continue to insure that Naval Aviation is stronger through our partnership with our Naval Aviation counterparts.



**CHAPTER 3**

**PART 5**  
**LOGISTICS SUPPORT**

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## INTRODUCTION

Logistics support to the Marine warfighter takes on many forms, involves numerous activities and spans the Marine Corps. Innovative efforts are underway at all levels to improve logistics business processes for the explicit purpose of providing world-class logistics support to Marines, whether in peace or war. The Marine Corps Logistics Modernization Strategy will revolutionize how 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. Logistics initiatives are numerous and involve the combined efforts of every active duty, reserve and civilian Marine logistician serving today.

## Electronic Acquisition

The mission of the Electronic Business Team at Headquarters Marine Corps is to implement and oversee Paperless Acquisition Initiatives throughout the Marine Corps. In accomplishing this mission, the Marine Corps has fully adopted several electronic business systems in direct support of the DoD Enterprise-Level Business Architecture. By embracing DoD enterprise solutions, the Marine Corps is better able to communicate and share information, leverage expertise and share lessons learned across government agencies. The following DoD electronic business systems have been fully implemented by the Marine Corps:

- Standard Procurement System (SPS)—A contract writing system that standardizes the procurement process from receipt of a purchase request from PR Builder through contract closeout — all functionality associated with cradle-to-grave contracting.
- Wide Area Workflow-Receipt and Acceptance (WAWF-RA) — A web-based system for electronic invoicing, receipt and acceptance required to pay a vendor.
- Electronic Document Access-Next Generation (EDA-NG) — An electronic document management tool that facilitates information sharing among DoD communities by providing access to official documents, including contracts and modifications.

In addition to DoD Enterprise-Level Business Initiatives, the Marine Corps has sought out internal opportunities to further Acquisition Technology and Growth. These initiatives include:

- Purchase Request Builder (PR Builder)— A web-based purchase request tool that interfaces with the Marine Corps Financial

System-SABRS and the Marine Corps Contract Writing System-SPS.

- SeaPort-e — The Marine Corps has implemented SeaPort Enhanced (SeaPort-e), an electronic procurement tool used predominantly by Department of Navy commands, for acquiring a vast array of services, and provides the functionality to standardize the procurement process from initiation of requirement through award.
- Contract Management Process Guide (CMPG) — A web-based repository of guidance, checklists, procedures, and regulations that provides the tools and resources to streamline the procurement process and assist the Marine Corps' Regional Contracting Offices in making intelligent procurement decisions.

New in FY09, the Marine Corps will be leasing the Army Contracting Business Intelligence System (ACBIS), which will provide electronic monitoring and oversight of our contracting actions, and begin use of the Electronic Subcontracting Reporting System (eSRS), an online source for subcontracting data across the Federal Government.

DoD Business Enterprise-Level Solutions, together with Marine Corps-unique Electronic Business System Initiatives, support the logistics mission of the DoD, which is a true end-to-end electronic procurement process.

## Logistics Command (LOGCOM) Forward

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The Marine Corps Logistics Command Forward (MCLC-Fwd) capability was formed to fulfill the need to unify numerous disparate command logistics teams operating independently in Central Command Area of Responsibility (CENTCOM AOR). The Marine Expeditionary Unit Augmentation Program (MAP) Forward-in-Stores (FIS), Principal End Item (PEI) Rotation, Equipment Retrograde, Reparable Issue Point and Maintenance Contact Teams are successful MCLC-Fwd initiatives. The MAP provides a limited equipment set within the CENTCOM Theater to enhance the combat readiness and responsiveness of MEUs as they conduct operations in the CENTCOM AOR and reduce the MEU equipment that is shipped from the continental United States (CONUS). The FIS provides for the exchange of damaged equipment. The PEI rotation program rotates new or rebuilt equipment into the theater to exchange for equipment items that have been in theater operating at maximum duty cycles for three-to-four years, increasing readiness in theater and integrating procurement, modernization and rebuild efforts to maintain operational availability of equipment. The Equipment Retrograde program facilitates the turn-in of equipment which is being re-

placed by new acquisition or is no longer required for theater requirements; MCLC-Fwd processes the items by arranging for transportation to CONUS, redistributing to meet other theater requirements or turning the item over to Defense Reutilization Maintenance Office (DRMO). The Reparable Issue Point (RIP) program provides contractor augmentation to the Marine Logistics Group (MLG) RIP to source and manage selected secondary reparable rebuild/overhaul/remanufacture (4th OEM) and augment P3 capabilities at the RIP in order to expedite to issue and return of secondary reparable in the support of the deployed Marine Air-Ground Task Force (MAGTF). The Maintenance Contact Teams are maintenance specialists deployed periodically to fulfill specific tasks of limited duration, such as applying armor to vehicles in country. MCLC-Fwd is a proven concept, executing operational-level logistics and providing regional logistics expertise with direct reachback to the Marine Corps Logistics Command. The success of the MCLC-Fwd model provides impetus to develop additional strategies for supporting the warfighter, such as the MEF Support Teams with LOGCOM personnel co-located at each MEF.

## Logistics Modernization (Log Mod)



Logistics Modernization (Log Mod) is the transformation of logistics functions to be more capable, effective and responsive to Marine Air-Ground Task Force (MAGTF) operations. Log Mod is addressing existing logistics shortfalls, incorporating lessons from Operation Iraqi Freedom and preparing for Expeditionary Maneuver Warfare. Log Mod represents the most comprehensive effort ever implemented by the Marine Corps to improve tactical and operational logistics. Log Mod is a three-pronged improvement and integration initiative that focuses on Marine Corps people, processes and technology to produce a far more effective and efficient Logistics Chain Management process by:

- Using the Logistics Operational Architecture to support improvements to Marine Logistics Group (MLG) organization, enhancing command and control, and integrating our distribution, maintenance and supply capabilities.

- Modernizing and integrating Information Technology through the acquisition and fielding of the Global Combat Support System—Marine Corps.
- Modernizing human capabilities with new occupational specialties, more uniform, deployable organizational components and logistics education with effective change management and communications.

Log Mod comprises the following initiatives:

1. Logistics Operational Architecture
2. Command and Control for Logistics
3. MLG Reorganization
4. MAGTF Distribution
5. Realignment of Maintenance
6. Realignment of Supply

The most visible and successful initiative is the reorganization of the Logistics Combat Element into MLGs. 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.

## Global Combat Support System-Marine Corps (GCSS-MC)

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### 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 "Block 1" increment provides initial capabilities for GCSS-MC/LCM and is a separate acquisition program with its own milestone events. GCSS-MC/LCM Block I 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 Block 1 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 also 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 Block 1 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 scalable/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 IA 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 Block 1 received its Milestone “B” decision in June 2007. The program is projected to reach IOC in FY10.

Procurement Profile:	FY2009	FY2010
Quantity:		
CONUS Enterprise	1	0
MEF	1	TBD
MEU	2	TBD

Developer/Manufacturer:  
Oracle USA, Inc, Redwood Shores, CA

## Marine Corps Small Business Program

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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 underutilized business zone small businesses and Historically Black Colleges and Universities/Minority Institutions. Small businesses are often 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.

## Naval Logistics Integration (NLI)

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On a day-to-day basis, the Naval Services maintain a persistent presence in forward areas. Naval Logistics Integration (NLI) focuses on sustainment and end-to-end logistics support to globally dispersed maritime forces, afloat and ashore. The basic tenets of NLI require that all levels of command actively improve naval logistics to the fullest extent possible by integrating Navy and Marine Corps logistics capabilities. This logistics integration will increase effectiveness and improve efficiencies through common processes and economies of scale. Primary focus areas include: improving logistics responsiveness, sustaining combat support; reducing logistics workload afloat and ashore and funding recapitalization of the Naval Service integrated logistics process.

To date, NLI has enabled dramatic improvements in sustaining deployed Navy and Marine Corps operating forces. For example, the Marine Expeditionary Units (MEUs) are using the Navy's Cargo Routing Information File (CRIF) to accurately track ship movements. As a result, customer wait-time for high-priority material requisitions has been reduced by 50 percent, with the MEU's reporting receipt within 10 days. In addition, the Navy's Advanced Traceability and Con-

trol (ATAC) system has been fielded to Marine Logistics Combat Element (LCE) units. ATAC expedited the return of more than 120,713 repairable component shipments valued in excess of \$325 million.

As part of logistics support ashore, the NLI program is exploring new initiatives for the integration and optimization of critical Navy and Marine Corps logistics capabilities. These ashore 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. Once mature, the ashore initiatives will become the norm for future naval operations in naval, joint and coalition environments. Naval Expeditionary Logistics provide an essential capability across the full range of joint military, allied and inter-agency operations for both ground and aviation Marine units. The NLI end-state objective is to establish an integrated logistics capability that can operate seamlessly whether afloat or ashore and successfully sustain naval units in a joint warfighting environment.

## Sense and Respond Logistics (S&RL)

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The Marines Corps' future vision of highly maneuverable, highly flexible, decentralized operations requires a similar approach to logistics. Future operations, especially those involving Enhanced Company Operations (ECO) and Ship-to-Objective Maneuver (STOM), as well as Security Cooperation, require an adaptable, flexible and responsive logistic system. Sense and Respond Logistics (S&RL) embody these characteristics. S&RL accommodates the critical elements of high rates of change, closely coupled events, speed of command and self-synchronization.

With information technology, S&RL receives, recognizes and responds to consumption and requirement patterns through the use of equipment embedded Intelligent Agents. 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. It will tell the Commander "how much fight is left" in his units.

In order to implement S&RL, the Navy and Marine Corps must pursue a network-enabled approach to operations that greatly improves the integration between operations and logistics. A key element to supporting S&RL is the use of actionable information received through Autonomic Logistics (AL). Under the Naval Logistics Integration (NLI), the Marine Corps, Navy and Office of Naval Research (ONR) are working on bringing S&RL and AL capabilities to Marine Corps units, and shore units of the Naval Expeditionary Combat Command (NECC).

AL enhances 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 to enable increased and real-time operational visibility of selected weapon systems.

## Autonomic Logistics (AL)

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### 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:	FY2009	FY2010
Quantity:	1018	6121

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:	FY2009	FY2010
Quantity:	Various	Various

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 Tractor variant will tow heavy engineer equipment and combat vehicles with the M870 series 40 / 50 ton Medium Heavy Equipment Trailers (MHETs). The LVSr will be employed throughout the Marine Air-Ground Task Force (MAGTF) in the Marine Logistics Group (MLG), Marine Divisions (MAR DIVs), and Marine Aircraft Wings (MAWs).

### 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

The LVSr Cargo variant completed Production Verification Testing (PVT) and Initial Operational Test and Evaluation (IOT&E) and Live Fire Test and Evaluation (LFT&E) during 2007 - 2008. Likewise, the LVSr Wrecker and Tractor variants underwent Pre-Production Qualification (PPQT) testing during 2007 and 2008. Successful completion of test and evaluation led to a Full Rate Production (FRP) decision in October 2008 for the Cargo variant. The Tractor and Wrecker variants will require a Milestone C decision to enter into Low Rate Initial Production during the first Quarter FY2009. The LVSr Approved Acquisition Objective (AAO) calls for 1,841 Cargo variants, 408 Tractors and 148 Wreckers.

Procurement Profile:	FY2009	FY2010
Quantity:	554	584

Developer/Manufacturer:  
Oshkosh Corporation, Oshkosh, WI

## Marine Corps Business Enterprise Initiatives

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Innovation has always been a key component of Marine Corps tradition. Enabling good ideas is fundamental to our style of leadership. To that end, we are implementing a standard, disciplined methodology across the Corps to improve processes that support combat readiness and warfighting capability. This approach includes three primary elements:

- A Business Enterprise Office to coordinate policy, develop standard methods, and assist organizational leaders to build “in house” process improvement capability
- A “learn by doing” training curriculum that coaches Marines and Marine Corps civilians to make improvements and solve problems
- A software tool to monitor progress and share results from improvement initiatives

Concurrently, the Marine Corps is increasing the application of Business Enterprise Architecture methods in order to improve process documentation, to improve information governance, and to more wisely invest in information systems. Results are being achieved in a variety of areas including: depot rebuild, aviation maintenance, rapid and deliberate acquisition, valor awards and regional contracting for materiel and services.

## Feeding Marines



### Changing Expectations For Garrison Mess Hall Operations

Meal time should provide Marines a break from their daily routine to relax and renew. To this end, new menus have been developed and environment and operating hours have been tailored to fit high-tempo lifestyles. New menus offer items that patrons are looking for while being healthy and nutritionally balanced. New menu options include Fusion (food made to order upon request); Market (similar to the Boston Market™ concept); Grill (upscale fast food to include: gourmet hamburgers, pizza and focaccia bread sandwiches); an extensive soup and salad bar (Fresh Bar), along with an enticing dessert bar. Additional menu initiatives implemented in past years include the SubMarine program (made to order sandwiches); Simply-to-go (take-out meals); and Xtreme Burrito Program. Another welcome change is the extended hours of operation offered at select mess halls. This provides patrons more flexibility to accommodate changes in schedules that would have otherwise prevented getting a meal during traditional meal hours. As a collaborative effort between the food service contractor and the Marine Corps,

customer surveys helped to develop innovative concepts for mess halls operations. These initiatives are designed to provide the very best support possible to the patrons of Marine Corps Garrison Mess Halls.

### Transitioning Expectations For Field Feeding Operations

On par with actions taken to support garrison mess hall operations, field feeding has taken on the challenge to support the needs of our warfighters by investing in new technologies and equipment capable of preparing the highest quality meals in the most austere environments. One of the ways that this is being achieved is with the fielding of the Enhanced Tray Ration Heating System, which will increase a unit's capability to prepare a wider variety of rations and provide the means to rapidly prepare, deliver and serve up to a company-sized unit (250 hot meals two times each day) in forward areas. All this capability is packed and stored in a Quad-ruple Container that is designed and fitted with an enhanced refrigeration unit allowing the container to double as a field refrigerator. Another field feeding system that is currently in development is the Expeditionary Field Kitchen. The Expeditionary Field Kitchen is intended to fill a capability gap between the Tray Ration Heating System and the Field Food Service System. When fielded, it will have the capability to support the feeding of 500 personnel with two hot meals per day. This trailer-mounted system supports the wide range of operational rations and will be the forward-feeding solution to the mid-level field-feeding requirement of the future.

## Marine Corps Bases and Installations



Marine Corps bases and installations represent an irreplaceable national asset today and as far into the future as we can project. As such, they are fundamental to the combat readiness with regard to pre-deployment training and then launching, sustaining and reconstituting Marine Operating Forces. They are and will also continue to be integral to the Quality of Life of Marines, Sailors and their families.

In 2025, Marine Corps installations will provide an even higher-quality training environment directly supporting the Total Force in Readiness. Operating Force commanders will have a greater understanding of the vital role installations play in training, launching, recovering, providing reachback, instilling and maintaining Marine Corps core values and providing for our Marines and their families.

The current operation and maintenance of these installations as well as their future development and use require wise investment, thorough planning and sound execution. Numerous Corps-wide efforts are underway to ensure Marine Corps installations are ready, responsive and capable of meeting current and future support requirements.

The Marine Corps has more than \$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.

Upon reexamination of the Marine Corps' structure and manning relative to its expected long-term mission needs, the President 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 FY 2007 Supplemental request included \$324 million to accomplish critical-path infrastructure projects. This effort was continued with the President's FY 2008 Global War on Terrorism (GWOT) request of \$169 million and the President's FY 2008 budget request of \$458 million. The balance of this investment, including military construction and family housing, is being aggressively programmed.

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 a considerable amount in improving all aspects of the quality of life of our single enlisted Marines. The Bachelor Enlisted Quarters (BEQ) Campaign Plan has been updated and will serve as a common roadmap for management of our BEQs.



**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 the Combatant Commanders with scalable options for presence, theater security cooperation, crisis response and combat power. 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 ashore, and will continue to play a pivotal role in protecting vital interests. Under our 2007 tri-service maritime strategy, we will work closely with our Navy and Coast Guard shipmates. Individual Marines, Sailors and Coast Guardsmen 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:

- Amphibious Warships
- Amphibious Assault Ship Replacement (LHA(R))
- *San Antonio*-class Amphibious Transport Dock Ship (LPD-17)
- Maritime Prepositioning Force (Future) (MPF(F))
- Joint High-Speed Vessel (JHSV)
- Landing Craft Air Cushion (LCAC)/Ship to Shore Connector (SSC)
- 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 survivability 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 [MEF-level] two Marine Expeditionary Brigade (MEB) forcible entry operation." Therefore, the Marine Corps operational requirement is two MEB Assault Echelons (AE) of forcible-entry capability reinforced by an additional MEB from the MPF(F). The two MEB Assault Echelon (AE) forcible-entry capability requires 34 amphibious warfare ships (17 ships per MEB). When forward presence requirements are considered with the 2.0 MEB AE requirement a total of 38 ships are required. Of these 38 ships, 12 must be aviation-capable large deck ships (LHA/LHD/LHA(R)) to accommodate the MEB's Aviation Combat Element (ACE).

Nine large-deck ships (seven *Wasp*-class LHDs and two *Tarawa*-Class LHAs) are in service in the spring of 2009. The eighth *Wasp*-class multi-purpose amphibious assault ship, the USS *Makin Island* (LHD 8) delivers in mid-2009. 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 (LHA(R))

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The amphibious fleet is organized for forward presence and includes nine Amphibious Ready Groups (ARGs) — each comprising three amphibious ships. The centerpiece of the ARG is a *Wasp*-class or *Tarawa*-class amphibious assault ship. *Tarawa*-class amphibious assault ships reach the ends of their expected service lives between 2015 and 2018.

The first of three LHA Replacement ships, the USS *America* (LHA 6), was commissioned in 2008. LHA 6 design modifications optimize aviation operations for MV-22 and Joint Strike Fighter

support. Removal of the well deck provides for an extended hangar deck with two wider high-bay areas, each fitted with an overhead crane for aircraft maintenance. Other enhancements include a reconfigurable command and control complex, a hospital facility, and extensive support activities.

An LHA 6 class ship is expected to be delivered in fiscal years 2013, 2016, and 2019. LHD recapitalization is expected to begin in fiscal year 2019.

## San Antonio-Class Amphibious Transport Dock Ship (LPD 17)

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The LPD 17 *San Antonio* class amphibious warfare ships represents the Department of the Navy's (DON) commitment to a modern expeditionary fleet and will assist the Marine Corps's naval forces across the spectrum of warfare. The first two ships of the class, the USS *San Antonio* (LPD 17) and USS *New Orleans* (LPD 18), deployed in the fall 2008 and early 2009, respectively. The eleven *San Antonio* LPDs will replace the remaining six ships of the LPD 4 *Austin* class.

The 2009 Navy Long Range Shipbuilding Plan has increased the LPD-17 program buy from nine to 11 ships; with four of these ships already in commission.

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. The class' 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. The *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. Each also has 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 Cushions or one Landing Craft Utility. 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)/ Ship to Shore Connector (SSC)



The Landing Craft Air Cushion (LCAC) is a high-speed, fully amphibious craft with a design payload of 60 tons at speeds in excess of 40 knots and a nominal range of 200 nautical miles. The LCAC's ability to ride on a cushion of air allows it to operate directly from the well decks of amphibious warships and to access more than 70 percent of the world's beaches, compared to the with 17 percent for conventional landing craft. A service life extension program (SLEP) began in late 2000 for the 72 active LCAC, which provides major refurbishment that will extend craft life to 30 years and increased

payload capacity from 60 to 75 tons in an overload condition. LCACs 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, thereby 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 begin assessing all forms of ship-to-shore air cushion and displacement craft technologies to develop a replacement for the LCAC.

## Joint High-Speed Vessel (JHSV)

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The Joint High-Speed Vessel (JHSV) reached Milestone B in November 2008, which authorized system design development and detailed design. Low rate initial production was also approved. The lead ship will be delivered to the Army in 2012 and the first Navy vessel delivers in 2013. High-speed vessels will continue to be leased in the Pacific Command area of responsibility to mitigate the delivery

schedule. The JHSV will provide the critical intra-theater, surface connector capability that will enable the Joint Force Commander to project forces and sustainment at high speed over operational distances. The JHSV will be capable of self-deploying to the theater of operations and, once in theater, provide the high-speed means to move forces and supplies within that theater. Specifically, the JHSV will provide the capability to deliver equipment, personnel and supplies over the intra-theater ranges to shallow, austere and degraded ports. It will provide support to seabasing and will bridge the gap between low-speed sealift and high-speed airlift. The JHSV lead ship is scheduled to deliver in FY 2012 with additional ships to follow in the subsequent years.

## Maritime Positioning 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 U.S. 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 Positioning Force-Future (MPF(F)) Squadron into the existing MPF Program is an important enabler for joint seabasing and will build on the success of the legacy Maritime Positioning 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 positioning a single Marine Expeditionary Brigade’s (MEB) 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 Marine Expeditionary Force and support select other Joint Forces. When operating in a threat environment, MPF(F) will be protected by other naval, joint, or combined forces. MPF(F) will support the rapid arrival and assembly of Marine Air Ground Task Force 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:



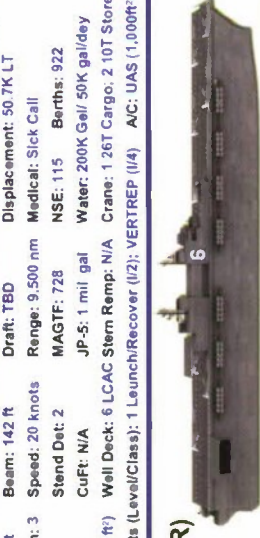
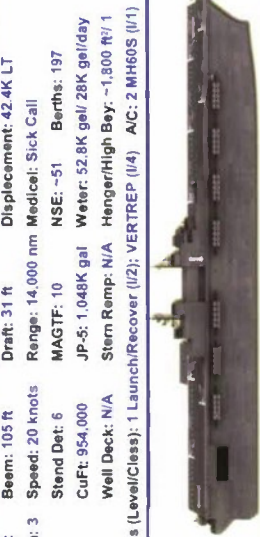
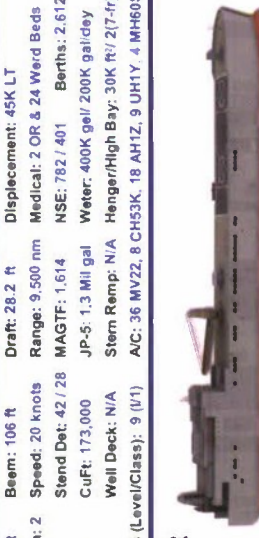
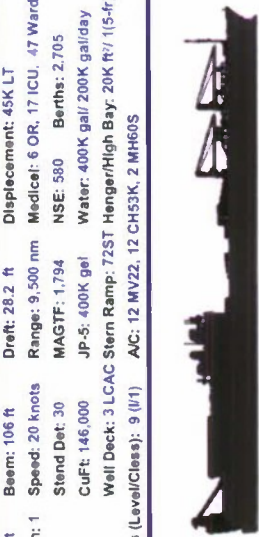
- Preposition the Baseline MEB, NSE, other Naval Support, Naval Mobile Construction Battalion and headquarters element Naval Construction Regiment (NCR), consisting of vehicles, equipment, and supplies (minus aircraft)
- Provide accommodations for the Sea Base Echelon, NSE, other Naval Support personnel,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

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

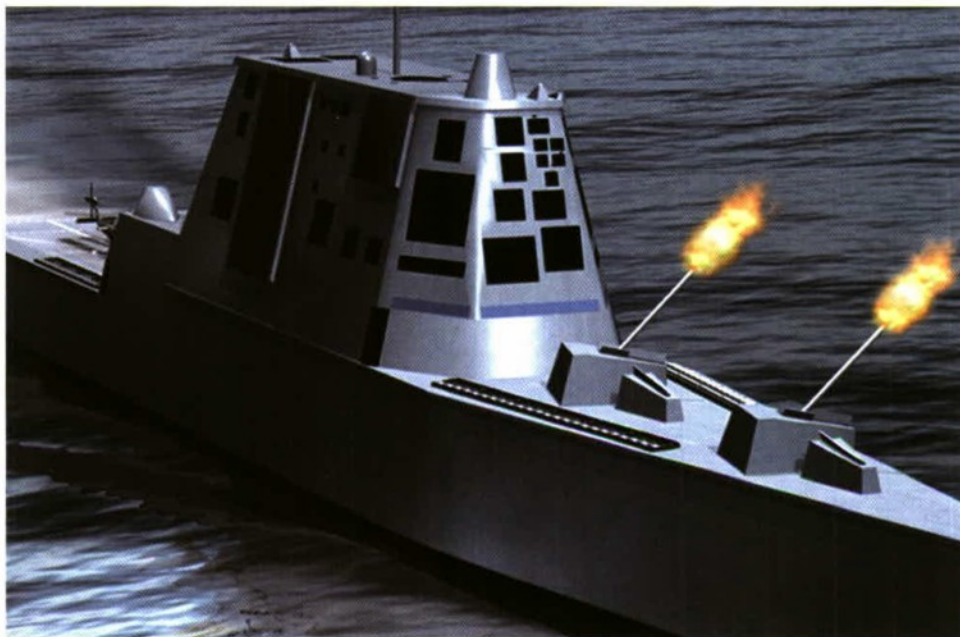
As each ship of the MPF (F) squadron is delivered, it will incrementally transform existing squadrons from a “port-to-port” delivery capability to an increasingly selectively off-loadable, sea-based capability. MPF (F) squadron Initial Operational Capability (IOC) will be achieved when the first large-deck amphibious ship (LHA or LHD), T-AKE, MLP and LMSR are deployed with prepositioned assets in FY 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 subsequent elements of the MPF (F) squadron are delivered. Deployment of a complete Full Operational Capability MPF (F) squadron is notionally planned for FY 2022. (The MPF (F) Squadron Composition chart on the following page provides relevant specifications for MPF (F) squadron ships.)

MPF(F) Squadron Composition

<p><b>3 MLP</b></p>  <p>Length: 824 ft    Beam: 142 ft    Draft: TBD    Displacement: 50,7K LT                  Per Squadron: 3    Speed: 20 knots    Range: 9,500 nm    Medical: Sick Call                  Crew: 50    Stand Det: 2    MAGTF: 728    NSE: 115    Berths: 922                  Sqft: 51,560    Cuft: N/A    JP-5: 1 mil gal    Water: 200K gal/ 50K gal/day                  TEU: 50 (50K ft)    Well Deck: 6 LCAC Stern Ramp; N/A    Crane: 1 26T Cargo; 2 10T Store                  A/C Ops Spots (Level/Class): 1 Launch/Recover (I/2); VERTREP (II/4)    A/C: UAS (1,000ft)</p>	<p><b>3 T-AKE</b></p>  <p>Length: 689 ft    Beam: 105 ft    Draft: 31 ft    Displacement: 42.4K LT                  Per Squadron: 3    Speed: 20 knots    Range: 14,000 nm    Medical: Sick Call                  Crew: 124    Stand Det: 6    MAGTF: 10    NSE: ~51    Berths: 197                  Sqft: N/A    Cuft: 954,000    JP-5: 1,048K gal    Water: 52.8K gal/ 28K gal/day                  TEU: 61    Well Deck: N/A    Stern Ramp: N/A    Hanger/High Bay: ~1,800 ft/ 1                  A/C Ops Spots (Level/Class): 1 Launch/Recover (I/2); VERTREP (II/4)    A/C: 2 MH60S (II/1)</p>
<p><b>2 LHA(R)</b></p>  <p>Length: 844 ft    Beam: 106 ft    Draft: 28.2 ft    Displacement: 45K LT                  Per Squadron: 2    Speed: 20 knots    Range: 9,500 nm    Medical: 2 OR &amp; 24 Ward Beds                  Crew: 128    Stand Det: 42 / 28    MAGTF: 1,614    NSE: 782 / 401    Berths: 2,612                  Sqft: 14,200    Cuft: 173,000    JP-5: 1.3 Mil gal    Water: 400K gal/ 200K gal/day                  TEU: N/A    Well Deck: N/A    Stern Ramp: N/A    Hanger/High Bay: 30K ft/ 2(7-ft)                  A/C Op Spots (Level/Class): 9 (I/1)    A/C: 36 MV22, 8 CH53K, 18 AH1Z, 9 UH1Y, 4 MH60S</p>	<p><b>1 LHD</b></p>  <p>Length: 844 ft    Beam: 106 ft    Draft: 28.2 ft    Displacement: 45K LT                  Per Squadron: 1    Speed: 20 knots    Range: 9,500 nm    Medical: 6 OR, 17 ICU, 47 Ward                  Crew: 140    Stand Det: 30    MAGTF: 1,794    NSE: 580    Berths: 2,705                  Sqft: 29,800    Cuft: 146,000    JP-5: 400K gal    Water: 400K gal/ 200K gal/day                  TEU: N/A    Well Deck: 3 LCAC Stern Ramp; 725T Hanger/High Bay; 20K ft/ 1(5-ft)                  A/C Op Spots (Level/Class): 9 (I/1)    A/C: 12 MV22, 12 CH53K, 2 MH60S</p>
<p><b>3 LMSR</b></p>  <p>Length: 950 ft    Beam: 106 ft    Draft: 34 ft    Displacement: ~60,7K LT                  Per Squadron: 3    Speed: ~20 knots    Range: 9,500 nm    Medical: Sick Call (1,000 ft)                  Crew: 35    Stand Det: 49    MAGTF: 697    NSE: 64    Berths: 850                  Sqft: 188,000    Cuft: 300,000    JP-5: 226K gal    Water: 136K gal/ 24K gal/day                  TEU: 45    Well Deck: N/A    Stern Ramp: 80ST Cranes: 1 Twin 72T                  A/C Op Spots (Level/Class): 2 Launch/Recover (I/2); VERTREP (II/4)    A/C: N/A</p>	<p><b>2 T-AK</b></p>  <p>Length: 673 ft    Beam: 105 ft    Draft: 34.6 ft    Displacement: ~48K LT                  Per Squadron: 2    Speed: 17.7 knots    Range: 11,107 nm    Medical: Sick Cell                  Crew: 30    Stand Det: 16    MAGTF: 0    NSE: 81    Berths: 127                  Sqft: 162,500    Cuft: N/A    JP-5: 1.4 Mil gal    Water: 99K gal/ 25K gal/day                  TEU: 522    Well Deck: N/A    Stern Ramp: 60ST Cranes: 1 Single 39T/ 2 Twin 39T                  A/C Ops Spots (Level/Class): 1 Helicopter platform (II/3); VERTREP (II/4)    A/C: N/A</p>

## 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 surface fire support capability is vital to the success of naval forces engaged in littoral combat operations. The current Naval Surface Fires Support (NSFS) capability does not meet required 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 Vision and Strategy 2025* and the combined-service strategic vision articulated in *A Cooperative Strategy for 21st Century Seapower*.

In December 2005, The Joint Requirements Oversight Council (JROC) validated the Joint Fires in Support of Expeditionary Operations in the Littorals Initial Capabilities Document (ICD). The ICD identified NSFS as a potential solution to mitigate gaps in weapons and engagement capability in the littoral environment. The gaps include the ability to engage targets in close support of maneuver forces or when collateral damage is a concern, the ability to provide volume effects over an area target or for sustained periods of time, and the ability to engage moving point and area target under restricted weather conditions. An Analysis of Alternatives (AoA) is being conducted in FY 2009 to determine what weapons systems and platforms will meet the ICD requirements. This AoA will be the basis

for a combined naval strategy to map out those programs and initiatives necessary to address the recognized gaps in fire support capability and capacity.

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 an Expeditionary Strike Group or Expeditionary Strike Force. The AGS, firing the Long-Range Land-Attack Projectile, will increase the lethal effects of the Marine Air Ground Task Force's (MAGTF's) NSFS fires to greater than 63 nautical miles. The DDG 1000 will also be the first naval ship designed to integrate counter-fire detection with the dual band radar (DBR). The DBR will be networked to the ground and naval sensors network and can digitally communicate the information to the Supporting Arms Coordination Center or Fire Support Coordination Center for engagement.

Future technologies will further develop the transformational nature of NSFS. New science and technology efforts are underway, to include the Electromagnetic Rail Gun. Future battlefield commanders may harness the destructive power of mach 7+ propelled projectiles launched using electromagnetic energy generated on board the Navy's future family of all-electric ships. The Marine Corps will continue to monitor developing technologies with an eye toward how they might be integrated to support future operating concepts.

NSFS will offer a complementary capability to tactical aviation and ground fire systems, completing the joint triad of fires. Emerging capabilities 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.



**CHAPTER 3**

**PART 7**  
**SUPPORTING ESTABLISHMENT**

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## Introduction

The Supporting Establishment — installations and facilities in the United States and overseas — is 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 Marines and their families are our most precious assets. We owe them a commitment commensurate with the tremendous sacrifices they make daily to defend our homeland and safeguard our security. That means we must provide the best housing, workplace and training environments that we can afford. And, we remain committed to providing modern 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.

The 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 support 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



FY 2008 challenged the Marines of the Marine Corps Recruiting Command with the largest regular accession mission in the history of the command. This challenge, combined with the impact of the Long War, continued to test the ability and professionalism of our recruiting force. Once again our Marines exceeded all expectations and achieved every facet of their assigned mission.

Recruiting is the lifeblood of our Corps. As the Corps grows its endstrength, Marine Corps Recruiting Command must ensure that the quality of our applicants does not waver. It is the individual Marine recruiter who is tasked with initially ensuring that all applicants meet the standard of excellence our Nation expects of its Marines. In addition to recruiting

our Nation's best and brightest to become Marines, the individual recruiter serves as an ambassador to local communities and the American public. Recruiters put a familiar face to the nationally recognized reputation of the Marine Corps and stand as examples of all that is best about our Nation and the Corps. Most fundamentally, the individual recruiter inspires applicants to pursue life as United States Marines, who once transformed, will be Marines for life.

Selection to recruiting duty is a unique and highly discerning process. Those considered for assignment as recruiters must first undergo extensive screening and are considered representatives of the best the Marine Corps has to offer. Intensive training at Recruiters School ensures that recruiters are thoroughly prepared to face the multi-faceted challenges that lay ahead. Their training is continuously reinforced and built upon throughout their recruiting tour, ensuring that the recruiter remains armed with the most current tactics, techniques and procedures. Beginning in FY 2010, Marine Corps Recruiting Command will commence a training modernization initiative in order to establish a world-class recruiter training into the 21st Century, with dramatic improvements in training approaches, delivery and measurements by transforming existing processes and leveraging the latest proven technologies and best practices. The anticipated benefits are better recruiters and Officer Selection Officer Teams, increased training

effectiveness and significant savings in time and costs.

Even before a recruiter is given the opportunity to meet face-to-face with an applicant, many recruiters discover that applicants have been exposed to the Marine Corps' message of making Marines, winning our country's battles and creating quality citizens. This is accomplished through comprehensive marketing and advertising programs. These programs serve to reinforce the elite warrior image and positive message that is communicated daily by the individual recruiter. To accomplish these goals, marketing and advertising programs continue to emphasize core competencies of building brand awareness, generating quality leads for recruiters and developing recruiter support material for use in the recruiting process. High-quality advertising efforts properly focused on the target markets of prospective recruits and their influencers provide the foundation for establishing awareness about Marine Corps opportunities among America's young men and women.

Paid advertising continues 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 to ensure that our recruiting message reaches the right audience. Marine Corps recruiting successes during the past years are a direct reflection of a quality recruiting force and an effective marketing and advertising program.

The Marine Corps Recruiting Command achieved unprecedented success in FY 2008 by making 100.1 percent of our enlisted shipping objectives to include exceeding all Department of Defense (DoD) and Marine Corps quality standards. For example, 96.3 percent of those shipped to recruit training were Tier 1 high school graduates, above the DoD and Marine Corps standards of 90 and 95 percent, respectively. Additionally, 66.8 percent were in the I-III A upper mental group — again, well above the DoD and Marine Corps standards of 60 percent and 63 percent, respectively. The Marine Corps Reserve also achieved 100 percent of its recruiting goals with the accession of 4,235 Non-Prior Service Marines. Of these, 97.2 percent were Tier 1 high school graduates and 75.2 percent were in the I-III A mental groups. In addition, the Marine Corps recruiting command accessed 4,501 Prior Service Marines into the Marine Corps Reserves, achieving 100 percent of the objective.

The officer mission remained challenging during FY 2008. Until other commissioning sources increase to the optimum level for meeting the annual officer requirement, the burden of the officer mission will fall on the shoulders of the Officer Selection Officer Teams in the Officer Candidate Course mission. In FY 2008, Marine Corps met 100 percent of the officer requirement.

In all recruiting efforts, diversity, both in the enlisted and officer ranks, remains an important priority for the Marine Corps Recruiting Command, and

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incremental improvements have been achieved in both.

The superior results achieved by the Marine Corps Recruiting Command during FY 2008 ensured that the command continued its history of success and added to its already exceptional legacy. Marine Corps Recruiting Command recognizes that during FY 2009 the Marine Corps will continue to grow, and our operational forces will remain committed in

support of the Long War. This means that the mission will continue to be challenging, and there will be no time to reflect on previous successes. Marine Corps Recruiting Command is well-positioned for success in FY 2009 and will move into the next fiscal year with the intensity, dedication and commitment to our core values that are necessary to ensure success.

## 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 interfaces with the Joint Personnel Adjudication System (JPAS) at the Office of Personnel Management to ensure security background checks are fully completed on each applicant. 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 at the recruiter/Officer Selection Office (OSO) level 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 OSO, RSS SNCOIC 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 measured only by the number of qualified, high-quality individuals interviewed, contracted and shipped to recruit training or Officer Candidate School. MCRISS-RSS/OSS, coupled with solid selling 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. With additional organization, the recruiter will be armed to conduct recruit-prospecting in an efficient manner, thus saving time and ensuring consistency in the execution of prospecting plans.

### Program Status

**Procurement Profile:** FY 2009 efforts will deliver MCRISS-OSS, the first increment of MCRISS-RSS (six components), the new automated enlisted applicant package and the new automated commissioning package.

**Developer/Manufacturer:**  
Stanley Associates, Arlington, VA

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

## Manpower Personnel and Pay Management

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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 and 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 greater than 99 percent 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 FY 2008, individual Marines and their leaders leveraged MCTFS' capabilities to automatically process more than 24 million transactions, including more than 92 percent of our annual leave events. In addition, due to the implementation of the Marine OnLine Training Management System, 59 percent of training transactions were entered by non-administrative personnel, resulting in more timely reporting of these training events. MCTFS' integrated business logic coupled with the web-based capabilities of Marine Online has increased the amount of time Marine leaders can devote to warfighting.

## Marine Corps Retention

### Enlisted Personnel

The Marine Corps continues to retain enlisted Marines, both first term and subsequent term careerists, at unprecedented levels in order to shape the Non-Commissioned Officer (NCO) and Staff Non-Commissioned Officer (SNCO) leadership required by an end strength of 202,000. Retention goals were substantially increased in mid-fiscal year 2007 and increased even further in fiscal year 2008 to support the growth and proper shaping of our current and future career force. The dynamics of the Corps' manpower system must match the required skills and grades to establish and staff the additional units that enable a 1:2 deployment-to-dwell time ratio.

The Marine Corps has always sought to retain its best-qualified enlisted Marines to provide the experienced leadership required to mold, mentor, and sustain a relatively young force. Traditionally, this effort meant retaining 25 percent of any given fiscal year's first term Marines. However, in fiscal year 2007, the Corps retained an unprecedented 31 percent of the fiscal year's first term population. In fiscal year 2008, the first term retention rate increased to over 35 percent. Additionally, the Corps retained over 76 percent of the fiscal year 2008 subsequent term or careerist population. This translates to over 16,500 combined fiscal year 2008 first term and subsequent term reenlistments. These historic retention achievement levels have contributed significantly to the Corps' end strength growth and mission readiness.

Our retention goals will remain aggressive and challenging relative to traditional

norms as we continue to grow and shape our enlisted career force. For this reason, the budget for the Selective Reenlistment Bonus (SRB) program remains robust and targets our most significant requirements.

Additionally, as enlisted leadership, combat experience and technical military occupational specialty (MOS) proficiency remain essential to the future of our Corps, it is imperative that we continue to support retention of our "best and brightest" Marines by seeking steady funding for the SRB program in future years. The SRB program has clearly aided reenlistment endeavors and has improved retention for some critical skill shortages. However, due to the creation of new operational units, shortages persist in many occupational specialties that span the Marine Air Ground Task Force, such as intelligence, explosive ordnance disposal, reconnaissance, and artillery, which demonstrate the importance of continued SRB program funding levels.

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. All leaders within the officer and enlisted ranks must ensure their Marines are educated on the importance of retention and on our evolving retention policies and incentives. Leaders must continue to emphasize the intangibles of service; this will facilitate our quality Marines weighing the real value of the intangibles in their individual reenlistment decisions.

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## Officers

The Marine Corps officer retention goal is to retain the best and most 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 exceeded its retention goals within the officer corps, with a retention rate of 91.4 percent. Regardless, Marine Corps 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 management 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, Critical skills retention bonus (Marine Captains) 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 giving flexibility to manpower planners to meet requirements across the Marine Corps Total Force.

## Marine Corps Reserve

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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 continues to fill critical requirements in support of the Global War on Terror, particularly in Iraq and Afghanistan. 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.

### 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, 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.

### Conclusion

The Marine Corps Reserve is a full partner of the Marine Corps' Total Force. 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

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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.

Currently totaling approximately 30,000, Civilian Marines are taking on more challenging and diverse roles. Serving primarily as a major element of the supporting establishment, Civilian Marines are now being called upon to serve in positions traditionally occupied by military personnel and deploy along with our operational forces.

The Marine Corps is focused on ensuring we have a Civilian Marine workforce equipped with the leadership skills and technical competencies necessary to meet the challenges of today as well as in the future. Flexibilities in how we manage and reward our Civilian Marines also play a key role in helping the Marine Corps meet its mission.

### Civilian Police Recruitment Initiative

As Marines continue to deploy worldwide to fill critical requirements of national defense, Civilian Marines consistently stand ready to sustain operations here at home.

The Marine Corps has recently adopted a plan to begin hiring approximately 1,200 Civilian Police Officers. This expansion of civilian policing will reduce the operational stress on Marine Corps Military Police and will enhance security and police services across the Marine Corps.

The Marine Corps initiated a Civilian Police force in 2005 and has established Marine Corps Police Departments in Albany, Georgia, Jacksonville, Florida, and Barstow, California. The initial hiring target for fiscal year 2008 is 400, with the remainder being spread out over the next three years. These Civilian Marines will be working side-by-side with Marine Corps Military Police at Marine Corps installations across the United States. The Marine Corps Civilian Police Officer recruitment initiative seeks to attract, hire, and retain a fully viable civilian police workforce by the end of fiscal year 2011.

### National Security Personnel System

The Marine Corps has implemented 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, including pay-for-performance flexibilities to reward excellent performance with salary increases and bonuses. These flexibilities and tools are essential to effectively and efficiently recruit, retain, and manage our Civilian Marines in support of our mission in the 21st century.

Through the new pay-for-performance system implemented as part of NSPS, employees are able to align job objectives to mission. This practice enables employees to understand how their work contributes to their organization's mission by focusing on accomplishment

and contribution of broad goals rather than narrow tasks. The pay-for-performance system also emphasizes behavior and professional demeanor as critical features of one's performance. Ongoing performance feedback, both formal and informal, is an important component of the system and is essential to increase employee engagement and foster the high performance culture workplace in our Civilian Workforce Campaign Plan. Since January 2007, the Marine Corps has converted 6400 employees to NSPS across all Marine Corps organizations, including overseas and field activities.

### Civilian Workforce Development

The Marine Corps is committed to improving the leadership skills and opportunities for training and education for Civilian Marines. Civilian Marines are afforded the opportunity to advance their career development through centrally-managed programs administered through Headquarters Marine Corps, Manpower and Reserve Affairs, Manpower Plans and Policy Division. There are numerous programs, courses, and seminars available. Opportunities exist for both new/entry level and senior/expert level employees. The selection process to participate is competitive. Tuition, per diem, and travel are covered for those selected to represent the Marine Corps.

The Marine Corps Acculturation Program provides Civilian Marines with the opportunity to understand their role(s) 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 the Civilian Career and Leadership Development program. It enhances the Corps' ability to transform our civilian workforce into a high-performance culture providing a skilled, capable workforce to face the challenges of the future.

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

### Community Management

COIs provide enterprise-wide communications, collect and share best practices, focus on technical aspects and training needs, and ensure competencies and career paths are developed for the community. In the Marine Corps, there are twenty-one communities that encompass over 350 job series.

COIs are led by senior civilians of the community, typically members of the Senior Executive Service (SES). They are responsible for establishing the community vision and plan, in addition to serving as

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advocates for Civilian Marines who work in the job series within their COI.

### Labor Relations

The Marine Corps maintains relations with 17 bargaining units representing 17,000 Civilian Marines throughout the Marine Corps. Federal unions have a representative role established by statute and are kept informed of programs and changes which will impact employees. A master labor agreement, covering all bargaining unit employees, was negotiated with the American Federation of Government Employees in an effort to enhance morale and productivity, limit job turnover, and help organizations increase performance and improve business results. The key function of labor relations is to develop strategies for effective communication and investigating and establishing work/life balance initiatives to create a more positive workplace environment.

## Combined-Arms Command and Control Training Upgrade System (CACCTUS)

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### Description

The Combined Arms Command and Control Training Upgrade System (CACCTUS) 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 Marine Air Ground Task Force Training Center 29 Palms, California, by providing the most effective classroom training and pre-Mojave Viper rehearsal opportunities prior to arrival.

### Program Status

CACCTUS will be delivered in FY 2009.

Procurement Profile:	FY2009	FY2010
Quantity:	5	0

Developer/Manufacturer:

Cole Engineering Services Inc, Orlando, FL

## 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 re-configurable workstations capable of emulating a vast array of training scenarios. DVTE consists of two components: the first is the Infantry Tool Kit that 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. Program Manager Training Systems recently accepted delivery of the CAN Version 1.0 which connects to Advanced Field Artillery Tactical Data System (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.

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 AFATDS, 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

45 DVTE suites have been delivered to I Marine Expeditional Force (MEF), II MEF, III MEF and various school houses.

Procurement Profile:	FY2009	FY2010
Quantity:	70	0

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

### Operational Impact

Training objectives for DVTE are currently being matched with standards in the Pre-deployment Training Program as well as the Infantry Training and Readiness Manual. DVTE uses programs

## Distance Learning (DL)

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### Description

Distance Learning (DL), also 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 advanced 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 (DLRC)

### 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 have been delivered.

Procurement Profile:	FY2009	FY2010
Quantity: LRCs:	2	2
Quantity: DLRCs:	27	0

Developer/Manufacturer:  
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 Pre-deployment Training.

### Program Status

This effort is a Marine Corps wide contract to meet the Homestation MOUT non-live fire and live fire requirements for the next five years. Instrumentation of MOUTs with advanced video technologies will be included.

Procurement Profile:	FY2009	FY2010
Quantity:		
MOUT	7	35
TVCS	3	6

Developer/Manufacturer:  
Global Solution Engineering

## Marine Corps Tactics and Operations Group (MCTOG)

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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 achieve full operating capability in spring 2009. MCTOG was recently activated and provides advanced training in Marine Air Ground Task Force (MAGTF) operations, combined arms coordination and unit readiness, and training planning at the battalion and regimental levels, and synchronizes doctrine and training standards for the Ground Combat Element (GCE) in order to enhance combat preparation and performance of GCE units in MAGTF operations. The MCTOG accomplishes this task through the implementation of the Ground Combat Element Operations and Tactics Training Program (GCE OTTP). The GCE OTTP creates a common ground “community of practice” for training and operations.

MCTOG is in phase three of its four-phased campaign plan moving toward full operational capacity. During the previous year, the command established operating procedures to support unit functioning; coordinated and implemented required manning, material resourcing, and facilities plans; developed and conducted proof of concept of the core OTI curriculum; and initiated required actions to establish the GCE OTTP. In the next year, the MCTOG is specifically focused on completing the expansion of unit capability to support the execution of all the organizational responsibilities of the GCE OTTP.

## Reconstituting the Force



As the Marine Corps enters the sixth year of large scale combat and Counter Insurgency Operations (COIN), we focus on actions necessary to reconstitute the force to ensure our ability to meet both current and future requirements. The emphasis will be on creating a multi-capable force able to prosecute actions across the Range of Military Operations.

Future conflicts will likely consist of a hybrid of conventional war, irregular challenges, terrorism and criminality involving states, proxy forces and armed groups. Preparing the Marine Corps for

hybrid challenges in complex environments requires proficiency across six core competencies as outlined in the *Marine Corps Vision and Strategy 2025*:

1. Persistent forward Naval presence
2. Integrated combined arms across the range of military operations with joint or multinational forces
3. Service aboard naval ships, on stations and for operations ashore
4. Amphibious landing force capabilities to conduct Joint Forcible Entry Operations from the sea
5. Complex expeditionary operations in urban littorals and other challenging environments
6. Lead joint and multinational operations and enable interagency activities

To meet these challenges, Training and Education Command (TECOM) will provide a training environment that is responsive and relevant, preparing individual Marines and Marine Corps units via targeted and progressive training and continuous assessment.

**Amphibious Core Training.** In order to rebuild and maintain our amphibious capability, TECOM will prepare individual Marines and Marine Air Ground Task Forces (MAGTFs) by training alongside the Navy through such exercises as Tactical Commander Amphibious Training and Marine Expeditionary Brigade Exercises. A key enabler will be the establishment of a Naval Amphibious Center of Excellence.

**Combined Arms Exercise-Next (CAX-Next)** is the next generation of regiment and MEB-level combined arms exercise program. This program will be similar in scale to the type of combined arms training that was conducted prior to the OIF/OEF. It will include all elements of the MAGTF including command elements, ground combat elements, logistics combat elements, and aviation combat elements. CAX Next will provide the force with the combined arms skills that make the MAGTF a force multiplier, as well as continue to reinforce the skills necessary to operate in COIN.

**MAGTF Large-Scale Exercise (LSE).** The MAGTF LSE is a Marine Expeditionary Brigade and Marine Expeditionary Force-level exercise program within a joint context that will include live / vir-

tual / constructive training across the United States and with amphibious forces afloat linked through the Joint Training and Experimentation Network. MAGTF LSE will increase joint and amphibious capabilities as the Marine Corps reconnects with its amphibious heritage.

**Security Cooperation.** TECOM is creating a standards-based pre-deployment training construct for advisor teams, stand up of a training support cadre, enhancements to training equipment sets, and development of related resources and funding for immediate operations. Additionally, TECOM is establishing training and standards for Civil Military Operations to include development of a Civil Affairs MOS course. These programs provide the Marine Corps the ability to interact with partner nations through Theater Security Cooperation and advisory groups to build partner capacity and promote security and stabilization with the engaged region.

**Operational Culture and Language Training.** TECOM supports the Corps' pre-deployment training programs and builds the regional and cultural knowledge base by providing operational culture training, training support to our schools and the Marine Corps University and through contact with other cultural and language training and education organizations and coalition partners. We are assigning Lieutenants regional learning areas during The Basic School, building regional distance learning courses for career Marines, and have begun fielding

Language Learning Resource Centers at our largest bases and stations. This provides Marines with basic regional expertise in cultures and languages so they can act as knowledge resources for their units. This enables better operational planning, cultural interaction and enhances our capabilities to operate in any region of the world for combat and stability operations and to support theater security cooperation activities.



**Joint Training.** TECOM integrates joint and interagency training into all pre-deployment training packages. Joint context improves the Corps' capability to

operate in a joint environment and work with other government and multinational agencies to across a range of operational activities.

**Modeling and Simulation.** TECOM is using new technology for modeling and simulation to develop multipurpose realistic and virtual reality trainers. These trainers will better prepare Marines for the complex battlefield of the future by providing a realistic, flexible and interactive learning environment that optimizes our use of training time and dollars.

Moving into the future, TECOM will integrate new capabilities with advanced training systems, schools and resources to provide every Marine with the skills required to be successful within a MAGTF.

## 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 in complex environments. The Marine Corps Training and Education Command (TECOM) has identified a comprehensive set of Corps-wide range requirements. These requirements are contained in a Marine Corps Reference Publication, which defines the unconstrained range capabilities needed for accomplishing both urgent immediate and anticipated future training needs.

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.

The Corps has made 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 will not be adequate for future weapons systems. Our current range complexes provide insufficient unconstrained maneuver space for Marine Air Ground Task Force training. Our range-planning initiatives aim at addressing these concerns to assure our ability to meet future training requirements. Specific issues include:

- Marine Expeditionary Brigade -level fire and maneuver training area.
- East Coast aviation training range to accommodate the increased airspace and weapons requirements of precision-guided munitions and the Joint Strike Fighter.
- Enhanced training opportunities for Marine units stationed in the Pacific.

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 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 highly aware of the Service's dual responsibilities of providing stewardship for these precious resources and producing ready, well-trained Marines when America calls.

## Predeployment Training Program (PTP)

To prepare Marines and the operating forces for the current fights and operating environments, Training and Education Command developed an extensive Pre-deployment Training Program (PTP) based on the Pre-Deployment Training Continuum. The PTP establishes a coherent progression of skill-level training, conducted by commanders, and evaluated at PTP Mission Rehearsal Exercises (MRX) by the Marine Air Ground Task Force Command. Training (MAGTFTC) is conducted in four nested “blocks” in ascending competency levels. Marine Expeditionary Force commanders determine what level of competency is required for each deploying unit based on mission essential task analysis, set unit priority for service level training events, and ensure units participating in service-level training events have appropriate support attachments during respective blocks of training.

The Pre-deployment Training Continuum comprises:

**Block 1:** Consisting of two sections, blocks 1A and 1B.

- Block 1A consists of common combat skills training for individuals who are deploying to any theater of operation.
- Block 1B consists of individual-level common combat skills training directed by the Combatant Commander (COCOM) (e.g. Central Command is the COCOM for Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF)).

**Block 2:** Consisting company-level and lower core capabilities training and theater-specific training conducted within a unit (e.g. 3000-6000 level core capabilities to company level collective tasks).

- (e.g.) Infantry Officer (INF-OFF) - 6108 Conduct a Patrol

- (e.g.) Communications Operator -3201 Establish a Single Channel Radio Site

**Block 3:** Based on Mission Essential Task (MET) advanced core capabilities (or core plus for aviation) training. This training is conducted by a battalion and regimental sized unit, by the unit’s headquarters, and/or by other agencies (e.g. 7000- 8000 level advanced core capabilities to collective task).

- (e.g.) INF-OFF-7113 Conduct a raid
- (e.g.) MET 7 – Conduct offensive operations

**Block 4:** Consists of final work-up training and an assessment of the unit’s ability to fulfill its mission essential task list(s) (METL). It is accomplished through the MRX. Most Block 4 training is supported by MAGTFTC during Exercises Mojave Viper, Desert Talon, and Advisor Training Group Transition Team Training. Units unable to attend MAGTFTC-supported MRXs conduct approved Alternate MRXs prior to certification.

### Exercise Mojave Viper

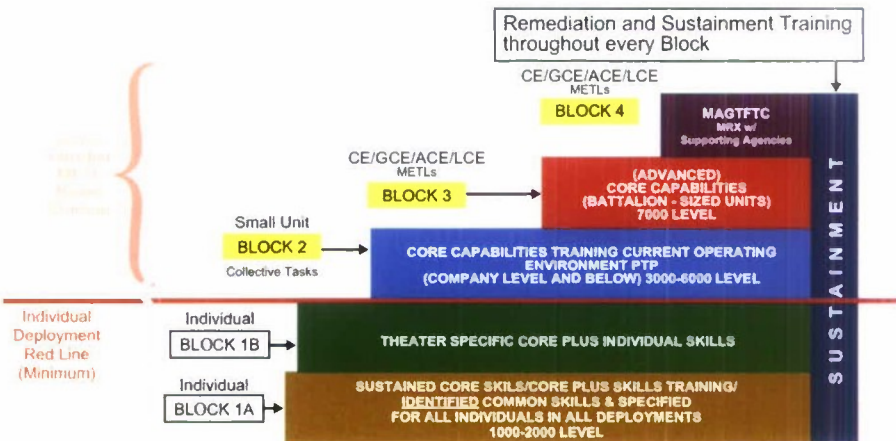
Conducted aboard Marine Air-Ground Combat Center (MCAGCC) in Twenty-nine Palms, California, the 29-day Exercise Mojave Viper constitutes Block 4 of the PTP and is required of most units deploying for operations in Iraq or Afghanistan. Training focuses on Combined Arms integration of both kinetic and non-kinetic effects with maneuver, counterinsurgency lines of operation, urban operations, IED defeat, Counter-radio-controlled-IED Electronic Warfare (CREW), and Irregular Warfare (IW) within a Joint, whole-of-government context. Exercise Mojave Viper culminates in a four-day final evolution that assesses the unit’s ability to accomplish its METL and leads to certification for deployment. Exercise Mojave Viper is a Joint National Training Capability accredited and certified program.

### Exercise Desert Talon

Conducted aboard Marine Corps Air Station Yuma and supported by Marine Aviation Weapons and Tactics Squadron One (MAWTS-1), Desert Talon is a two-week training exercise designed to prepare Marine Corps aviation and aviation ground support units for deployment. Desert Talon consists of an academic phase (four days) and a flight phase (seven days). The academic phase consists of classroom-based instruction and evaluation that focuses on not only aviation issues, but also topics like force protection, motorized operations, casualty evacuation, and Improvised Explosive Device defeat. The flight phase includes training in the six functions of Marine Corps aviation to include convoy operation support, urban close air support, tactical recovery of aircraft and personnel, and forward air control.

### Exercise Mountain Warrior

Conducted at the Mountain Warfare Training Center (MWTC) in Pickel Meadows, California and in nearby training areas at the Army Depot in Hawthorne, Nevada, Exercise Mountain Warrior provided theater-specific pre-deployment training for Marine units deploying to mountainous environments. The course consists of scalable, tailored, training packages for units ranging in size from the company to the battalion. While not a mandated segment of the PTP, Marine forces deploying for operations in Afghanistan continue to use Exercise Mountain Warrior as Block 3 mountain and cold-weather training prior to conducting pre-deployment training at Afghanistan-specific Mojave Viper exercises.



Pre-deployment Training Continuum  
Figure 1

## Facilities Management

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The Marine Corps has more than \$38 billion worth of facilities used to train, house and provide quality of life for Marines, Sailors and their families. Examples of some of the most significant 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 and mission essential 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 OSD model that calculates annual costs to preserve facility condition. POM-10 currently provides funding to the 90% level of the model, although recently additional funds throughout the year have been made available to fully fund sustainment.
- Shore Facilities Planning System — An asset management process that identifies facility requirements, deficiencies and surpluses and results in the development of a plan to satisfy facility deficiencies and eliminate facility surpluses at the installation level.
- Facilities Modernization Model — An OSD model that will help estimate the replacement investment necessary to maintain adequate facilities and replace inadequate facilities.
- Facilities Operations Model — An OSD model in the final stages of development that will help estimate the cost of facilities support to include utilities, fire protection, janitorial and engineering management. Accurately estimating and programming for these relatively fixed costs is key to planning facilities 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. The Commandant's Bachelor Enlisted Quarters (BEQ) Initiative, initiated in 2006 as part of Program Objective Memorandum (POM) 2008, provides an investment of roughly \$2.6 billion for constructing new bachelor housing facilities, improvements to existing BEQs, and furnishings for the then projected end-strength of 180,000 Marines. With the unprecedented funding and implementation of Grow the Force and the new target end strength of 202,000 Marines, even more barracks are being programmed to meet the new requirement. Given the expectation that in many locations Marines will arrive before final BEQ construction is complete, we are planning for and defining resources to provide interim support facilities through various means that could include lease/rental/purchase of temporary lodging facilities. The barracks in the original POM 2008 Initiative Plan, will be in place by 2012, and the Grow the Force BEQs are planned for completion by FY 2014.

Of note, we are not just constructing "basic" BEQs as we have in the past. The new BEQs will be state-of-the-art living facilities for our Marines and will include rooms with improved aesthetics and bathrooms configurations, enhanced recreation and laundry rooms, and will be designed to optimize climate control and energy efficiency. For our existing BEQs, we are continuing our Whole Room Concept replacement furniture program, to replace entire room furnishings on a cyclical basis, well before they become un-useable.

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 2006 Bachelor Enlisted Quarters (BEQ) Campaign Plan provides 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 homes of our single Marines.

2006	2007	2008	2009	2010	2011	2012	2013
\$39.6M	\$166.6M	\$341.3M	\$1168.1M	\$196.3M	\$656.0M	\$196.4M	\$86.0M
800 MS	2400 MS	4350 MS	12370 MS	1836 MS	5436 MS	1650 MS	940 MS

(Note: MS = Total man spaces that will be constructed with the funding provided for that fiscal year)

## Military Construction Supporting Grow the Force

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Upon reexamination of the Marine Corps' structure and manning relative to its expected long term mission needs, the President 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 ade-

quate facilities in which to live and work, the President's FY 2007 Supplemental request included \$324 million to accomplish critical-path infrastructure projects. In 2008, Congress approved construction projects that totaled \$668 million in the FY 2008 Global War on Terrorism and the FY 2008 Military Construction and Family Housing programs. In FY 2009, the President submitted a request for an additional \$1.4 billion for Military Construction and Family Housing. 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 (e.g., Battle Staff Training Facility, Combined Arms Staff Trainer and 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

Efforts are currently either under contract or under source selection to develop and/or produce ground position



location systems, instrumented tactical engagement simulation systems, OPFOR threat systems (including targets), and Data Collection Systems in order to instrument the live training environment at multiple Marine Corps Bases and Stations during 2009 and 2010. A current parallel effort is enhancing the RM/T Data Collection System (known as the Marine Corps-Instrumented Training 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. Portions of this effort being fielded include the Reactive Information Propagation and Planning for Lifelike Exercises and Combined Arms Planning Tool software applications.

Procurement Profile:	FY2009	FY2010
Quantity:		
I-TESS	300	300
Targets	500+	500+
IRSS	2	2
MC-ITS (DCS)	1	1
MC-TIEDs	144	0
T-CREW Surrogates	296	0
RIPPLE	1	0
RPG Surrogates	40	0
T-IED Kits (non-pyro)	100+	100+
VBIEDs	20	20
EOD Training Kits	0	44

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.

## Installation Energy Conservation

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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 Act of 2005 (EPA 2005), Energy Independence and Security Act of 2007 (EISA 2007) and Executive Order 13423 set the framework to achieve national goals to reduce both greenhouse gas emissions associated with the burning of fossil fuels and our nation's dependence on foreign oil. Specifically, EISA 2007 mandates federal agencies reduce energy intensity (energy consumption per square foot) by 3% annually (30% by 2015) relative to 2003 baseline. Executive Order 13423 requires water consumption intensity (gallons used per square foot) be reduced 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:

- Using 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 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 (LEED) rating of Silver to the extent practical and cost effective.
- Aggressively developing renewable energy (solar, wind, biomass and geothermal) projects wherever feasible and economically viable at all USMC installations.
- Issuing a new "Energy & Water Management Program Campaign Plan-Facilities" to increase user awareness (both in workplace and for on-base BQ and housing residents) as to our energy reduction mandates and energy conservation priorities and programs.

## Garrison Mobile Equipment (GME) Fleet Management System (FMS)

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The Marine Corps has implemented an enterprise-level commercial vehicle fleet management system to efficiently operate its GME fleet. FleetFocus™ Fleet Anywhere is a comprehensive, Web-enabled, Windows-based FMS that tracks an unlimited number of GME assets and supports 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 usage and maintenance costs. This capability supports annual GME procurement/lease decisions and forecasting future GME requirements. This database and reporting capability are supporting GME Fleet regionalization, eliminating

redundant overhead and improving utilization of transportation assets. Through the use of FMS and application of lessons learned, underutilized vehicles are being removed from service, thereby keeping the overall size of the fleet in check, reducing fuel consumption and identifying the optimal time to replace equipment assets.

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)



Marines and their families have reasonable expectations for quality of life. The Marine Corps surveys Marines and families on their perceptions and satisfaction, evaluates the results and invests in quality of life improvements as necessary. The Quality of Life in the Marine Corps Study, administered in late 2007, was previously conducted in 1993, 1998, and 2002. This study, sponsored by the Deputy Commandant for Manpower and Reserve Affairs (M&RA), assesses Marine and Spouse satisfaction in various life domains that span the spectrum of programs and services from residence and neighborhood, to social networks and personal relationships, to income and jobs.

The outcome of the 2007 Study, with final results published in the summer of 2008, was very positive, indicating that

the quality of life of Marines and their families remains strong, and is improving. In testament to their honor, courage and commitment, Marines and family members report satisfaction with their mission and the support provided by the Marine Corps. This high level of satisfaction reported in the study has a direct correlation to high marks for career intentions and a strong organizational commitment to the Corps. These results are particularly noteworthy given the heightened and sustained operational tempo since the last Quality of Life (QOL) study in 2002.

As seen in previous Quality of Life Studies, lower satisfaction in Bachelor Enlisted Quarters/Bachelor Officers Quarters (BEQ/BOQ) and Income and Standard of Living was a noteworthy theme. However, both areas showed improvement over the 2002 results of Marines surveyed. Lower quality of life perceptions were more prevalent in the responses of lower-ranking enlisted Marines.

All stakeholders within the Marine Corps will utilize this data to inform policy, plans, and programming decisions. Specifically, in-depth analysis will focus on issues with BEQ/BOQ, Income and Standard of Living, Leisure and Recreation Activities, Military Job, and Separations.

The Marine Corps will continue to use evaluation processes to monitor quality of life of Marines and their families, and plans on re-administering the QOL Study in the 2010 timeframe.

## Taking Care of Marines and Families



Today's Marines and families carry on the long legacy of selfless service to our Nation, and the Marine Corps continues its commitment to care for Marines and their families, and help them secure family readiness.

Over the past year, a series of assessments were conducted for the purpose of documenting service levels and evaluating the current state and efficiency of Corps-wide Marine and family support programs and services. In hearing the concerns of both Marines and their families, the Commandant directed unprecedented resources and authorized key reforms to transition programs and to improve the overall Quality of Life in the Corps. These reforms, which are being implemented now and will be fully in place within the next few years, include:

- **Unit Family Readiness and Marine Corps Family Team Building.** Programs are being expanded to support extended family members that include the Marine, spouse, child, and parents. Specific actions include: establishing Family Readiness Officer billets at the

Marine Expeditionary Force, Major Subordinate Command, battalion and squadron levels; increasing Marine Corps Community Services personnel at the bases and stations; refocusing and applying technological improvements to our official communication network between commands and families; dedicating appropriate baseline funding to command level family readiness programs; and developing a standardized, high quality volunteer recognition program that reflects an appropriate level of support and reward.

- **Exceptional Family Member Program.** Parental stress can be heightened for families who are not only impacted by the current operational tempo, but who are also caring for a child with special needs. Efforts are underway to create a continuum of care and ensure appropriate access and availability to medical, educational, and financial services. Supporting actions include: increasing the number of full-time Exceptional Family Member Program staff; procuring a case management system and capability to electronically process enrollments; implementing legal advisement on educational challenges; and instituting up to 40 hours per month of respite care at no cost to families with special needs. Program improvements reflect the Marine Corps commitment to ensure all of our nearly 7,200 exceptional family members receive care and services needed to support their health, education and welfare.
- **School Liaison.** The education of over 51,000 school-age children of Marine Corps parents has been identified as a readiness and retention issue that is being addressed through the establishment of a national, regional and installation level School Liaison capability. The School Liaisons will help parents and Commanders interact with local schools, districts and state governments to help resolve educational issues. They will also help ease the stress and challenges associated with the frequent transition of Marine children that are as mobile as their military parent. To help address the varying standards and sufficiency of state

- Oversees the transition from Department of Defense (DoD) care to Department of Veterans Affairs care;
- Facilitate Department of Labor employment opportunities for separating WII Marines

Close working relationships with other governmental agencies is an important aspect of solving problems for our WII Marines and Sailors. With this in mind, WWR 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. WWR also has both a Department of Labor representative and a Department of Veterans Affairs representative at the Regimental headquarters who 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 (1-877-487-6299) receives calls from these Marines and Sailors and their families and



conducts outreach calls to those wounded, ill, and injured since 2001. Additionally, a toll free number (1-866-645-8762) has been established in Landstuhl, Germany for families to contact their Marines and Sailors medically evacuated out of theater.

In preparation for the challenges associated with caring for our WII in the years and decades to come, WWR has established a Future Initiatives Transformation Team (FITT) to refine our processes and identify tools and resources needed in the future to meet these challenges head on.

## Marine For Life (M4L)

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In 2008, the Marine For Life (M4L) Program returned to its classic mission of providing transition assistance to the 25,000 Marines honorably leaving active service annually as they return to civilian life. Over 100 Hometown Links (HTLs) composed of Reserve Individual Mobilization Augmentee (IMA) Marines located throughout the country continue to build local networks of veteran friendly employers, mentors, Marine affiliated and other Veterans Service Organizations, and local, state and federal agencies in order to assist transitioning Marines. These HTL networks provide information on employment and a plethora of

educational and scholarship opportunities, veterans' benefits, and community information available to our transitioning Marines. All Marines and Sailors who have been attached to Marine units and who are honorably discharged from active service are eligible and encouraged to utilize M4L. While M4L focuses primarily on transitioning Marines, as an additional function, their HTLs continue to support the Wounded Warrior Regiment, especially in coordinating and referring new cases of Marine veterans injured, ill, or wounded since 2001.



**CHAPTER 3**

**PART 8**  
**OTHER SUPPORT**

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## Introduction

“Other support” is also critical to the effectiveness of the individual Marine on the battlefield as well as to the Corps as an expeditionary force with global reach and effectiveness. End-items here range from the Vehicular Multi-Band Radio to Non-Lethal Munitions to Ground-Based Air-Defense Transformation that focuses on defeating airborne threats with advanced Man-Portable Air-Defense Systems. Another threat that has generated increased concern is from chemical weapons, which has spawned development of the Joint Chemical Agent Detector to protect the individual Marine and small units.

While many of these “other support” initiatives have their operational impacts at the tactical level, others can have operational as well as strategic effects. For example, the Marine Corps Operation Center will be the focal point of the Corps’ centralized Information Operations resources, to provide responsive, effective and full-spectrum psychological operations. Ultimately, Information Operations will become a core military competency within the Marine Corps — helping to win the hearts and minds of our adversaries.

## Force Protection Capability Sets

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### Description

The Force Protection Capability Set (FPCS) contains the equipment required to satisfy the operational requirement for an enhanced capability to apply non-lethal force. The FPCS consists of three component capability sets: The Non-Lethal Capability Training Set (NLCTS), Anti-Terrorism/Force Protection Checkpoint Set (ATFPCS) and the Non-Lethal Weapons Capability Set (NLWCS).

The NLWCS provides an effective and scalable response capability in non-lethal situations. The components are explicitly designed and primarily employed to incapacitate personnel or material, while minimizing fatalities or permanent injury to intended targets and collateral damage to property and the environment. They are not required to have zero probability of producing fatalities or permanent injuries but are designed and employed in a manner that significantly reduces those probabilities over the traditional employment of currently fielded military weapon systems, munitions, and equipment.

The ATFPCS was fielded in response to AT/FP requirements addressing the Marine Corps' AT/FP mission, highlighting

shortcomings in the area of force protection equipment. The kit includes vehicle stopping and under vehicle screening and searching devices, explosive detection, floodlights, metal detectors, communication assets, as well as other equipment.

The NLCTS is modeled for the Table of Equipment of a Marine rifle company. The equipment assists with training and proficiency in a realistic environment. Items in the NLCTS include inert OC sprays, training batons, riot gear, and other training devices.

### Operational Impact

The FPCS provide the appropriate equipment to employ a range of non-lethal operations short of deadly force. The fielding of the FPCS to the Operating Forces is intended to augment existing lethal capabilities.

### Program Status

63 NLWCS, 13 NLCTS and 126 ATFPCS have been procured and fielded through fiscal year 2006.

## Green Beam Designator–III Custom (GBD-IIIIC)

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### Description

The Green Beam Designator Laser System (GBD-IIIIC) is an Escalation of Force (EoF) non-lethal device that provides a visual warning capability to gain the attention of personnel approaching lethal force authorized zones. This system will provide safe and effective visual hail and warn technology to minimize the risk of injury or death to civilian and military personnel as well as limit collateral damage to property and local infrastructure. To further reduce the risk of injury, a Safety Control Module (SCM) will be incorporated onto the GBD-IIIIC. The SCM prevents inadvertent lasing within the nominal ocular hazard distance of the system.

### Operational Impact

The GBD-IIIIC will allow personnel engaged in combat, stability and security, and force protection operations to employ an intense visual cueing device to hail and warn personnel and vehicles at safe standoff distances. The GBD-IIIIC, along with other non-lethal weapons systems, will provide EoF capabilities to protect Marines against the threat of Vehicle Borne Improvised Explosive Devices.

### Program Status

A total of 1,185 GBD-IIIICs have been fielded. Deliveries of the SCM will begin in third quarter fiscal year 2009. The GBD IIIIC is planned to be replaced by the Ocular Interruption Device beginning in fiscal year 2011.

## Joint Materiel Decontamination Systems (JMDS)

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### Description

Joint Materiel Decontamination Systems (JMDS) is a joint program consisting of a family of systems which will provide decontamination capabilities for sensitive equipment: optics, communications-electronics, electronics, avionics, computer systems, test equipment, sensitive weapons systems, and aviation life-support equipment; and platform interiors without degradation to the equipment in an immediate, operational, and thorough environment.

### Operational Impact

The Marine Corps will employ the sensitive equipment capability to conduct thorough decontamination of sensitive equipment at ground and shipboard locations as required.

### Program Status

Milestone B SD&D phase contract awarded 26 Sept 2007; Currently conducting post MS B developmental efforts.

#### Developer/Manufacturer:

Teledyne Brown Engineering, Inc., Los Angeles, CA; BioQuell, Horsham, PA; and QuickSilver, Corporate, Abingdon, MD

## Non-gasoline Burning Outboard Engine (NBOE)



### Description

The Non-gasoline Burning Outboard Engine (NBOE) is a 55HP, electronically fuel-injected, outboard engine with multi-fuel capability that will be able to use diesel, JP-5, JP-8 and gasoline fuels with no performance reduction. This engine will allow Marines to deploy globally, using available fuels, while minimizing the safety risks and transportation restraints of current gasoline-only engines. This new capability will enable the Marine Corps to comply with the single battlefield fuel initiative.

### Operational Impact

The NBOE will replace the current Small Craft Propulsion System and will be used to power the Combat Rubber Raiding Craft (CRRC) during small craft operations. The NBOE will possess the necessary performance capabilities to power a combat loaded CRRC, in support

of expeditionary reconnaissance and raid missions. Typical mission profiles will consist of tactical movements of Marine reconnaissance or raiding forces from Over-The-Horizon. The NBOE will also be used in littoral operations in support of Operational Maneuver from the Sea.

### Program Status

The NBOE is in the engineering and manufacturing development phase of the acquisition life cycle. The Marine Corps purchased six (6) production-like NBOE in fiscal year 2006 for testing. During fiscal year 2007-2008, Marine Corps Systems Command, in conjunction with the Marine Corps Operational Test and Evaluation Activity, conducted performance testing and Field Users Evaluation to determine its ability to meet all performance requirements. Procurement of all production engines planned for fiscal year 2009. Fielding of the NBOE is planned to begin in first quarter of fiscal year 2010 and continue to completion in fourth quarter fiscal year 2010.

Procurement Profile:	FY2009	FY2010
Quantity:	585	0

Developer/Manufacturer:  
Bombardier Recreational Products

## Reactive Skin Decontamination Lotion (RSDL)

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### Description

The Reactive Skin Decontamination Lotion (RSDL) is a Joint Program consisting of decontaminant(s) and applicator(s) required to immediately reduce morbidity and mortality resulting from Chemical, Biological, Radiological and Nuclear (CBRN) contamination of the skin. The RSDL will augment the currently fielded M291 Skin Decontaminating Kit (SDK) through attrition. There is also an RSDL Training (RSDL-T) packet that will be used for training.

### Operational Impact

RSDL is a medical item that will be employed by individual warfighters to immediately reduce morbidity and mortality resulting from CBRN contamination on skin. The primary purpose of RSDL will be to provide improved skin decontamination capabilities over those currently provided by the M291 SDK.

### Program Status

The RSDL received a Milestone C Full Rate Production approval in March 2007 and is currently being fielded. The Joint Program Manager and the Marine Corps have procured 3263 packages to date and continue to procure to the AAO.

Procurement Profile: FY2009    FY2010

Quantity:

Training Pouches    TBD

Active Pouches    TBD

Developer/Manufacturer:

EZM, Lake Success, NY

## Marine Corps Information Operations Center (MCIOC)

The Marine Corps Information Operations Center (MCIOC), scheduled for initial operation in third quarter FY 2009, will be the Marine Corps' centralized Information Operations (IO) resource and the Executive Agent for the Marine Corps Information Operation Program (MCIOP). Headquartered on Marine Corps Base Quantico, the MCIOC will develop Marine Air-Ground Task Force (MAGTF) IO tactics, techniques, procedures and doctrine in addition to supporting MAGTF operations and work within the Expeditionary Force Development System to define required MAGTF IO capabilities.

The MCIOC's mission is to provide MAGTF Commanders and the Marine Corps a responsive and effective, full-spectrum IO planning and psychological operations (PSYOP) delivery capability. The MCIOC will execute its mission by deploying scalable task-organized IO support teams and tactical PSYOP teams, as well as by providing a comprehensive general support IO "reach-back" capability which will ensure the integration of IO into Marine Corps Operations.

The MCIOC will be staffed with subject matter experts (SME) representing IO core, supporting and related capabilities, including:

- Mission planning
- Threat and nodal analysis
- Electronic Warfare (EW)
- Military Deception (MILDEC)
- Operations Security (OPSEC)
- Psychological Operations (PSYOP)
- Computer Network Operations (CNO)
- Supporting capability of Combat Camera

- Related capability of civil military operations
- Regional IO targeting

These SMEs will enable the MAGTF to plan and execute tactical IO to influence potential and realized adversary information, information systems and decision-making, while simultaneously assuring, protecting and defending similar Marine, Joint and Coalition Forces' capabilities.

The MCIOC's deployable Field Support Teams (FST) will enable the MAGTF IO capability through tactically focused training, operational planning support, tactics development and formulation of IO requirements including research and development priorities. The FSTs will be capable of training MAGTF IO personnel in the five core capabilities of Information Operations (EW, PSYOP, OPSEC, MILDEC and CNO).

The FSTs will also help MAGTF IO personnel understand IO techniques, tactics and procedures to effectively coordinate with Joint IO staffs, supporting and related IO capabilities. MCIOC FSTs will advise and assist the MAGTF IO staff in integrating IO into the MAGTF's mission planning. These teams will be on call and task organized to meet the MAGTF commander's requirements.

The MCIOC "reach back" capability will facilitate the coordination of IO resources and technology by leveraging SMEs within the Marine Expeditionary Forces; Marine Corps Forces assigned to Combatant Commands; Combat Development and Integration; Marine Corps Intelligence; Command, Control, Communications and Computers; Plans, Policies

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and Operations; Training and Education Command; as well as Joint, Department of Defense and other government agencies.

As the Executive Agent for the MCIOP, the MCIOC will synchronize IO across all Marine Corps activities, integrate IO into all MAGTF plans and operations, provide a common service understanding and definition of Marine Corps IO and ensure that IO becomes a core military competency within the Marine Corps.

## Non-Lethal Weapons (NLW)

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Now more than ever, our warfighters need additional capabilities to help them engage threats on the increasingly complex battlefields of modern warfare, where distinguishing between adversaries and innocents is sometimes nearly impossible. Non-lethal weapons (NLWs) give warfighters controlled engagement options along the escalation of force continuum. These capabilities assist warfighters in discerning intent, delaying and deterring individuals, and discriminating targets in a variety of force application and force protection missions — all while minimizing casualties and damage to property.

The Department of Defense (DoD) defines non-lethal weapons as “weapons, devices and munitions that are explicitly designed and primarily employed to immediately incapacitate targeted personnel or materiel, while minimizing fatalities, permanent injury to personnel and undesired damage to property in the target area or environment. Non-lethal weapons are intended to have reversible effects on personnel and materiel.” While NLWs are designed with the intent to greatly reduce fatalities and permanent injuries in comparison with the use of lethal weapons in the same situations, they are not totally harmless. However, they provide warfighters with additional options before having to resort to lethal force.

The DoD Joint Non-Lethal Weapons Program (JNLWP) oversees Science and Technology exploration and the research, and development of NLWs and assists in the development of training programs. The Commandant of the Marine Corps

serves as the DoD’s Executive Agent for NLWs.

NLWs have numerous counter-personnel and counter-materiel applications across the range of military operations, providing the commander escalation-of-force options to achieve discriminate, tailored target effects and responses. Possible scenarios include checkpoint and port-security missions; convoy security; situations where enemies are using civilians as human shields; maintaining order during humanitarian-relief missions; and situations where adversaries’ military capabilities are co-located with civilian infrastructure.

Many NLWs are currently fielded, with research efforts ongoing on a host of developing technologies that will make precision effects and controlled engagement available to the operational commander. Fielded NLWs include blunt-impact munitions, optical warning and distraction devices, acoustic hailing devices, vehicle arresting devices, flash-bang grenades and munitions and temporary incapacitation devices, such as human electro-muscular incapacitation (HEMI) devices.

Among the many NLW technologies currently in the development stage are directed-energy high-powered microwave weapons such as the Active Denial System (ADS). The ADS projects a focused beam of millimeter waves to induce an intolerable heating sensation on an adversary’s skin, repelling the target with minimal risk of injury. The JNLWP is also researching high-power directed-energy vehicle- and vessel-stopping systems that use transmit-

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ters to disable the engines or computer systems of approaching or uncooperative vehicles or vessels. These developing technologies have the potential to provide tremendous new capabilities for U.S. forces in support of today's complex missions.

For more information on NLWs, visit the JNLWP website at [www.jnlwp.com](http://www.jnlwp.com).

## Communication-Electronic Equipment Maintenance Shelter (CEEMC)

### Description

The Communication Electronic Equipment Maintenance (CEEMC) Shelter is an extendable rigid-wall shelter that will provide a forward deployable Field Level maintenance facility. The CEEMC will provide a climate-controlled dust-free maintenance repair facility for operator crew maintenance repair through field-level maintenance and repair of satellite radio systems, ground radio systems, telephone systems, fiber optic communication systems, Light Armored Vehicle (LAV) weapons systems, cryptographic equipment, small arms and future computer systems.

### Operational Impact

The legacy 20-foot rigid-wall Equipment Maintenance Complex has reached its service life providing maintenance and repair work spaces for four or five Marines. The CEEMC is an expandable shelter that will provide enough work space for 8-to-12 Marines. This added space will reduce the number of shelter requirements by one-third. The CEEMC is International Organization for Standardization certified, which reduces the overall logistical footprint by one-third for the Marine Corps.

Procurement Profile:	FY2009	FY2010
Quantity:	35	27

## Family of Tactical Soft Shelters (FTSS)

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### Description

The Marine Corps Family of Tactical Soft Shelters (FTSS) are shelters for tactical use that maximize modularity, ease of use, operational effectiveness, durability, and the ability to connect with vehicles and like shelters. It includes the Expeditionary Shelter System, Modular General Purpose System, Lightweight Maintenance Enclosure, Combat Tent, 10-Man Arctic Tent and the Extreme Cold Weather Tent.

intended to improve the effectiveness with which a variety of battlefield functions are accomplished.

### Program Status

The FTSS is currently in Post Milestone C and is being fielded to the Operating Forces.

Procurement Profile:	FY2009	FY2010
Quantity:	6265	3917

### Operational Impact

The FTSS will provide protection from the natural environment to the Operating Forces for use in varied mission roles (i.e., Command and Control, Administration, Billeting, Supply, Medical, Dental and Messing). The FTSS is not designed to counter a specific threat. Rather, it is

Developer/Manufacturer: various

## Family of Field Medical Equipment (FFME)

### Description

The Family of Field Medical Equipment (FFME) consists of medical systems designed to provide Health Service Support personnel with the medical equipment and supplies necessary to maintain the combat effectiveness of the force and to safely stabilize and evacuate casualties from the battlefield. FFME Systems act as a force multiplier by ensuring equipment, supplies and medicine are available to treat the wounded and sick as far forward as possible and return them to the fight or evacuate. There are 31 different medical systems or Authorized Medical/Dental Allowance Lists (AMALs/ADALs). AMALs/ADALs comprise medical equipment and materiel that provide Marine Corps units with point-of-injury care Individual First Aid Kit (IFAK), Corpsman Assault Pack (CAP) and Casualty Evacuation to Shock/Surgical Triage, forward-resuscitative surgery, and post-operative En Route Care evacuation.

### Operational Impact

FFME systems provide the Marine Air Ground Task Force with Level I and II medical equipment and supplies to treat the wounded and sick and prevent the spread of disease. Loss of any of the capability provided by FFME systems would adversely affect health care management throughout the Marine Corps and potentially result in the loss of life. Each AMAL/

ADAL is modeled by the Naval Health Research Center (NHRC), verified by subject-matter experts (SMEs), and stocked to reflect current casualty rates and protocols. Planned enhancements to FFME systems to improve the quality of health care provided to the warfighter include: the Combat Lifesaver Kit, Mobile Oxygen Ventilation and External Suction System, improved hemostatic bandages, emergency dental dressings, and a traumatic brain injury early detection capability.

### Program Status

A review with NHRC, Headquarters Marine Corps, Marine Corps Combat Development Command, Marine Corps System Command and SMEs is conducted on each AMAL/ADAL every three years. The AMAL/ADAL is then updated with the latest state-of-the-art medical technology and reconfigured based on current casualty rates and protocols. New or updated equipment to be added to the AMAL/ADAL is acquired and fielded the following year and obsolete equipment is properly disposed.

Procurement Profile:	FY2009	FY2010
Quantity:	various	various

Developer/Manufacturer: various prime vendor contracts, integrators, and suppliers throughout the United States.

## Vehicular Multi-Band Radio

### Description

The VRC-103(V)2 Vehicular Multi-band Radio (MBR-V) covers the entire 30 to 512 MHz frequency range while offering embedded communication security, satellite communications (SATCOM) and electronic counter-counter measure capabilities. The MBR-V provides secure interoperability with Single Channel Ground and Airborne Radio Systems (SINCGARS) and a host of other tactical radios. The MBR-V can be configured for man-pack, vehicular and base station applications suitable for operation in a multi-mode service environment.

The radio is interoperable with legacy encryption systems and acts as a translator between otherwise incompatible radios. The hardware can be reconfigured and software reprogrammed to optimize performance and add capabilities without opening the radio.

### Operational Impact

The MBR-V allows for VHF/UHF line of sight and SATCOM communications on the move. This allows units to effectively communicate to all other tactical radio platforms via SINCGARS, HAVEQUICK and other waveforms. The added internet protocol capability allows for tactical chat applications and data file transfers to be executed.

The MBR-V operates in UHF SATCOM mode employing DAMA 5kHz and 25kHz channels and is compatible with VINSON KY-57, ANDVT KY-99/99A, and KG-84A/C equipment.

The MBR-V has 100 programmable nets and 10 DAMA presets.

### Program Status

The MBR is in the Deployment Phase Post Milestone C. Marine Corps Systems Command currently has a production contract in place that facilitates acquisition with the Marine Corps, with fielding that commenced in 2005. The current contract has effectively reached its ceiling, with an estimated 2,000 systems remaining to be procured. The Marine Corps approved acquisition objective for the MBR-V is 3,118 systems.

Procurement Profile:	FY2009	FY2010
Quantity:	2000	0

## Virtual Training Systems

The Virtual Training Systems domain at Program Manager Training Systems supports the individual Marine, crew, section and platoon in familiarity, function, pre-deployment and sustainment of their warfighting skills. This is accomplished through virtual training systems that support motor transport vehicles (operator, maintenance and egress), combat vehicles (gunnery and tactics), convoy operations, weapons marksmanship and terminal attack controllers for both active and reserve forces. These training systems support the MAGTFs in preparing for their expeditionary military operations throughout Continental United States (CONUS) and Outside CONUS.

**The Combat Vehicle Training System – M1A1/LAV/AAV (CVTS-M1A1/LAV/AAV)** is a Program of Record based on an Operational Requirements Document that covers gunnery and tactical training for the M1A1 Main Battle Tank, Light Armored Vehicle-25 and the Assault Amphibious Vehicle. The M1A1 and LAV-25 requirements are satisfied by the Advanced Gunnery Training System (AGTS). The AAV requirement is satisfied by the AAV-Turret Trainer (AAV-TT). The AGTS and AAV-TT provide the Marine Corps the ability to train M1A1, LAV-25 and AAV crew members to the approved standards of combat skills and readiness. The end state systems are institutional and deployable training systems supporting individual, collective (crew, section, and platoon), combined arms and joint training scenarios. The AGTS' are fielded at Camp LeJeune, 29 Palms, Camp Pendleton, Oki-

nawa and multiple Reserve units throughout the CONUS. The AAV-TTs are fielded at Camp LeJeune, Camp Pendleton, Del Mar, Kaneohe Bay, Okinawa and multiple Reserve units throughout the CONUS.

**The Combat Convoy Simulator (CCS)** trainers provide an immersive training environment for convoy operations to include basic procedures for driver, gunner, and passengers including but not limited to weapons usage and target engagement, driver evasive action, command and control procedures within the vehicle and convoy, and general familiarity with terrain/environment to provide training for Marines in tactical scenarios related to combat operations. The CCS provides training for both vehicle operators and individuals in both vehicles and small arms weapon utilization, command and control, and improvised explosive device countermeasures. CCS trainers support the Urgent Universal Need Statement (UUNS) requirement approved by the MROC to train Marines in convoy operations prior to deploying to designated combat zones. The CCS is the third generation of convoy trainers. The CCS trainers are scheduled to be fielded to Camp LeJeune, Camp Pendleton, Mojave Viper, MCAGCC 29 Palms, Kaneohe Bay, and Okinawa. The first CCS unit was successfully fielded on 13 July 2008 at Camp Pendleton, California.

**The Virtual Combat Convoy Trainer–Marine (VCCT-M) and Reconfigurable Vehicle Simulator (RVS)** were procured by the Marine Forces Reserve based on urgent requirement. The VCCT-M is consid-

ered the first generation and the RVS the second generation of convoy trainers. The VCCT-M and RVS train Marines in basic and advanced combat convoy skills using variable terrain and roads in a variety of weather, visibility and vehicle operational conditions. The VCCT-M is a mobile, self-contained and self-supporting virtual simulation system that uses a HMMWV mock-up, small arms, crew-served weapons, a 360-degree visual display and after-action review capability. The RVS is also a mobile virtual simulation, but utilizes two HMMWV mock-ups, small arms, crew-served weapons, and a 360-degree visual display in addition to relying on the VCCT-M after action review and instructor/operator station for managing training. The VCCT-M is employed at 29 Palms as part of Mojave Viper and at Camp Upshur, Virginia and Reserve locations throughout the CONUS. The RVS is employed at 29 Palms as part of Mojave Viper.

**The Indoor Simulated Marksmanship Trainer (ISMT)** consists of two configurations: ISMT-Enhanced (ISMT-E) and ISMT-Marine Security Guard (ISMT-MSG). The purpose of the ISMT-E is to provide the Marine Corps with the ability to train individuals, fire teams and squads effectively and efficiently to the approved standards of combat skills and readiness, in a limited space and without the expenditure of costly live ammunition. The ISMT-E is an interactive audio and video weapons simulator that simulates Marine Corps ranges and provides enhanced marksmanship, weapons employment, crew served, collective, indirect fire and

tactical decision-making training for the M9 pistol through the 81mm Mortar. New initiatives include enhanced training for moving targets, crew-served weapon using turret ring mounts, threat weapons, Optic 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), and sensed M4A1 simulated weapons. ISMT-E is used by the Reserve Forces, GCE, LCE and ACE Units for sustainment and proficiency training in the use and employment of the Marine Corps small arms. Reserve forces use ISMT-E extensively to help prepare Marines for the Pre-deployment Training. There are 428 ISMT-E systems worldwide. The ISMT-MSG is a man portable, user friendly, digital based interactive defensive weapon handling and marksmanship trainer. This system was developed to train and sustain weapon skills with the M9 Beretta Service Pistol, the M4A1 Service Rifle and the M870 Remington (military) Shotgun. It provides the USMC and State Department qualification courses of fire, field firing and judgmental shooting situational training. There are a total of 151 ISMT-MSG systems delivered to MSG Battalions and Embassies worldwide.

**The United States Marine Corps-Operator Driving Simulator (USMC-ODS)** is a high-fidelity immersive technical skills trainer for teaching Marines how to safely drive select tactical wheeled vehicles including the MTVR, MTVR MAS, Up-Armored HMMWV, MRAP CAT I

Cougar (Force Protection International, Inc. (FPII) variant) and the MRAP CAT III Buffalo (also FPII). The USMC-ODS is an interactive, reconfigurable training device which provides realistic feedback to the student through the steering wheel, pedals, and dashboard controls that replicate the experience of driving the actual selected vehicle through a virtual environment. The USMC-ODS trainers are used by all Marine organizations (operating forces and Marine reserves) for sustainment and refresher training. These systems augment actual road hours and provide Marines the opportunity to experience various driving scenarios and reaction skills in a controlled environment. The incorporation of the MTRV MAS, Up-Armored HMMWV, and MRAP CAT I and III support the Universal Needs Statement (UNS) dated November 2002 and Statement of Need dated May 2007 to provide trainees with realistic experience operating the tactical-wheeled vehicles during both on- and off-road conditions in a variety of scenario-based environments. USMC-ODS systems are fielded at Camp LeJeune, Camp Pendleton, Mojave Viper 29 Palms, and select MFR sites. Other sites scheduled to be fielded in FY 2009 include MCB, Kaneohe Bay, Okinawa, Iwakuni, and multiple MFR sites.

**The Hmmwv Egress Assistance Trainer (HEAT)** 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 Ma-

rines 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. HEAT trainers support the Central Command (CENTCOM) requirement for all Marines to complete vehicle roll-over training prior to deploying to designated combat zones. HEAT devices are currently fielded at Camp LeJeune, Camp Pendleton, Mojave Viper 29 Palms, Kaneohe Bay and Okinawa. Scheduled fieldings in FY 2009 include Beaufort, Cherry Point, New River, Camp Upshur, Yuma, Miramar, Iwakuni, Camp Pendleton and Camp LeJeune.

**The Modular Amphibious Egress Trainer (MAET)** is an underwater escape trainer with a generic fuselage section with modules and exits representing specific aircraft, cockpit and cabins for select amphibious vehicle platforms. This commercial off-the-shelf trainer is designed to simulate underwater disorientation caused by rapidly sinking aircraft and other waterborne vehicles. The trainer is modular in that it can be quickly reconfigured to simulate the exits and hatches of various craft (e.g., the CH-46, CH-53, AAV, EFV, LAV-25 and MV-22 aircraft). A second module, the Submerged Vehicle Egress Trainer (SVET), which was defined by a Statement of Need submitted by TECOM, is used to train egress from rollover/submerged ground vehicles, replicating the HMMWV and other ground platforms. These

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training devices support the Underwater Egress Training Program conducted at Okinawa, Kaneohe Bay, Camp Pendleton and Camp LeJeune.

**The Supporting Arms Virtual Trainer (SAVT)** will provide a high-fidelity visually immersive training capability that will train Joint Terminal Attack Controllers and Forward Observers in Surface call for fires and Type I, II and III Close Air Support Missions. Based on the Marine Corps

requirement to train more than 500 Joint Terminal Attack Controllers, an Urgent Universal Need Statement was developed and approved, which led to the MROC Decision Memorandum approval of SAVT. The training system sites will be fielded at Camp Pendleton, 29 Palms, Camp LeJeune, Kaneohe Bay, Okinawa and Yuma.

## Joint Service General Purpose Mask M50 and M51

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### Description

The Joint Service General Purpose Mask (JSGPM) is an Acquisition Category (ACAT) III program managed by the Joint Project Management Office for Individual Protection (JPPO-IP). The JSGPM M50 (Field) and M51 (Combat Vehicle) mask systems are Chemical, Biological and Radiological (CBR) protective masks that integrate with the Joint Service Lightweight Integrated Suit Technology (JSLIST) chemical protective ensemble and will replace the M40/M42 series and MCU-2P protective masks; until FOC is reached, the M40/M42 series of masks are suitable substitutes. The JSGPM M50 (Field) and M51 (Combat Vehicle) mask systems were developed to provide respiratory and ocular protection from traditional and non-traditional CBRN agents and select TIMs, under battlefield conditions for ground and combat vehicle crewman personnel. JSGPM provides improved protection, improved field of view, lower breathing resistance, reduced weight/bulk, and improved compatibility.

### Operational Impact

The warfighter will wear the protective mask based on threat, operational requirements and mission profiles. The JSGPM is a key component for surviving and sustaining operations in a contaminated environment. The JSGPM Mask Systems will be carried in its carrying case by the warfighter in all MOPP levels below 3 and 4. The mask will be donned during MOPP level 3 and 4 events.

### Program Status

Full Rate Production Decision  
October 2007.

Contract Awarded August 2008

The Joint Program Manager and the Marine Corps have procured 72,390 M50s and 616 M51s to date.

Developer/Manufacturer: Avon Rubber & Plastics, Inc., Cadillac, MI

## Joint Chemical/Biological Coverall for Combat Vehicle Crewmen

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### Description

The Joint Service Lightweight Integrated Suit Technology (JSLIST) is an Acquisition Category (ACAT) III program managed by the Joint Project Management Office for Individual Protection (JPMO-IP). The Joint Chemical/Biological Coverall for Combat Vehicle Crewmen (JC3) will provide the Combat Vehicle Crew (CVC) protection against liquid, vapor, dusty, particulate or sporulated Chemical and Biological Warfare (CBW) agents or radiological materials for up to 16 hours. The JC3 replaces the JSLIST Type II overgarments for CVC personnel.

### Operational Impact

The JC3 is a lightweight Chemical/Biological warfare agent protective garment for use by CVC in a contaminated environment. The JC3 will provide improved protection from CB warfare agents, radiological particles, and TIMS to personnel who serve as crewmembers on armored vehicles. When integrated with other personal protective equipment, the system will provide the CVC community the ability to operate in a contaminated environment. During the MOPP-1 through MOPP-3 conditions, the warfighter will don the JC3. At MOPP level 4 the CVC member will ensure all zippers are zipped, all straps are fastened, donning the neck dam, roll down and adjust the mask hood until either decontaminated or ordered to reduce MOPP.

### Program Status

Contract Awarded July 2008

Procurement Profile:	FY2009	FY2010
Quantity:	5401	2629

Developer/Manufacturer: Group Home Foundation, Inc., Belfast, ME

## Joint Effects Model (JEM)

### Description

Joint Effects Model (JEM) Increment (Incr) 1 is a digital, computer-based modeling and simulation (M&S) tool approved by DoD to provide common representation of Chemical, Biological, Radiological and Nuclear (CBRN) hazard areas and effects resulting from CBRN weapons and Toxic Industrial Materials (TIM). JEM's M&S prediction capability will support consequence management (CM) and course of action analysis for CBRN events. JEM will support multiple deployment strategies and is capable of functioning as a stand-alone, networked, or web-based application as well as being integrated and fully interoperable with the Joint Warning and Reporting Network (JWARN) and its host command and control systems. JEM provides commanders with the capability to transmit vital CBRN information to the common operational picture (COP) to be employed at the strategic, tactical or operational levels.

### Operational Impact

JEM will provide Operational Commanders information on possible CBRN hazards throughout their area of operation (AO). JEM's primary mission is to provide the MAGTF Commander with an operational tool whose outputs are used to support planning and assessment deci-

sions to mitigate the effects of WMD, to include CBRN and TIM agents. JEM will assist the MAGTF Commander as a planning and training tool; to develop doctrine and tactics; and to be used operationally to take immediate actions necessary to protect personnel and equipment from CBRN and TIM hazards. JEM will also provide the MAGTF Commander with a tool capable of conducting modeling of chemical, biological, and TIM threats in the AO.

### Program Status

JEM entered into a Limited Deployment Phase on August 2007, when the MDA approved MS C. JEM was granted Class Accreditation with Limitations. Full Rate Production approval was granted 12 May 2008 for Stand-Alone JEM by the MDA. In August 2008, JEM conducted a MOT&E2 to evaluate the C4ISR version of JEM to support a second FRP.

Procurement Profile: FY2009

Quantity: 1

Developer/Manufacturer:

Northrop Grumman Spectrum Technology Center, San Diego, CA

## Joint Warning and Reporting Network (JWARN)

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### Description

The Joint Warning And Reporting Network (JWARN) Incr 1 (formerly known as JWARN Block II) provides forces with an operational capability to report, analyze and disseminate Chemical, Biological, Radiological and Nuclear (CBRN) agent detection, identification, location and warning information. JWARN Incr 1 consists of a software component, JWARN Mission Application Software (JMAS), and a hardware component, the JWARN Component Interface Device (JCID). The JCID networks CBRN sensors directly with Command, Control, Communications, Computers and Intelligence (C4I) systems. Only the JMAS component will be fielded to Marine Corps users as the JCID does not meet Marine Corps requirements. The JWARN operates on Service Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems/platforms located in C2 centers and employed by CBRN defense specialists and other designated personnel.

### Operational Impact

The primary mission of JWARN will be to provide the MAGTF Commander with a system capable of providing a comprehensive analysis and warning capability to access, assimilate and disseminate CBRN and Toxic Industrial Materials (TIM) information throughout the Common Operating Picture (COP). JWARN will provide the operational capability to collect, analyze, identify, locate, report and disseminate information on CBRN threats. JWARN will automatically predict and track the actual movement of CBRN contamination effects within a multidimensional battle space. Combatant Commanders can use this information to take appropriate actions to protect personnel and equipment in the hazard area.

### Program Status

JWARN Incr I entered into a Limited Deployment Phase on 28 May 08 when the MDA approved MS C. JWARN Incr 1 MOT&E was conducted in August 2008 and FRP is planned for FY09.

Procurement Profile: FY2009  
Quantity: 1

Developer/Manufacturer:  
Northrop Grumman Spectrum Technology  
Center, San Diego, CA

## Joint Chemical Agent Detector (JCAD)

### Description

The Joint Chemical Agent Detector (M4 JCAD) is a portable monitoring and point chemical agent detector for individual Marine and small units. It will provide commanders with a chemical detector that will be employed as part of the overall Chemical, Biological, Radiological and Nuclear (CBRN) protection strategy. Per the Marine Air-Ground Task Force CBRN Defense (MAGTF CBRND) Operating concept, Level I detectors are fielded in large quantities and provide a capability at low cost; they are small and light weight, enabling them to be worn or carried by personnel for long periods of time with little or no degrading effect. M4 JCAD may be employed on platforms or facility-based, whose primary functions are to detect, provide warning and confirm a chemical attack. All personnel assigned to the MAGTF can use these detectors with little or no training. M4 JCAD is capable of detecting and identifying chemical and select Toxic Industrial Chemical (TIC) vapor hazards, allowing Marines to provide information and warning reports to follow-on forces and commanders. M4 JCAD will be employed as part of the overall contamination avoidance effort to support operating forces on the integrated battlefield. The M4 JCAD will provide commanders with information on chemical vapor hazards at specific points in an area of operation. M4 JCAD will be the Marine Corps' primary point chemical sensor.

### Operational Impact

The M4 JCAD will provide commanders at the small unit level with a detect-to-warn/confirm capability that will ensure appropriate protective actions are taken. M4 JCAD will also alert the commander that units have entered a contaminated area prior to the onset of incapacitation. Small unit leaders will then be able to take those actions necessary to protect personnel and equipment from the potential damaging effects of chemical agents.

### Program Status

Fielding of the M4 JCAD is scheduled to commence during second quarter FY 2009. The current Approved Acquisition Objective (AAO) is H986 detectors. Current Concept of Employment (COE) states that the M4 JCAD will replace the Chemical Agent Monitor (CAM) and Automatic Chemical Agent Detector Alarm (ACADA) currently in the inventory.

Procurement Profile:	FY2009	FY2010
Quantity:	1000	TBD

Developer/Manufacturer:  
Smiths Detection, 2202 Lakeside  
Boulevard, Edgewood, MD

## Thermal Optic Systems

### Description

The Marine Corps has six key thermal optics systems: the Thermal Weapon Sight II (TWS II), which includes the Medium Weapon Thermal Sight (MWTS, AN/PAS-13C/D (V)2) and the Heavy Weapon Thermal Sight (HWTS, AN/PAS-13C/D (V)3); Individual Weapon Night Sight-Thermal (IWNS-T); the Medium-Range Thermal Bi-ocular (MRTB); the Long-Range Thermal Imager (LRTI) (AN/PAS-22); and the Mini Thermal Imager (MTI).

The TWS II provides capabilities similar to its predecessor AN/PAS-13B (TWS I) with technology improvements that reduce weight and provide longer battery life. It is a self-contained lightweight, compact, durable, battery-operated, infrared imaging sensor used for target acquisition. The MWTS and HWTS have the same design, but different telescopes and software. Both TWS II sights come with a MIL-STD-1913 rail grabber interface, including a vertical spacer. The TWS II will be mounted on the M249 in the Infantry Battalions and on all crew-served weapons including the M240, M2 and Mk19.

The IWNS-T is an in-line clip-on thermal sight designed to operate with the Rifle Combat Optic (RCO-AN/PVQ-31A/B). It will detect and recognize targets and threats at 300 meters without affecting the sight picture and battlesight zero of the RCO in all lighting conditions, including total darkness and atmospheric obscuration such as smoke and fog.

The MRTB will provide small unit leaders with the ability to detect and rec-

ognize potential threats in a limited visibility environment within tactical ranges up to 850 meters. The binocular design enhances human performance elements that improve operational use.

The LRTI will be employed by Force and Division Reconnaissance Units and target acquisition units (forward observers, forward air controllers, etc.) providing a long-range observation capability, approaching 7,500 meters, and significantly increasing the lethality and survivability of the warfighter.

The MTI is a stand-alone, portable, monocular, hand-held, battery-operated thermal imager used to observe, detect, and identify targets, conduct surveillance and assist commanders in engaging targets during all light conditions. The MTI is an observation device and is not mounted to weapons. 358 units were purchased in response to an urgent universal needs statement.

### Operational Impact

New thermal optics systems provide a complementary capability that will broaden the range of environments and conditions in which Marines are able to effectively operate. Because thermal optics are not subject to background light “wash-out,” they are ideal for use in both day and night lighting conditions, including total darkness. Additionally, thermal optics can be used under conditions of limited visibility such as darkness, smoke, fog, dust and haze.

### Program Status

A total of 16,895 TWS II AN/PAS-13C/D systems were procured through FY 2008 with manufacturer deliveries continuing to FY 2010. Contract award for the IWNS-T was 1st quarter FY 2008 with deliveries planned for FY 2009. The MRTB is scheduled for contract award and procurement during FY 2009 to support an approximate acquisition objective of 5,000 systems. A total of 1,297 LTRIs were procured during FYs 2006-2007 with an additional delivery order of 285 systems for FY 2009.

Procurement Profile:	FY2009	FY2010
TWS II (AN/PAS-13D) :	4,096	0
TWS II (AN/PAS-13C) :	3,900	3,769
IWNS-T :	1,282	0
MRTB :	1,882	2,871
LRTI :	285	0

#### Developer/Manufacturer:

AN/PAS-13D TWS II: DRS Technologies, Melbourne, FL

AN/PAS-13C TWS II: BAE Systems, Lexington, MA

IWNS-T: Insight Technology, Londonderry, NH

MRTB: TBD

LRTI: Kollsman Inc, Merrimack, NH

MTI: Insight Technology, Londonderry, NH

## Non-Lethal Tube Launched Munitions System (VENOM®)

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### Description

The VENOM is a 40mm, multi-shot, electrically-actuated non-lethal munitions grenade launcher mounted on the HMMWV MCTAGS turret. The system consists of three banks of 10 launch tubes, each at fixed angles of 10, 20 and 30 degrees from horizontal achieving 360 degree coverage when traversing the turret.

### Operational Impact

When employed, the VENOM provides operating forces the ability to deliver a high volume of non-lethal fire at range, both day and night, enhancing security operations. VENOM will also enable Ma-

rines to deter and dissuade errant vehicle operators from encroaching into security zones by helping determine intent and increasing standoff distance.

### Program Status

A limited user evaluation with 25 initial items is scheduled to begin in 2nd quarter FY 2009. Under the UUNS, an additional 225 systems will complete full fielding.

## Mission Payload Module Non-Lethal Weapons System (MPM-NLWS)

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### Description

The Mission Payload Module Non-Lethal Weapons System (MPM-NLWS) program will develop and field a revolutionary vehicle-mounted, tube launched munitions delivery system with non-lethal payload technologies designed to render targeted personnel temporarily incapacitated (defined as: to disable, inhibit, or degrade one or more functions or capabilities of a target to render it ineffective) within a specified zone of influence. The objective of the program is to provide a capability to deliver counter-personnel non-lethal effects applicable to controlling crowds, denying or defending areas, controlling access, and engaging threats while providing sufficient standoff for protection of friendly forces. The initial increment of MPM-NLWS will be mounted onto the HMMWV or its replacement.

### Operational Impact

The MPM-NLWS will allow the Marine infantryman to efficiently launch non-lethal munitions to a broader area with a greater duration of effects and volume of fire. Employment of the MPM-NLWS will grant commanders additional options short of lethal force and flexibility in implementing Rules of Engagement with less-restrictive measures.

### Program Status

MPM-NLWS achieved Milestone A in 2004. The Capability Development Document was approved November 2007. The technology development phase is expected during 1st quarter, FY 2010.

## Escalation of Forces Mission Modules (EoF-MM)

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### Description

The Escalation of Forces Mission Module (EoF-MM) contains equipment required to satisfy the operational requirement for an enhanced capability to apply non-lethal force. The EoF-MM will consist of selected equipment that provides operational capabilities for use during escalation of force situations found primarily, but not exclusively, when operating under restricted Rules of Engagement.

The EoF-MM will support the following capabilities: Vehicle Control Point, Entry Control Point, Convoy Security, Crowd Control, Detain Personnel, Conduct Search, Clear Facilities, Conduct Cordon, Urban Patrol and Establish and Secure Perimeter.

The basic building block of the EoF-MM will be the Equipment Set. Each Equipment Set will consist of specific material and non-material solutions that, when used together, enable Marines to adequately and safely complete a select Mission Capability Task. Two or more Equipment Sets combine to form a Capability Module that provides the equipment and supplies to perform a given task, such as Establish and Secure Perimeter or Conduct Cordon.

### Operational Impact

The EoF-MM provides the appropriate weapons and equipment to employ a range of non-lethal operations and non-lethal tactics. The fielding of the EoF-MM to the operating forces is intended to augment existing lethal capabilities.

### Program Status

53 EoF-MM Capability Sets will be procured and fielded in a two-tier method. Currently, MCCDC is in the process of identifying the items that will compose Tier 1 and Tier 2. Once decisions have been made, a detailed schedule will be developed on the delivery of the EoF-MM and disposal/retrofit of the FPCS.

Procurement Profile:	FY2009	FY2010
EoFMM:	TBD	TBD

Developer/Manufacturer:  
TBD

## Targeting Systems

### Description

Targeting Systems are being acquired to fulfill requirements of the Target Location, Designation and Hand-off System (TLDHS) System of Systems and the Tactical Air Control Party (TACP) Suite. They provide the target location and designation capabilities necessary for observers to be able to control Close Air Support and locate targets for all supporting arms. Targeting Systems can be broken down to the elements of target location (managed under the Common Laser Rangefinder program) and target designation (managed under the Laser Target Designator program).

**Common Laser RangeFinder (CLRF) Program.** Target location capabilities are being provided to the operating forces through the Common Laser Rangefinder (CLRF) program, which is currently fielding the VECTOR 21B (AN/PEQ-13) laser rangefinder. The VECTOR 21B is a lightweight, class-1 eye-safe, targeting laser rangefinder capable of being carried and employed by a single Marine. It assists the operator in determining target location by measuring distance, direction, and vertical angle from the operator to the object through the use of digital magnetic compass technology. The VECTOR 21B aids target detection, recognition, and identification by providing optics similar in magnification and field of view to the M-22 binoculars. It interfaces with PLGR, DAGR, Target Handoff System, D-DACT, and the AN/PVS-14 Night Vision Monocular and AN/PAS-22 Long Range Thermal Imager (LRTI) for night operations. In 2009-2010,

the magnetic azimuth capability of the VECTOR 21 will be enhanced by a more accurate, non-magnetic True North capability which will greatly reduce Target Location Error (TLE).

**Laser Target Designator (LTD) Program.** Target designation capabilities are being provided to the operating forces through the Laser Target Designator (LTD) program, which is currently fielding the Portable Laser Designator Rangefinder (PLDR) AN/PEQ-17 and the Thermal Laser Spot Imager (TLSI, AN/PAS-25). The PLDR employs a class IV (not eye-safe) laser to mark or designate targets for laser seeking munitions and laser spot trackers. It includes a built-in laser spot camera which allows the operator to view the reflected laser energy under certain daylight conditions in order to verify that the laser is designating (or marking) the correct object as a target. The PLDR laser beam is not visible to the naked eye or night vision goggles and has a designation range of 5,000 meters. TLSI is an additional hardware element of the LTD program that extends the ability to view reflected PLDR laser energy to all operating conditions (day and night).

### Operational Impact

**CLRF.** The VECTOR 21B provides forward observers and forward air controllers a man-portable tool that assists in target detection, recognition, identification, and location. It provides target location error of 50m or less at a distance of 5 Km and 100m at a distance of 10 Km.

The VECTOR 21B has a 7x internal magnification and an external optical enhancer that provides a total magnification of 10x. It is fielded with the DAGR which, when used with the VECTOR-21B, provides a 10-digit grid coordinate to the target that can be used to create an indirect fire mission. It is also fielded with the AN/PVS-14 monocular night vision sight, which allows for low-light and nighttime operation. The VECTOR 21B can be integrated with the AN/PAS-22 (LRTI) for greater low or no light performance. Potential future upgrades include the ability to determine azimuth to target via non-magnetic means.

**LTD.** The PLDR 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 and ANGLICO Marines. PLDR is man-portable, and weighs less than previously fielded laser designators. Power supply options recently made available to the user through the LTD program provide significant opportunities to further reduce combat load depending on mission profile. Potential future upgrades include further weight reduction.

### Program Status

The VECTOR 21B is currently in the production and deployment life cycle phase. Initial Operating Capability occurred in May 2005 with fielding to units in Iraq and Afghanistan. Approximately 75 percent of the CLRF Approved Acquisition Objective has been fielded.

The PLDR began fielding in January 2008 and will continue into 2010. The approved acquisition objective is 531 systems.

The TLSI is anticipated to begin fielding late in FY 2008.

Procurement Profile:	FY2009	FY2010
VECTOR 21B:	0	0
PLDR:	184	232
TLSI:	498	0

Vector 21B Developer/Manufacturer:  
Vectronix, Switzerland

Vector 21B Importer: Ashbury International  
Group, Charlottesville, VA

PLDR Developer/Manufacturer:  
Kollsman, Inc., NH

TLSI Developer/Manufacturer:  
Kollsman, Inc., NH

## Ground-Based Air Defense Transformation (GBAD-T)

### Description

Ground-Based Air Defense Transformation (GBAD-T) is the Marine Corps air defense capability that focuses on defeating airborne threats with the Advanced Man-Portable Air Defense System (A-MANPADS) and the Stinger missile. This system replaced Avenger as the Marine Corps' only organic air defense system.

### Operational Impact

Using A-MANPADS and the Stinger missile, the Low Altitude Air Defense Battalions (LAAD Bn) provides the MAGTF low altitude air defense against enemy air threats. The LAAD Bns have an assigned a secondary mission to provide a ground security force in defense of MAGTF air sites when not engaged in their primary air defense mission. The A-MANPADS vehicles mount M-2, M240B or Mark 19 machine guns when assigned their secondary mission. A-MANPADS is rapidly deployable via air, land or sea. LAAD Bn units deploy with MEU's as part of the Marine Air Control Group detachment to the composite squadron.

### Program Status

A-MANPADS was designated an AAP in 2005. New requirements (A-MANPADS Increment 1) were outlined in Statement of Need delivered to the Program Office during 2nd Qtr FY 2007. The GBAD-T Program is in Core in POM 2010 and encompasses A-MANPADS and A-MANPADS Increment I. A-MANPADS Increment I is scheduled for a Milestone C Decision 3rd Qtr FY 2010. Additionally, the LAAD units have submitted a Universal Need Statement to replace the Stinger missile.

Procurement Profile:	FY2009	FY2010
Quantity:		
Section Leader Vehicle	0	12
Fire Units	0	47

#### Developer/Manufacturer:

Naval Surface Weapons Center, Crane;  
Crane, IN



## CHAPTER 4

## CURRENT OPERATIONS

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During 2008, Marine Corps forces deployed world-wide to meet the demands of the Global War on Terror (GWOT) and protect vital U.S. interests, citizens and friends. Thousands of Marines continued the fight against determined enemies in Iraq and Afghanistan, while many more supported civil-military, humanitarian assistance and disaster-relief operations wherever the need arose. From small-scale advisory missions to full-spectrum combat operations, the Marines maintain a persistent presence at the forefront of the fight for democracy, peace and stability.

Figure 4-1 demonstrates the historic nature of the Marine Air Ground Task Force (MAGTF) in supporting U.S. National Security objectives. During 1990 and 1991 and again in 2003 to 2007 Marine combat forces were deployed to support Desert Storm, Operation Enduring Freedom, and Operation Iraqi Freedom. From 1992 to 2002 Marine units continuously deployed to support humanitarian missions — providing much needed assistance in times of crisis involving earthquakes and floods — and they assisted in the evacuation of noncombatants. Finally, Marine units were often called upon to provide security deployments to enforce no fly zones, maritime interdiction, counter drug and peacekeeping operations. These trends clearly indicate the continued relevance of the MAGTF to effectively meet the ever changing demands of a dynamic world.

## Marine Corps Contingency Deployments 1990 - 2008

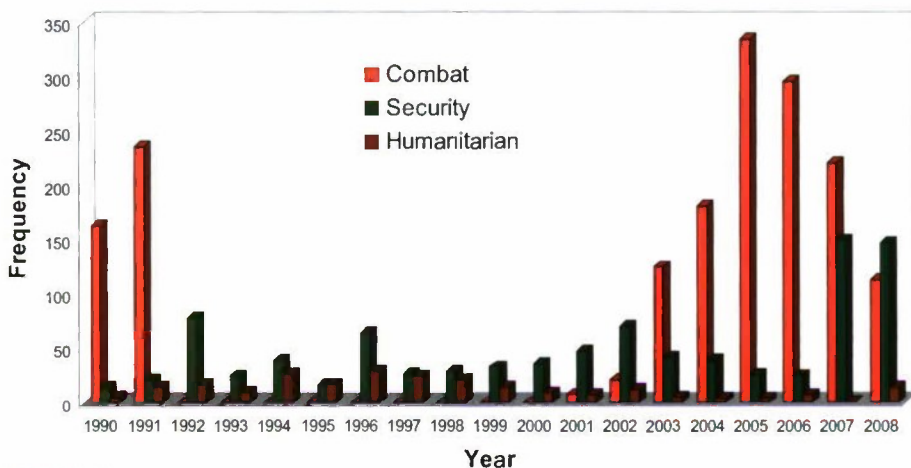


Figure 4-1

### NORTHCOM

#### Enduring Operations, Contingencies

##### ■ JTF-N

- MWSS-373; Campo, CA. Border road repair
- 2 x Fleet Anti-terrorism and Security Team (FAST) platoon provided for Refuel/Defuel in Newport News VA
- 4th GSP, San Diego, California; sensor laydown ISO US Border Patrol
- 4th GSP, Blaine, Washington and Kalispell, Montana; sensor laydown ISO US Border Patrol
- Det, MARFORRES; Intel Missions; San Diego, California; Laredo, Texas; in support of law enforcement partners
- CSSG-3; Pearl Harbor, Hawaii; Refuel Defuel Mission;
- 6TH ESB; Laredo, Texas; Engineer Roads ISO US Border Patrol.
- 3D MAW (4 x CH-46; 2 x CH-53); NAS Lemoore, McClellan Airfield,

California; California Wildfire Support

- 2D FAST CO; Puget Sound, Washington; 3D PLT, Refuel Defuel Mission
- HMM-764; Edwards AFB, California; Aviation Recon Mission
- HMH-772; Miami, Florida; Aviation Forward Looking Infrared Mission
- HMM-764; Sequoia National Forrest, California; Aviation Recon
- EOD Team, II MEF; New York, New York; Support for UNGA 63.

#### Exercises / TSC

- Exercise Mojave Viper 1 thru 17 -08. 1ST BN 9TH MAR; 2D BN 3D MAR; 2D BN 24TH MAR; 3D BN 4TH MAR; 2D LAR BN; 3D RECON BN; 3D BN 6TH MAR; 2D BN 2D MAR; 2D BN 7TH MAR, 1ST BN 2D MAR, 1ST LAR BN, 1ST RECON BN, 1ST BN 3D MAR, 3D BN 7TH MAR, 2D BN 9TH

MAR, 2D BN 25TH MAR, 1ST BN 4TH MAR, 3D BN 8TH MAR, participated for OIF FY-08 PTP.

- Exercise Mojave Viper 1-09 (2D BN, 1ST MAR), 2-09 (1ST BN, 7TH MAR)
- Exercise Mountain Viper. DET from III MEF conducted Afghanistan Mountain PTP at Hawthorne Army Ammo Depot, NV; Bridgeport, California & 29 Palms, California
- Exercise Desert Talon, Yuma, AZ. DET from 1ST MAW conducted convoy training from 26 Nov 07 – 5 Jan 08.
- Exercise WTI, Yuma, AZ. DETs from 1st MAW, 2nd MAW, 3d MAW support Marine Aviation Weapons and Tactics Squadron One, from 18 Feb – 5 May 08.
- Exercise Northern Edge, Elmendorf AFB, Alaska; DETs from 1st MAW participated in Northern Edge from 24 Apr – 19 May 08.
- Fleet Week, New York City, New York; DETS from II MEF participated May 08.
- Exercise Cajun Viper; Fort Polk, Louisiana; DET from 3D MARDIV HQBN participated in PTP from 21 Jul – 28 Aug 08.
- Exercise WTI; Yuma, Arizona; DETS from 1st MAW participated from 4 Sep – 31 Oct 08.

## SOUTHCOM

### Enduring Operations, Contingencies

- 4 x FAST platoons in support of Naval Station Guantanamo Bay, Cuba.
- Engineering & Civil Support Humanitarian Assistance Mission; Honduras; DETs from 4th CEB, 3rd CAG conducted humanitarian assistance in Honduras from 15 Mar – 15 Jun 08.
- Engineering & Civil Support Humanitarian Assistance Mission; Trinidad - Tobago; DETs from 6th CEB, 4th CAG conducted humanitarian assistance in Trinidad - Tobago from 15 Mar – 15 Jun 08.

### Exercises / TSC

- Landing Attack and Subsequent Operations Ashore (LASO), Pucallpa, Peru; Colombia; Montevideo, Uruguay.
- DETs from 2d Recon and MFS; Curacao; Duex Tri-Colores; conducted training Nov 08.
- Peace Keeping Operation North; Managua, Nicaragua; DET MFS conducted training Jun 08.
- Combined Operations Seminar; Managua, Nicaragua; Individual Mobilization Augmentees conducted training Sep 08.
- Tactical Vehicle Operations Military Transition Team; Covenas, Colombia.
- Marine Corps Martial Arts Program MTT; Covenas, Colombia.
- Partnership of the Americas; Brazil; combined training with the Brazilian Marines.
- Partnership of the Americas Infantry SMEE; Montevideo, Uruguay.
- Continuing Promise Pacific; Guatemala and El Salvador; DETs from 24th Marines, HMM-764 from May and Jun 08.
- Foreign Humanitarian Assistance; San Salvador, Salvador; DETs from MFS & MFR conducted training from May & Jun 08.
- Ground Tactics MTT; Iquitos, Peru.

- Cariabe 08, Martinique, DET from 3D MARDIV conducted coalition training exercise from Mar 08.
- Tradewinds 08; Dominican Republic; DET from MFS conducted combined aviation maritime and ground security operations field training exercise.
- Marksmanship SMEE; Covenas, Colombia.
- Partnership of Americas 2008; Peru; DETs 24th Marines, HMM-764 conducted amphibious-based multi-lateral exercise involving U.S. Marines and Partnered Nations from 30 May – 21 Jun 08.
- Beyond the Horizons Suriname; Paramaribo, Suriname; DET 3rd CAG conducted training from 15 May – 30 Aug.
- New Horizons; Ayacucho, Peru; MFR DETs conducted a joint / combined exercise to train U.S. Military engineer, medical, Combat Service, and Combat Service Support units from 15 May – 30 Aug 08.
- Dutch Bi-lateral Exchange; Aruba, Curacao; 4th MARDIV units conducted platoon level tactics training from 28 Jun – 13 Jul.
- Southern Exchange 08; Bahia Blanca, Argentina; DETs from MFS, MFR conducted training Jul 08
- Panamax; Panama, Honduras, El Salvador; DETs from MFS, MFR conducted training Aug 08.
- Water Survival SMEE; Covenas, Colombia; DET MCWSS conducted training Aug 08.
- Marine Corps Martial Arts Program and Swim SMEE; San Juan Del Mar,

Nicaragua; DET from MCTAG conducted information exchange Oct 08.

## EUCOM

### Enduring Operations, Contingencies

- 2 x FAST platoons were provided to Naval Station, Rota as part of their normal rotation.
- Coalition Support for OEF; Budapest, Hungary; DET from MFE conducted coalition support Oct 08.
- OEF Coalition Support; Siauliai, Lithuania; DET from MFA conducted coalition support Nov 08.

### Exercises / TSC

- West Africa Training Cruise (WATC) 08 / Africa Partnership Station (APS); Tbilisi, Georgia; DETs from HQMC, MFE, I MEF, II MEF, III MEF, TECOM, MARFORCOM, 4TH LSB, and MCIA conducted an exercise offering a naval persistent presence, demonstrating the Global Fleet Station operational concept. Exercise involved multiple host African nations as well as Coalition partners (France, Great Britain, Spain) from Jan 08 – May 08. Key feature was a training event with the Armed Forces of Liberia resulting in the delivery of HA supplies to schools and clinics within Monrovia ISO USAFRICOM's engagement priorities.
- Cold Weather Recon Training; Harstad, Norway; DET from 1ST RECON BN conducted training with the UK Royal Marine Brigade RECCE Forces consisting of cold weather environment/survival training, long range patrolling,

vertical assault, avalanche training, air operations, and long range communications training from 18 Jan – 24 Feb 08.

- Mil to Mil Officer / NCO Relationships Training; Baku, Azerbaijan; A DET from MFE conducted training with key Azeri personnel.
- Mil to Mil Air Medical Evacuation; Yerevan, Armenia; DET from MARFORRES trained Armenian MOD, 12TH PK BN, and medical personnel at the tactical level.
- Logistics and Supply Management Mobile Training Team; Dakar, Senegal; DET from MARFORRES conducted a mil to mil exchange on medical air evacuation techniques and procedures from 2-8 Feb 08.
- Nomad Fire; DET from MFE supported POTUS visit to Africa, 16-21 Feb 08.
- Mil to Mil Operational Staff Planning; Podgorica, Montenegro; DET from MFE trained the Armed Forces of Montenegro on staff planning procedures and functions.
- Coalition Deployment Support; Zagreb, Croatia; DET from MFE supported the movement of Croatian forces from Zagreb to Afghanistan from 11-15 Feb 08.
- Mil to Mil, Accra, Ghana; DETs from MARFORAF and 4TH MLG familiarize Ghanian military NCO's and junior officers with maintenance and maintenance management procedures, 2 – 7 Mar 08.
- Exercise Noble Shirley; Israel; DET from MCSF CO Rota participate in exercise focused on individual and small unit shooting and movement TTPs in an urban and counter-terrorist environment. DET from MFR conducted bilateral EX with the Israeli Defense Force focused on individual and small unit shooting TTPs in an urban environment May 08.
- Mil to Mil Brigade and Battalion Sergeant Major Leadership; Tbilisi, Republic of Georgia.
- Africa Contingency Operations and Training Assistance CPX; Accra, Ghana; DETs from MFE, MFR conduct training from 25 Mar – 4 Apr 08.
- Mil to Mil Night Vision Goggles Program; Bizerte, Tunisia; DETS from MFE, MFR conducted training from 29 Mar – 5 Apr 08.
- NCO Leadership & Development MTT; Baku, Azerbaijan; DET from MFE conducts training from 30 Mar – 7 Apr 08.
- Mil to Mil Expeditionary Units in Multi-National Peacekeeping OPS; Baku, Azerbaijan; DET from MFE conducts training from 31 Mar – 4 Apr 08.
- Exercise Combined Endeavor; Lager Aulenbach, Germany; DETs from MFE and 6TH COMM BN participated in command, control, communications, and computer systems (C4) interoperability exercise between US, NATO, and Partnership for Peace Nations 2 Apr – 15 May 08.
- Exercise Combined Thunder; Munster, Germany; DET from 4TH ANGLICO conducted Planning, coordination, and conduct of terminal control of fires ISO Joint and Allied Forces Apr 08.

- Mil to Mil MAGTF Tactical Warfare Simulation; Dakar, Senegal; DET from MFE conducted training Apr 08.
- Joint Multi-National Readiness Center Observer Controller Training; Hohenfels, Germany; DET from MFE conducts training Apr 08.
- UKRM Bilateral Training; Cape Wrath, United Kingdom; DET from 3D ANGLICO conducted Fire Support exchange with the 148 Battery, Royal Artillery, 29 Command, focused on improving allied / coalition training and liaison capability 15 Apr – 2 May 08.
- Mil to Mil Ground Maintenance; Accra, Ghana; DET from MFR conducted maintenance training with Ghanaian counterparts from 19 Apr – 5 May 08.
- Mil to Mil Public Affairs; Tbilisi, Georgia; DET from TECOM conducted training 26 Apr – 3 May 08.
- Exercise Austere Challenge 08; Germany & Italy; DETS from MFE, TECOM, II MEF, and MFR participated in a JFHQ EX to certify C6F as a JTF, 3AF as a JFACC, and V Corps as a JFLCC.
- Exercise MEDCEUR 08; Split, Croatia; DET from 4TH MLG conducted training May 08.
- Mil to Mil Recruiting, Retention, MWR Issues; Sofia, Bulgaria; DET from MCCS Quantico from 5 – 9 May 08.
- Africa Contingency Operations and Training Assistance – Rwanda CPX; Gako, Rwanda; DET from TECOM participated in a CPX to prepare a Bn staff for deployment ISO the United Nations Mission in Dafur (UNAMID) May 08.
- HMMWV Maintenance Contact Team ISO Georgia Sustainment & Stability Operations Program II (GSSOP II); Tbilisi, Georgia; DET from 4TH MLG conducted training May 08.
- Exercise Tartan Eagle 08; United Kingdom; DET from MCSFCO Bangor conducted Mil-to-Mil training with the Royal Marines Fleet Protection Group with a focus on security TTPs May 08.
- Mil to Mil Small Arms Maintenance; Gabon, Botswana; May 08.
- Engineer Bilateral Training; Kingsbury, UK; DET from 6TH ESB conducted training May 08.
- ACOTA; Bohicon, Benin; DET from TECOM conducted training from 19 May – 31 Jun 08.
- Exercise African Lion 08; Multiple Sites, Morocco; DETS from MFE, MFR participated in joint and bilateral combined arms training from U.S. and Moroccan forces through a bilateral Command Post Exercise (CPX) in Agadir, Field Training Exercise (FTX) in Tan Tan, Peace Keeping Operation (PKO) in Tifnit, Aviation Training Exercise (ATX) in Kenitra, and Humanitarian Assistance (HA) in surrounding villages of Guelmin from 22 May – 28 Jun 08.
- Exercise Shared Accord 08; Multiple Sites, Morocco; DETs from MFE, MFR participated in an annual US/West African bi-lateral exercise as well as staff development and humanitarian assistance Jun 08.

- Mil to Mil Cameroon; Douala, Cameroon; DET from MFE conducted training Jun 08.
- Personnel Temp Aug Program; Trondhiem, Norway; DET from Blount Island Command Jun 08.
- Mil to Mil Georgia; Tbilisi, Georgia; DET from MFE conducted training Jun 08.
- Mil to Mil Bosnia-Herzegovina; Banjaluka, BH; DET from MFE conducted training Jun 08.
- Mil to Mil Small Unit Leadership Training; Gaborone, Botswana; DET from TECOM conducted training Jun 08.
- Mil to Mil MTT NCO Development; Baku, Azerbaijan; DET from MFE conducted training from 30 Jun – 5 Jul 08.
- Exercise Immediate Response 08; Tbilisi, Georgia; DETs from MFE and 3D BN, 25TH MAR participated in a TSC exercise with Georgian Armed forces from 5-31 Jul 08.
- Exercise MEDFLAG 08; Bamako, Mali; MFR units conducted training Jul 08.
- Mil to Mil Logistics Support Traveling Contact Team; Baku, Azerbaijan; Jul 08.
- Mil to Mil Tactical Orders Team; Limbe, Cameroon; DET from MFR conducted training Jul 08.
- African Endeavor; Abuja, Nigeria; DET from MFE conducted training Jul 08.
- Mil to Mil Logistics Event; DET from 4TH MLG conducted training from 30 Jul – 3 Aug 08.
- NLW Event; Constanta, Romania; DET from MFE conducted training from 31 Jul -11 Aug 08.
- Mortuary Affairs; Landstuhl, Germany; DET from MFR conducted training from 25 Jul – 25 Sep 08.
- Mil to Mil CAG Event; Monrovia, Liberia; DET from 4TH CAG conducted training Aug 08.
- Mil to Mil Sgt & Sgt Maj Duties Event; Baku, Azerbaijan; DET from MFE conducted training Aug 08.
- OEF Coalition Support; Zagreb, Croatia; DET from MFR provided coalition deployment support Aug 08.
- NLW MTT ISO JTF-EAST; Sliven; Bulgaria; DET from MFE conducted training 25 Aug – 15 Sep 08.
- ACOTA CPX; Gako, Rwanda; DETs from NPS and MCTAG conducted training 25 Aug – 5 Sep 08.
- ACOTA CPX; Bujumbura, Burundi; DET from MCTAG conducted training Aug 08.
- Mil to Mil Recon Event; Sarajevo, Bosnia-Herzegovina; DET from MFR conducted training 30 Aug – 6 Sep 08.
- Mil to Mil Provost Marshal & MP Training; Yerevan, Armenia; DET from MCTAG conducted training Sep 08.
- NATO Exercise Steadfast Indicator 08; Pitesti, Romania; DETs from MFE, MFR conducted training Sep 08.
- Georgian Armed Forces Assessment Team; Amemb, Georgia; DET from MFE conduct training 14 Sep – TBD.
- Mil to Mil Intel Event; Freetown, Sierra Leone; DET from MFA conducted training Sep 08.
- Mil to Mil NCO Roles & Responsibilities; Limbe, Cameroon; DET, MFR conducted training Sep 08.

- Mil to Mil Engineer Assessment; Monrovia, Liberia; DET from MFE conducted training Sep 08.
- Mil to Mil NCO Training; Baku, Azerbaijan; DET from MFE conduct training Sep 08.
- Mil to Mil Supply and Ordenance; Chisinau, Moldova; DET from MFE conducted training Sep 08.
- Maritime Prepositioning Force Training Event; Rota, Spain; DET from MFE conducted training from 29 Sep - 3 Oct 08.
- Exercise Joint Warrior; Cape Wrath, Scotland; DET from II MEF conducted training Oct 08.
- Flintlock 09; Rota, Spain; DET from MFA conducted training from 30 Oct - 20 Nov 08.
- Strategic Mobility Event; Trondheim, Norway; DETs from MFE, MWHS-2, MALS-14 conducted training Nov 08.
- Mil to Mil Coalition Interoperability Training; Baku, Azerbaijan; DET from TECOM conducted training Nov 08.
- Mil to Mil Anti-Terrorism Training; Podgorica, Montenegro; DET from MFE conducted training Nov 08.

## AFRICOM

### Enduring Operations, Contingencies

- CJTF-HOA Provisional Security; Camp Lemonier, Djibouti; 3D LAAD filling requirement as the 7TH PSC.
- CJTF-HOA Provisional Security; Camp Lemonier, Djibouti; 6TH ESB filling requirement as the 8TH PSC.

## Exercises / TSC

- ACOTA CPX, Accra, Ghana; DET from MCTAG conducted training from 15 Sep - 3 Oct 08.
- Mil to Mil Aerial Refueling; Kenitra, Morocco; DET VMGR-234 participated Oct 08.
- Mil to Mil Intel Exchange; Ouagadougou, Burkina Faso; DET MARFORAF participated in Intel Exchange Oct 08.
- African Contingency Operations and Training Assistance (ACOTA) CPX/CAX; Thies, Senegal; DET from MARFORAF participated Oct 08.
- ACOTA CPX; Bembereke, Benin; DET from MCTAG participated from 27 Oct - 7 Nov 08.

## PACOM

### Enduring Operations, Contingencies

- OEF-P (Philippines). USMC provided a security team in support of JSOTF-P. 3RD RADBN provided a Detachment, conducting their institutional mission, in support of JSOTF-P
- 2 x FAST platoons deployed as part of their normal rotation to Yokuska, Japan.
- VMFA-232 conducted TACAIR Integration aboard USS Nimitz from Feb - May 08.
- JTF Caring Response; Thailand; DET III MEF and 31st MEU conducted HA/DR from Apr - May 08.
- RF-DF Mission; Pearl Harbor, Hawaii; DET CSSG-3 from 30 May - 18 Jul 08.

## Exercises / TSC

- Korean Incremental Training Program 08-02; Pohang/Chilhae, Korea; DETs from 9TH ESB and 3D MLG conducted bi-lateral engineer training from 23 Jan – 29 Feb 08.
- Korean Winter Surge; Camp Humphreys, Korea; DETs from III MHG provided support to the 501ST Military Intelligence Brigade from 4 Jan – 23 Feb 08.
- Exercise Cope Tiger; Khorat, Thailand; DETs from VMFA-212 and VMGR-234 conduct bi-lateral training from 27 Jan – 5 Feb 08.
- Exercise Key Resolve; Korea; DETs from III MEF participated in exercises planning required to defend the Republic of Korea (ROK) from 12 Feb – 31 Mar 08.
- Freedom Banner 08-1; Korea, DETs from 3D MLG, 1ST CEB, 1ST MAW rehearse MARFORPAC capability to conduct MPF (USNS Lummus) arrival/assembly and throughput operations; ROK Marine Corps and I MEF conduct bilateral live fire field training exercise (FTX), supported by fixed and rotary wing close air support (CAS) from 29 Feb – 9 Mar 08.
- Exercise Foal Eagle 08; South Korea; DETs from 3D AA BN, 7TH MAR conducted a series of CFC/USFK component combined/joint field training exercises conducted throughout the ROK by CFC components and major subordinate commands.
- Exercise Balikitan; Philippines; DETs from III MHG, 3D MLG, 1ST MAW, SOTG, and the 31ST MEU conducted annual bilateral US/Republic of Philippines exercise that fosters interoperability and enhances the Armed Forces of the Philippines counter-terrorism capabilities.
- Mongolia Leadership Development SMEE 08-1; Mongolia; DET from MARFORPAC conducted continued NCO and junior officer development effort targeted at Peacekeeping Battalions.
- Exercise Forest Light; Yausubetsu, Japan; DET from CAB conduct bilateral interoperability training 25 Feb – 13 Mar 08.
- Exercise Lava Viper; PTA, Hawaii, DET from 12TH MAR conduct unit level training from 22 Feb – 24 Mar 08.
- Bangladesh Interoperability Program (BIP) Engineering Civic Action Program (ENCAP) 08-1; Bangladesh; DET from 3D MLG conducted engineering mission Mar 08.
- Sandfisher; Singapore; DET from 3D RECON BN conducted dive operations with the Singapore Navy from Mar – Apr 08.
- Mongolia Leadership Development Subject Matter Expert Exchange; Mongolia; DET from MFP conducted information/training exchange from 25 Jan – 1 May.
- Cobra Gold; Thailand; DETs from MFP and III MEF conducted Annual Theater Security Cooperation Plan (TSCP) from 8 Apr – 5 Jun 08.
- HMMWV SMEE; Philippines; 31st MEU conducted training exchange Apr 08.
- Freedom Banner 08-2; Thailand, DETs from 3D MLG conduct FB 08 to rehearse MARFORPAC capability to conduct MPF (USNS Lummus) ar-

- rival/assembly and throughput operations; ROK Marine Corps and I MEF conduct bilateral live fire field training exercise (FTX), supported by fixed and rotary wing close air support (CAS) from 18 Apr – 5 May 08.
- Civil Affairs Project; Battleay Meanchey; Cambodia; DET from 3d MLG Conduct humanitarian and civic activities (MEDCAP/DENCAP) in Cambodia .
  - Mongolia Leadership SMEE 08-1; Mongolia; DETs MFP conducted NCO and junior officer development effort targeted at the 330th Peacekeeping Battalion from 1 May – 28 Jul 08.
  - Exercise Ardent Blitz; Korea; DET 5th ANGLICO May 08.
  - Artillery Subject Matter Expert Exchange; Philippines; DETs from 3/12, BLT 2/4, 31st MEU conducted training May 08.
  - Exercise Carat; PACOM AOR; DET from 3d Marines conduct Annual Theater training May-Aug 08.
  - Exercise Pacific Partnership; PAC AOR; DETs 3d MLG; from 21 May–30 Sep 08.
  - Thailand Peace Support Operations SMEE; Thailand; DET 3d Marines conduct Peace support operations with Royal Thai Armed Forces from 23 May – 21 Jun 08.
  - Exercise Pitch Black; Tinalab, Australia; DETs from 1st MAW Bi-lateral Offensive Counter Air training with the Royal Australia Air Force from 28 May – 14 Jul 08.
  - Exercise Commando Sling; Singapore; DET MAG-12 conducted coalition training with the Singapore Air Force from 20 Jun – 14 Jul 08.
  - Exercise Air Warrior; Malaysia; DET VMFA(AW)-533 conducted training with the Royal Malaysian Air Force from 20 Jun – 16 Jul 08.
  - Exercise Rim of the Pacific (RIMPAC 08); Hawaii; DETs 3d Marines, 3d Amphibious Assault Battalion; VMFA (AW)-225 from 29 Jun – 31 Jul 08.
  - Guam Liberation Day; Guam; DETs MFP Jul 08.
  - PI MAGTF Tactical Warfare Simulator; Philippines; DET 4th Marines from 20 Jul – 4 Aug 08.
  - Exercise Southern Frontier; Australia; DETs from 1st MAW conducted training with the Australian Air Force from 14 Jul -9 Aug 08.
  - Exercise NIRVIK TRATA; Bangladesh; DET 3d MLG Aug 08.
  - Exercise ULCHI Freedom Guardian; Korea; III MHG from 4 Aug–4 Sep 08.
  - Bangladesh Interoperability Program (BIP) MEDCAP/DENCAP; Bangladesh; DET from 3D MLG conducted medical and dental mission Aug 08.
  - Korean Incremental Training Program 08-02; Pohang/Chihae, Korea; DETs from 3D MLG conducted bi-lateral engineer training 23 Aug – 2 Oct 08.
  - Exercise Southern Canopy; Philippines; DETs 3d Recon and 3d MLG from 25 Aug – 30 Sep 08.
  - Exercise Talon Vision; Philippines; DET III MEF trains from 30 Sep – 31 Oct 08.
  - Exercise Aces North; Australia; DET MWSS-171 from 30 Oct – 30 Nov 08.
  - Exercise Korean Incremental Training Program 08-02; Republic of Korea; 31st MEU conducted bi-lateral engineer training Nov 08.

## CENTCOM

### Enduring Operations, Contingencies

- Iraqi Security Force (ISF) Transition Teams consisted of:
  - 20 Military Transition Teams (MiTT's)
  - 10 Border Transition Teams (BTT's)
  - 15 Provincial Police Transition Team (PTT's)
  - 1 Provincial Joint Coordination Transition Team (PJCCIT)
- Afghanistan Embedded Training Teams (ETTs) consisted of:
  - 1 Corps Embedded Training Team
  - 6 Battalion Embedded Training Teams
- 1 x FAST platoon; Bahrain; May – Dec 08
- 1 x FAST platoon; Bahrain; Jun 08 – Jan 09
- Marine Electronic Attack Squadron (VMAQ-4) Jan - Jul 08
- Marine Electronic Attack Squadron (VMAQ-3) Apr - Oct 08
- MSF-Ashraf, Camp Ashraf, Iraq Apr – Mar 08. [Task Force NCR moved from Ashraf to Ramadi on 2 Mar 08]
- MSF-Baghdad, Iraq, 1F5, Mar–Sep 08.
- 2D BN, 7TH MAR conducted combat operations in Afghanistan from Apr – Nov 08.
- 24TH MEU conducted combat operations in Afghanistan from Mar – Oct 08.

### MARINE EXPEDITIONARY UNITS

- 11TH MEU [BLT 1/5, HMM-166 (REIN), CLB-11] deployed from 8 Nov 07 – 2 Jun 08.
- 15TH MEU [BLT 2/5, HMM-165 (REIN), CLB-15] deployed from 31 May – 3 Nov 08.
- 22D MEU [BLT 3/8, HMM-261 (REIN), CLB-22] deployed from 2 Aug 07 – 29 Jan 07.
- 24TH MEU [BLT 1/6, HMM-365 (REIN), CLB-24] deployed to Afghanistan from 12 Mar – Nov 08.
- 26TH MEU [BLT 2/6, HMM-264 (REIN), CLB-26] deployed from 29 Aug 08 – 30 Mar 09.
- 31ST MEU [BLT 2/4, HMM-265 (REIN), CLB-31] deployed from 7 Jan – 7 Jul 08.
- 31ST MEU [BLT 3/1, HMM-262 (REIN), CLB-31] deployed from 7 Jul 08 – 7 Jan 09.

### Exercises / Theater Security Cooperation (TSC)

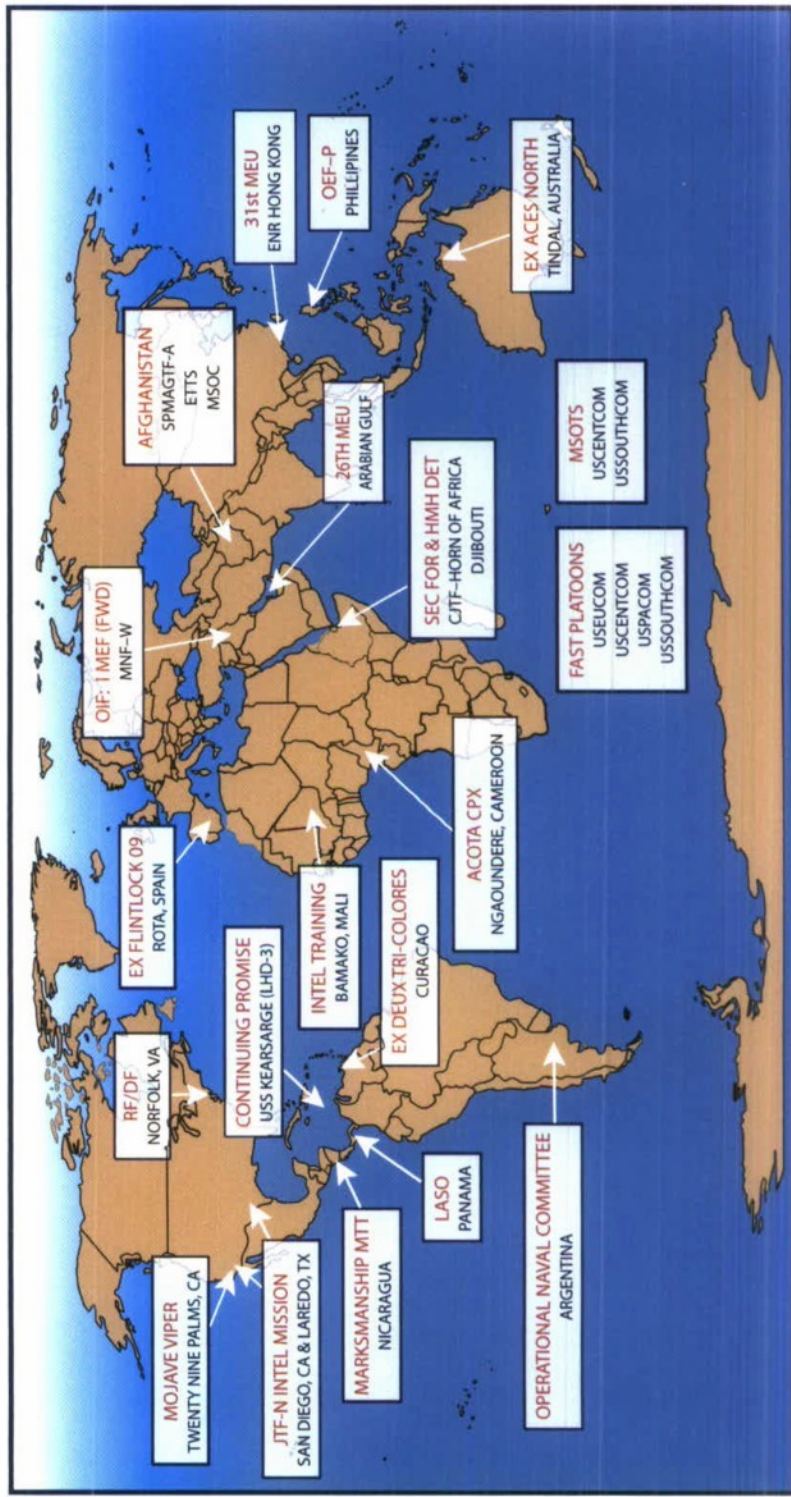
- Exercise Balikitan; Philippines; 31ST MEU participated from 18 Feb – 3 Mar 08.
- Mil to Mil; Surabaya, Indonesia; 31ST MEU participated Mar 08.
- TSC; Timor Leste; 31ST MEU participated Apr 08.
- Exercise Cobra Gold; Thailand; 31ST MEU participated May 08.
- Exercise Native Fury; Jordan; 13TH MEU participated Jul 08.
- Exercise Eager Mace; Kuwait; 15TH MEU participated Jul 08.
- Exercise Infinite Moonlight; Jordan; 15TH MEU participated Aug 08.
- Annual Ex; Japan; 31ST MEU participated Aug 08.

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- PHIBLEX; Philippines; 31ST MEU participated Oct 08.
  - Exercise Red Reef; Saudi Arabia; 26TH MEU participated Oct 08.
  - Korea Incremental Training Program; Korea; 31ST MEU participated Nov 08.
  - Exercise Forest Light 09-1; Japan; 31ST MEU participated Nov 08.
  - MSOT 10; Kulim, Malaysia; 22 Feb – 25 May 08.
  - MSOT 12; Bishkek, Krygyzstan; 23 Mar – 4 Jul 08.
  - CJSOTF-A IA; Afghanistan; 19 Jun – 1 Oct 08.
  - MSOT 10; Udon Thani, Thailand; 23 Jun – 23 Sep 08.
  - MSOT 9; Nairobi, Kenya; 14 Jul – 26 Sep 08.

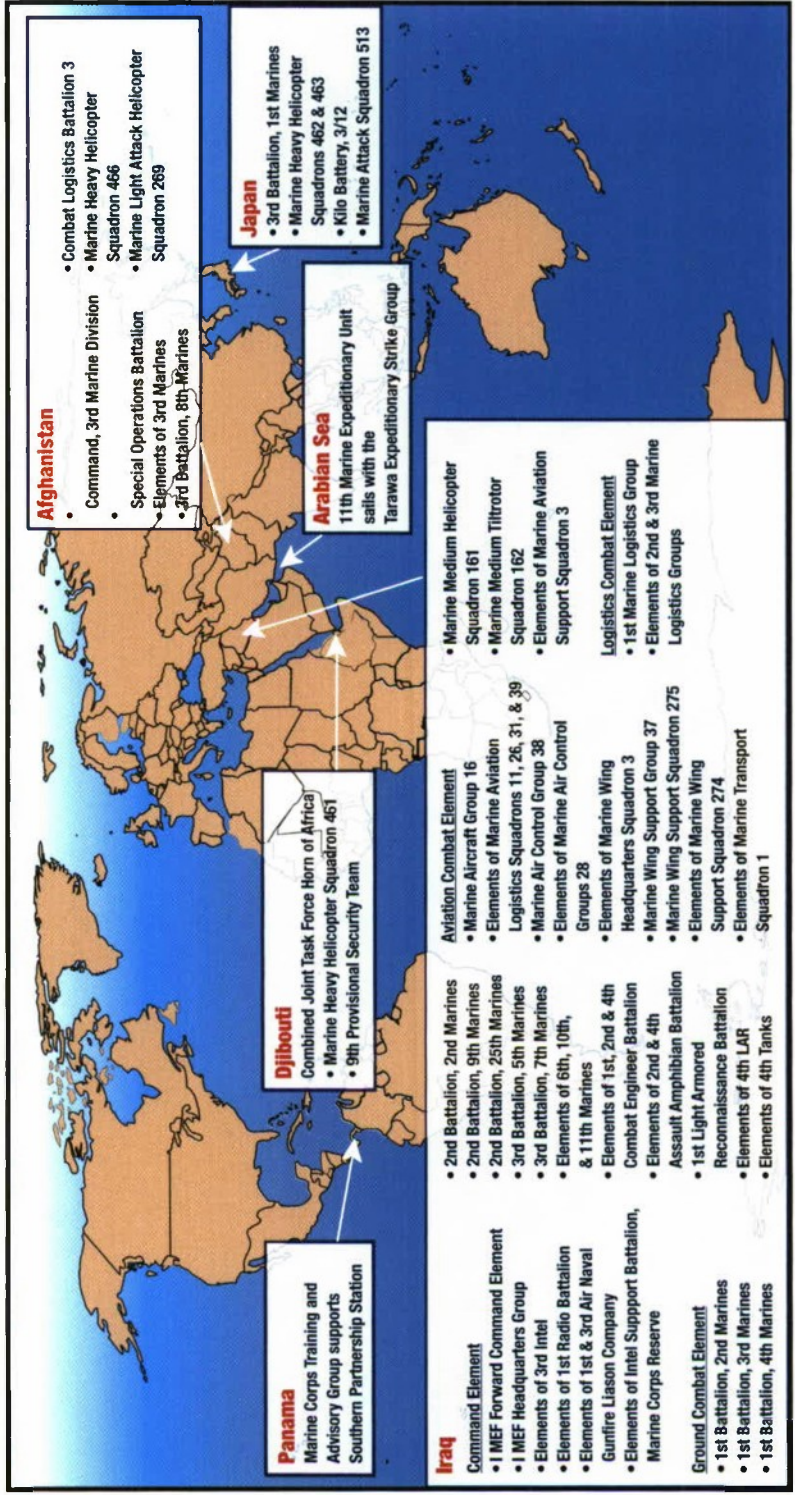
### MARSOC

- 3 x MSOC CO; Afghanistan
- 3 x MSOT; Nouakchott and Nema, Mauritania
- MSOT 11; Yemen; 18 Jan – 7 Mar 08.
- MSOT 8; Santo Domingo, Dominican Republic; 8 Feb -31 May 08.
- MSOT 18; Jolo Island, Philippines; 14 Jul – 15 Aug 08.
- MSOT 12; Tajikistan; 18 Jul–29 Aug 08.
- MSOT 14; Bogota, Colombia; 21 Aug – 19 Sep 08.

# Selected Marine Corps Deployments 2008



## Early 2009 Marine Corps Deployments







## CHAPTER 5

## MARINE CORPS ALMANAC

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This chapter provides a brief snapshot of the Marine Corps today. It includes a brief description of our Marines' demographics, our fiscal posture, and the age of some key equipment. As such it gives some insight into the resources that we fuse together to create one of the world's premier fighting forces.

## Officer Accessions in Fiscal Year 2008

Type	Number
NROTC	210
Platoon Leaders Course	591
Officer Candidate Course	616
MECEP	57
Warrant Officer Program	238
Other	495
<b>Total</b>	<b>2,207</b>

## Officer Age Distribution

Age	Number	Percent
<22	30	0.1%
22	458	2.3%
23	947	4.7%
24	1,016	5.0%
25	1,067	5.3%
26	1,029	5.1%
27	1,047	5.2%
28	979	4.8%
29	946	4.7%
30	883	4.4%
31-35	4,210	20.9%
36-40	4,289	21.2%
41+	3,287	16.3%
<b>Total</b>	<b>20,188</b>	<b>100.00%</b>

## Officer Grade Distribution

Rank	Number	Percent
WO/CWO	1,908	9.5%
2ndLt	3,300	16.3%
1stLt	2,854	14.1%
Capt	5,777	28.6%
Maj	3,708	18.4%
LtCol	1,861	9.2%
Col	691	3.4%
Gen	89	0.4%
Total	20,188	100.0%

## Officer Occupational Field Distribution

Primary MOS Code	Description	Female Officer	Male Officer	Total Officer
01	Personnel & Admin	173	530	703
02	Intelligence	57	1,148	1,205
03	Infantry	0	2,293	2,293
04	Logistics	164	1,350	1,514
06	Communications	83	1,078	1,161
08	Field Artillery	0	855	855
09	Training	0	32	32
11	Utilities	2	40	42
13	Engineer	43	545	588
18	Tank & AAV	0	310	310
21	Ordnance	1	133	134
23	Ammunition & EOD	2	113	115
26	SIGINT	1	32	33
28	Grd. Electronics Maint.	4	99	103
30	Supply Admin. & Ops.	78	596	674
31	Traffic Mgt.	4	22	26
33	Food Service	2	36	38
34	Financial Mgt.	38	297	335
35	Motor Transport	2	93	95
41	Marine Corps Community Services	4	8	12
43	Public Affairs	32	104	136
44	Legal Services	61	425	486
46	Combat Camera	3	15	18
48	Recruiting	0	16	16
55	Music	1	20	21
57	NBC	0	118	118
58	MP & Corrections	16	214	230
59	Electronics Maint.	2	73	75
60	Aircraft Maint.	18	387	405
63	Avionics (OMA)	2	124	126
65	Aviation Ordnance	2	85	87
66	Aviation Logistics	26	221	247
68	METOC Services	1	28	29
70	Airfield Services	2	35	37
72	Air C2	44	520	564
73	Navigation Officer	0	14	14
75	Pilot/NFOs	169	5,396	5,565
80	Miscellaneous Requirements	134	1,612	1,746
<b>Total</b>		<b>1,171</b>	<b>19,017</b>	<b>20,188</b>

## Officer Gender Distribution

	Number	Percent
Female	1,171	5.8%
Male	19,017	94.2%
<b>Total</b>	<b>20,188</b>	<b>100.0%</b>

## Officer Grade by Gender

Rank	# Male	% Male	# Female	% Female	Total
WO1	206	1.1%	6	0.5%	212
CWO2	749	3.9%	49	4.2%	798
CWO3	502	2.6%	35	3.0%	537
CWO4	258	1.4%	12	1.0%	270
CWO5	88	0.5%	3	0.3%	91
2ndLt	3,040	16.0%	260	22.2%	3,300
1stLt	2,635	13.9%	219	18.7%	2,854
Capt	5,390	28.3%	387	33.0%	5,777
Maj	3,568	18.8%	140	12.0%	3,708
LtCol	1,824	9.6%	37	3.2%	1,861
Col	671	3.5%	20	1.7%	691
Gen	86	0.5%	3	0.3%	89
	<b>19,017</b>		<b>1,171</b>		<b>20,188</b>

## Officer Marine Families

Civilian Spouses	Military Spouses	Guard/Reserve Spouses	Children/ Other Deps
12,833	794	55	22,293

Officer Racial and Gender Distribution

Rank	Black Female	Black Male	Hispanic Female	Hispanic Male	White Female	White Male	Other Female	Other Male	Total
WO/CWO	25	248	20	173	55	1,269	5	113	1,908
2ndLt	14	100	21	160	201	2,470	24	310	3,300
1stLt	12	113	22	169	171	2,181	14	172	2,854
Capt	37	297	40	365	273	4,355	37	373	5,777
Maj	10	261	11	199	106	2,890	13	218	3,708
LtCol	4	84	0	57	29	1,596	4	87	1,861
Col	1	21	0	16	17	613	2	21	691
Gen	0	6	1	2	2	78	0	0	89
<b>Total</b>	<b>103</b>	<b>1,130</b>	<b>115</b>	<b>1,141</b>	<b>854</b>	<b>15,452</b>	<b>99</b>	<b>1,294</b>	<b>20,188</b>

## Enlisted Accessions

Active accessions	37,991
Reserve accessions	4,235
<b>Total</b>	<b>42,226</b>

## Enlisted Age Distribution

Age	Number	Percent
17	486	0.3%
18	10,965	6.1%
19	18,530	10.4%
20	21,230	11.9%
21	22,329	12.5%
22	20,521	11.5%
23	15,791	8.9%
24	11,582	6.5%
25	9,125	5.1%
26 - 30	25,293	14.2%
31 - 35	12,032	6.7%
36 - 40	7,162	4.0%
41+	3,271	1.8%
<b>Total</b>	<b>178,317</b>	<b>100.0%</b>

## Enlisted Grade Distribution

Rank	Number	Percent
Pvt	16,775	9.4%
PFC	24,397	13.7%
LCpl	43,345	24.3%
Cpl	36,317	20.4%
Sgt	28,513	16.0%
SSgt	15,201	8.5%
GySgt	8,234	4.6%
1stSgt/MSgt	3,927	2.2%
SgtMaj/MGySgt	1,608	0.9%
<b>Total</b>	<b>178,317</b>	<b>100.0%</b>

## Enlisted Occupational Field Distribution

Primary MOS Code	Description	Female Enlisted	Male Enlisted	Total
01	Personnel & Admin	1,761	6,876	8,637
02	Intelligence	268	2,432	2,700
03	Infantry	0	36,236	36,236
04	Logistics	457	3,628	4,085
05	MAGTF Plans	27	318	345
06	Communications	1,092	12,604	13,696
08	Field Artillery	0	4,511	4,511
11	Utilities	246	2,696	2,942
13	Engineer	221	8,082	8,303
18	Tank & AAV	0	2,814	2,814
21	Ordnance	64	4,459	4,523
23	Ammunition & FOD	194	1,954	2,148
26	SIGINT	264	2,288	2,552
28	Grd. Electronics Maint.	98	4,151	4,249
30	Supply Admin & Ops	1,375	5,987	7,362
31	Traffic Mgt.	132	536	668
33	Food Service	348	2,174	2,522
34	Financial Mgt.	212	1,170	1,382
35	Motor Transport	562	13,680	14,242
41	Marine Corps Community Service	13	126	139
43	Public Affairs	119	380	499
44	Legal Services	123	451	574
46	Visual Information (Combat Camera)	104	424	528
55	Music	164	846	1,010
57	NBC	69	956	1,025
58	MP & Correction	354	4,333	4,687
59	Electronics Maint.	89	1,453	1,542
60	Aircraft Maint.	462	5,530	5,992
61	Aircraft Maint. Helo/Tiltrotor	154	5,659	5,813
62	Aircraft Maint. Fixed wing	93	3,788	3,881
63	Avionics (OMA)	269	3,422	3,691
64	Avionics (IMA)	201	2,480	2,681
65	Aviation Ordnance	173	2,617	2,790
66	Aviation Logistics	416	1,883	2,299
68	METOC Services	19	305	324
70	Airfield Services	225	2,257	2,482
72	Air C2	90	1,786	1,876
73	Enlisted Flight Crew	13	298	311
80	Miscellaneous Requirements	541	9,402	9,943
84	Recruiting	9	559	568
89	Miscellaneous Requirements	99	1,646	1,745
<b>Total</b>		<b>11,120</b>	<b>167,197</b>	<b>178,317</b>

## Enlisted Gender Distribution

	Number	Percent
Female	11,120	6.2%
Male	167,197	93.8%
<b>Total</b>	<b>178,317</b>	<b>100.0%</b>

## Enlisted Grade by Gender

Rank	# Male	% Male	# Female	% Female	Total
Pvt	833	7.5%	15,942	9.5%	16,775
PFC	1,515	13.6%	22,882	13.7%	24,397
LCpl	2,677	24.1%	40,668	24.3%	43,345
Cpl	2,697	24.3%	33,620	20.1%	36,317
Sgt	1,778	16.0%	26,735	16.0%	28,513
SSgt	899	8.1%	14,302	8.6%	15,201
GySgt	451	4.1%	7,783	4.7%	8,234
1stSgt/MSgt	208	1.9%	3,719	2.2%	3,927
SgtMaj/MGySgt	62	0.6%	1,546	0.9%	1,608
<b>Total</b>	<b>11,120</b>		<b>167,197</b>		<b>178,317</b>

## Enlisted Marine Families

Civilian Spouses	AD Military Spouses	Guard/Reserve Spouses	Children/ Other Dependents
68,698	6,828	366	84,484

### Enlisted Racial and Gender Distribution

Rank	Black		Hispanic		White		Other		Total
	Female	Male	Female	Male	Female	Male	Female	Male	
Pvt	129	1,381	49	958	612	12,804	43	799	16,775
PFC	245	2,056	146	2,085	1,026	17,454	98	1,287	24,397
LCpl	373	2,936	390	4,439	1,674	29,985	240	3,308	43,345
Cpl	332	2,582	497	4,271	1,566	23,375	302	3,392	36,317
Sgt	322	3,254	386	4,281	861	16,647	209	2,553	28,513
SSgt	203	2,448	218	2,525	396	8,248	82	1,081	15,201
GySgt	141	1,431	80	1,163	190	4,632	40	557	8,234
1stSgt/MSgt	87	845	29	423	80	2,198	12	253	3,927
SgtMaj/MGySgt	24	466	11	136	24	857	3	87	1,608
<b>Total</b>	<b>1,856</b>	<b>17,399</b>	<b>1,806</b>	<b>20,281</b>	<b>6,429</b>	<b>116,200</b>	<b>1,029</b>	<b>13,317</b>	<b>178,317</b>

## Selected Marine Corps Reserve Officer Age Distribution

Age	Number	Percent
22	5	0.31%
23	16	1.00%
24	15	0.93%
25	20	1.25%
26	17	1.06%
27	27	1.68%
28	36	2.24%
29	34	2.12%
30	43	2.68%
31	39	2.43%
32	51	3.18%
33	58	3.61%
34	66	4.11%
35	72	4.49%
36	90	5.61%
37	111	6.92%
38	103	6.42%
39	105	6.54%
40	109	6.79%
41	81	5.05%
42	71	4.42%
43	73	4.55%
44	74	4.61%
45	70	4.36%
46	51	3.18%
47	42	2.62%
48	28	1.74%
49	25	1.56%
50	24	1.50%
51	13	0.81%
52	10	0.62%
53	7	0.44%
54	13	0.81%
55	2	0.12%
56	1	0.06%
57	1	0.06%
58	0	0.00%
59	2	0.12%
<b>Total</b>	<b>1605</b>	<b>100.00%</b>

## Selected Marine Corps Reserve Officer Grade Distribution

Rank	Number	Percent
WO1	9	0.56%
CWO2	97	6.04%
CWO3	52	3.24%
CWO4	28	1.74%
CWO5	7	0.44%
2ndLt	123	7.66%
1stLt	32	1.99%
Capt	304	18.94%
Maj	432	26.92%
LtCol	390	24.30%
Col	131	8.16%
B Gen	0	0.00%
M Gen	0	0.00%
<b>Total</b>	<b>1,605</b>	<b>100.00%</b>

## Selected Marine Corps Reserve Officer Occupational Field Distribution

Primary MOS Code	Description	Female Enlisted	Male Enlisted	Total
01	Personnel & Admin	13	24	37
02	Intelligence	1	86	87
03	Infantry	0	215	215
04	Logistics	16	101	119
05	MAGTF Plans	0	1	1
06	Communications	4	76	80
08	Field Artillery	0	93	93
11	Utilities	0	10	10
13	Engineer	1	80	81
18	Tank & AAV	0	56	56
21	Ordnance	0	8	8
23	Ammunition & EOD	0	5	5
25	Network Mgt.	0	2	2
28	Grd. Electronics Maint.	0	8	8
30	Supply Admin & Ops.	5	44	49
31	Traffic Mgt.	0	1	1
33	Food Service	0	2	2
34	Financial Mgt.	3	11	14
35	Motor Transport	0	15	15
40	Data Systems	0	0	0
43	Public Affairs	0	2	2
44	Legal Services	2	29	31
57	NBC	1	22	23
58	MP and Corrections	2	19	21
59	Electronics Maint.	0	2	2
60	Aircraft Maint.	0	21	21
63	Aircraft Maint. Helo/Tiltrotor	1	4	5
65	Aircraft Maint. Fixed Wing	0	1	1
66	Aviation Logistics	1	11	12
68	METOC SVS	0	1	1
70	Airfield Services	0	2	2
72	Air C2	4	38	42
73	Navigation Officer	0	3	3
75	Pilots/Naval Flight Officers	11	387	398
80	Miscellaneous Requirements	2	158	160
<b>Total</b>		<b>67</b>	<b>1538</b>	<b>1605</b>

## Selected Marine Corps Reserve Enlisted Age Distribution

Age	Number	Percent
17	1	0.00%
18	430	1.39%
19	1746	5.64%
20	3008	9.72%
21	3492	11.28%
22	3703	11.96%
23	3731	12.05%
24	3659	11.82%
25	2806	9.06%
26	1991	6.43%
27	1373	4.43%
28	990	3.20%
29	698	2.25%
30	503	1.62%
31	411	1.33%
32	383	1.24%
33	283	0.91%
34	232	0.75%
35	183	0.59%
36	158	0.51%
37	173	0.56%
38	178	0.57%
39	130	0.42%
40	123	0.40%
41	103	0.33%
42	91	0.29%
43	67	0.22%
44	71	0.23%
45	69	0.22%
46	31	0.10%
47	33	0.11%
48	32	0.10%
49	22	0.07%
50	13	0.04%
51	14	0.05%
52	9	0.03%
53	7	0.02%
54	2	0.01%
55	4	0.01%
56	1	0.00%
57	3	0.01%
58	2	0.01%
59	0	0.00%
60	1	0.00%
<b>Total</b>	<b>30960</b>	<b>100.00%</b>

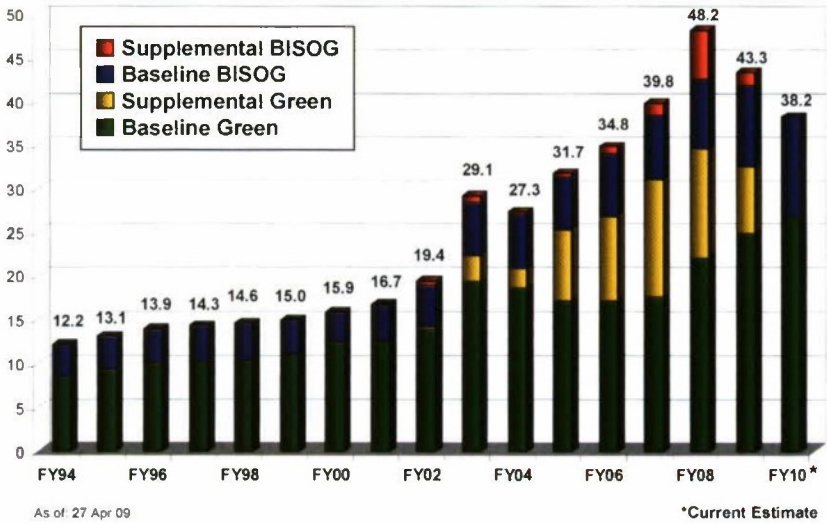
## Selected Marine Corps Reserve Enlisted Grade Distribution

Rank	Number	Percent
Pvt	1486	4.80%
PFC	3127	10.10%
LCpl	13712	44.29%
Cpl	6708	21.67%
Sgt	3726	12.03%
SSgt	1171	3.78%
GySgt	632	2.04%
1stSgt/MSgt	255	0.82%
SgtMaj/MGySgt	143	0.46%
<b>Total</b>	<b>30,960</b>	<b>100.00%</b>

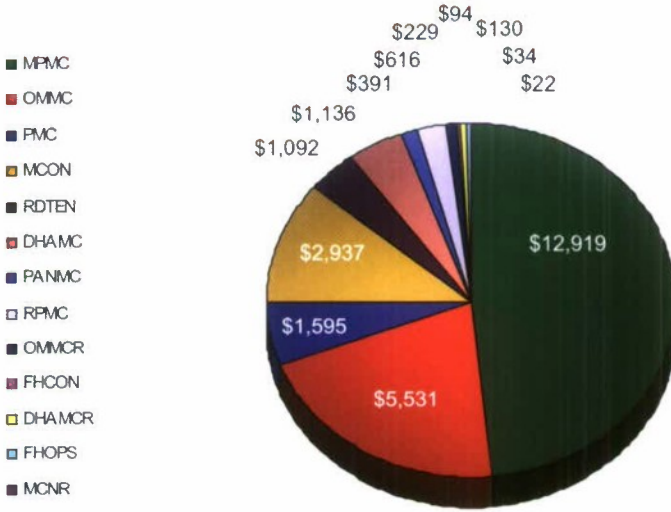
## Selected Marine Corps Reserve Enlisted Occupational Field Distribution

Primary MOS Code	Description	Female Enlisted	Male Enlisted	Total
1	Personnel & Admin	172	639	811
2	Intelligence	17	385	402
3	Infantry	0	7751	7751
4	Logistics	103	954	1057
5	MAGTF Plans	3	40	43
6	Communications	133	2821	2954
8	Field Artillery	0	1089	1089
11	Utilities	66	602	668
13	Engineer	106	2893	2999
18	Tank & AAV	0	650	650
21	Ordnance	12	800	812
23	Ammunition & EOD	31	428	459
26	SIGINT	1	6	7
28	Grd. Electronics Maint.	9	624	633
30	Supply Admin & Ops.	162	933	1095
31	Traffic Mgt.	35	104	139
33	Food Service	44	489	533
34	Financial Mgt.	2	11	13
35	Motor Transport	126	3551	3677
40	Data Systems	0	1	1
43	Public Affairs	2	10	12
44	Legal Services	1	6	7
46	Combat Camera	4	6	10
55	Music	1	1	2
57	NBC	5	169	174
58	MP and Corrections	25	697	722
59	Electronics Maint.	1	95	96
60	Aircraft Maint.	26	240	266
61	Aircraft Maint Helo/Tiltrotor	5	293	298
62	Aircraft Maint. Fixed Wing	3	158	161
63	Avionics (OMA)	10	141	151
64	Avionics (IMA)	5	141	146
65	Aviation Ordnance	5	143	148
66	Aviation Supply	32	169	201
68	METOC Services	7	46	53
70	Airfield Services	23	257	280
72	Air C2	18	163	181
73	Enlisted Flight Crew	0	28	28
80	Miscellaneous Requirements	70	1972	2042
89	Miscellaneous Requirements	4	183	190
99	ID and reporting	0	2	2
<b>Total</b>		<b>1269</b>	<b>29691</b>	<b>30960</b>

## Marine Corps Fiscal Resource Overview

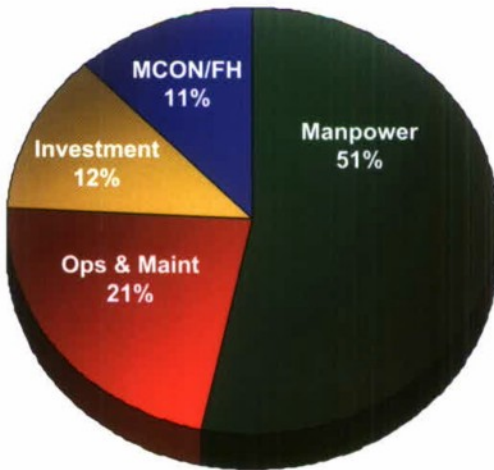


Marine Corps Fiscal Year 2010 Total TOA (Rounded to \$ Million)



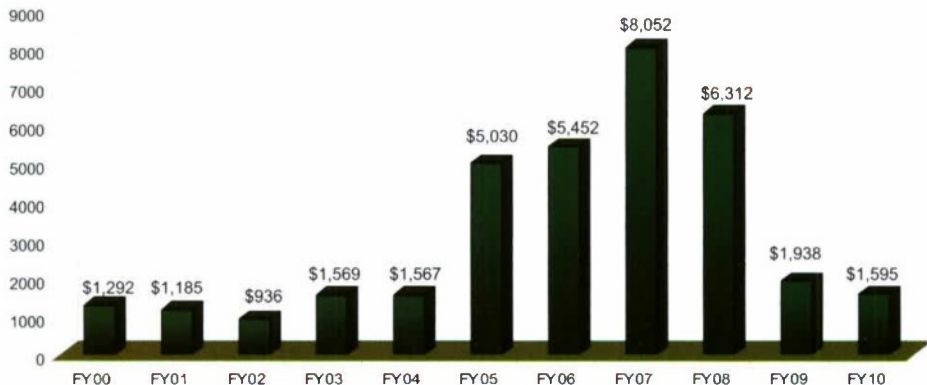
As of: 10 Apr 09

Marine Corps Fiscal Year 2010 Appropriations



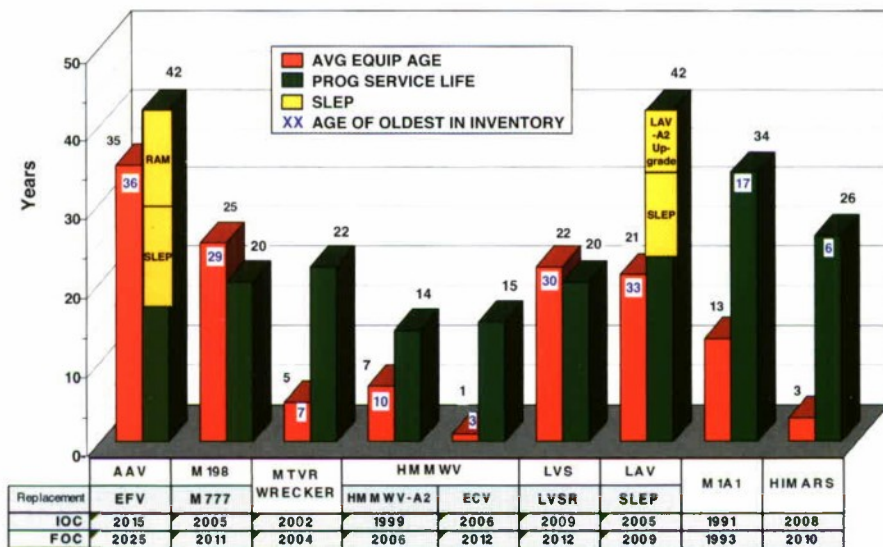
As of: 10 Apr 09

### Marine Corps Procurement Summary (\$ in Million)

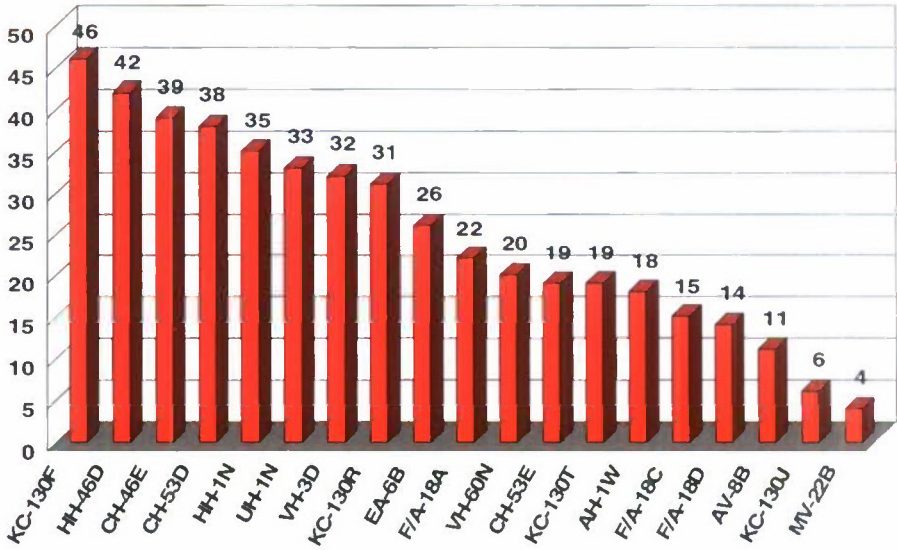


As of: 10 Apr 09

### Marine Corps Selected Ground Equipment Aging



## Marine Corps Average Aircraft Age



## APPENDIX A Other Supporting Programs

### Marine Corps Embassy Security Group



In few places can the effect of the “Strategic Corporal” be more readily seen than with the Marine Security Guard who stands alone at Post One, responsible for safeguarding the Nation’s secrets and protecting the hundreds of unarmed American civilians within his or her diplomatic facility. Dedicated and versatile, Marine Security Guards have proven themselves invaluable, and the need for them continues to grow. Marines today stand post at 148 embassies and consulates in 133 countries, and detachments will commence operations at ten more posts during the coming decade.

Overarching this global array of detachments is the Marine Corps Embassy Security Group (MCESG). MCESG works closely with the Department of State’s Diplomatic Security Service at every level, especially with their training and operational arms, to ensure that each embassy guard is ready and equipped for likely and unlikely challenges. MCESG

evolved from the Marine Security Guard Battalion (MSG Bn), which first provided Marines to diplomatic facilities in 1949 with the primary mission of safeguarding our Nation’s classified information. The primary mission has not changed, but the “can-do” spirit that prepared embassy guards for their mission at the program’s outset was augmented by a formal training program in the 1950s, and further refined with a comprehensive candidate screening program in the 1980s.

However, it was not until after the September 2001 attacks on America that MSG Bn (as MCESG was still designated) accelerated its transformation to meet the threat of sudden attack by terrorists intent on wholesale execution of Americans and our friends.

For example, in 2004, when a team of al Qaeda terrorists assaulted the U.S. consulate in Jeddah, Saudi Arabia, a MSG Sergeant barred their entry, responded to his detachment and, in the midst of ter-

rorist gun fire and improvised explosive devices, assisted his detachment in shepherding embassy personnel to safety and protecting them until the terrorist threat was eliminated. That Marine and his acting detachment commander—Sergeant Manuel Matos and Staff Sergeant Michael Youngblood—were awarded the Bronze Star with combat 'V' for their courage and quick-thinking under fire.

The re-designation of MSG Battalion to Marine Corps Embassy Security Group in 2007 was an overdue acknowledgement that the Battalion had not only outgrown battalion size—then totalling nine “companies” each commanded by a Lieutenant Colonel—but also required diverse and specialized functions—as demonstrated by their heavily-tasked Behavioral Science, Legal, Comptroller and other special staff sections. MSG Bn evolved into MCESG through the expanding number

of detachments, and through the diverse and complex international challenges overcome in the past decades.

Today, U.S. diplomats, citizens and sensitive diplomatic information remain valuable targets for foreign intelligence agents, criminals and terrorists. Embassy guards have always been skilled in protecting against foreign intelligence collection, but now they must also be well-schooled in anti-terrorism and internal defense.

By necessity, Embassy detachments remain small; when assaults occur, Marine Security Guards expect to be outnumbered by their opponents. Through teamwork, technology, training and leadership, however, the small detachment acts with a single mindset. Intimately familiar with the building they must defend, the Marine Security Guard Detachment is a formidable adversary to any foe, and an asset to U.S. diplomacy.

## Marine Barracks, Washington, D.C.



Established in 1801, Marine Barracks Washington, located in Washington D.C., is the “Oldest Post of the Corps” and has been the residence of every Commandant of the Marine Corps since 1806. Selection of the site was a matter of personal interest to President Thomas Jefferson, who rode through Washington with the Commandant, Lieutenant Colonel Burrows, in search of a suitable location. They chose the site now occupied due to its proximity to the Washington Navy Yard and its easy marching distance to the Capitol. Marine Barracks has also been the home of the United States Marine Band since 1801. Shortly after its formation in 1798, the Band played for President John Adams at the Executive Mansion. This engagement began a tradition so durable that today the names “Marine Band” and “The President’s Own” are synonymous. John Philip Sousa, the most famous director of the “The President’s Own,” wrote many immortal marches such as “The Stars and Stripes Forever” and “Semper Fidelis.”

Today, Barracks Marines perform many tasks in support of the Marine Corps’ diverse missions. These include

infantry training, ceremonies, funeral details and presidential support duty, including a company of “8th and I” Marines that fulfills a security mission for the First Family at Camp David. The Barracks is also home to the Marine Corps Institute (MCI), founded in 1920 by 13th Commandant of the Marine Corps, General John A. LeJeune. MCI is the Corps’ distance training center, which is responsible for all non-resident military education programs.



### Evening Parade

An 85-minute performance of music and precision marching, the Evening Parade features “The President’s Own” United States Marine Band, “The Commandant’s Own” United States Marine Drum and Bugle Corps, and the Marine Corps Silent Drill Platoon. Evening Parades are held Friday evenings from 1 May through 28 August 2009 and start with an 8:45 p.m. concert by “The President’s Own.”

## How To Make Parade Reservations

Seating for the Evening Parade requires a reservation. Guests with reservations are admitted at 7:00 p.m., and should arrive no later than 8 p.m. Reservations may be requested in writing, facsimile, or, for groups six or less, at [www.mbw.usmc.mil](http://www.mbw.usmc.mil). Mail reservation requests to the Protocol Officer, Marine Barracks, 8th and I Streets, S.E. Washington, D.C. 20390-5000, at least 30 days prior to a desired parade date. Requests via facsimile should be sent to the attention of the Protocol Officer at (202) 433-4076. The request should include the name of the party (either group or individual), the number of guests in the party, a complete return address and a point of contact with a telephone number. An alternate parade date should be included in case the primary date requested is unavailable. Confirmations and gate assignments for reservation requests will be made by return mail. At approximately 8:10 p.m., waiting guests without reservations are offered unclaimed seats.

There are no designated public parking spaces in the immediate vicinity of the Barracks. Guests can park at Maritime Plaza, located at 1201 M Street S.E., for a free shuttle service to and from the Barracks. The first shuttle departs Maritime Plaza at 7 p.m., and the last shuttle will return guests to Maritime Plaza at 11 p.m. Additional information is available at the parade information line: (202) 433-6060, or at the Marine Barracks Washington website.



## Sunset Parade

A one-hour performance, the Sunset Parade features “The Commandant’s Own” United States Marine Drum and Bugle Corps and a precision drill exhibition by the Marine Corps Silent Drill Platoon. The Sunset Parade is conducted every Tuesday evening from 2 June through 11 August 2009. All Sunset Parades begin at 7 p.m., except for the final two, which begin at 7:30 p.m. The Sunset Parade, held at the Marine Corps War Memorial in Arlington, Virginia, is open to the public at no charge. Reservations are not necessary. Spacious lawns provide ample room for guests to bring lawn chairs and blankets for informal viewing. There are no public parking spaces available at the memorial grounds on parade evenings. Guests may park at the Arlington National Cemetery Visitors’ Center for a minimal fee. A free shuttle service is provided from the Visitors’ Center to the War Memorial from 5 to 7 p.m. before the parade and will return guests to the Visitor’s Center from 8 to 9 p.m. following the parade.

## USMC History Division

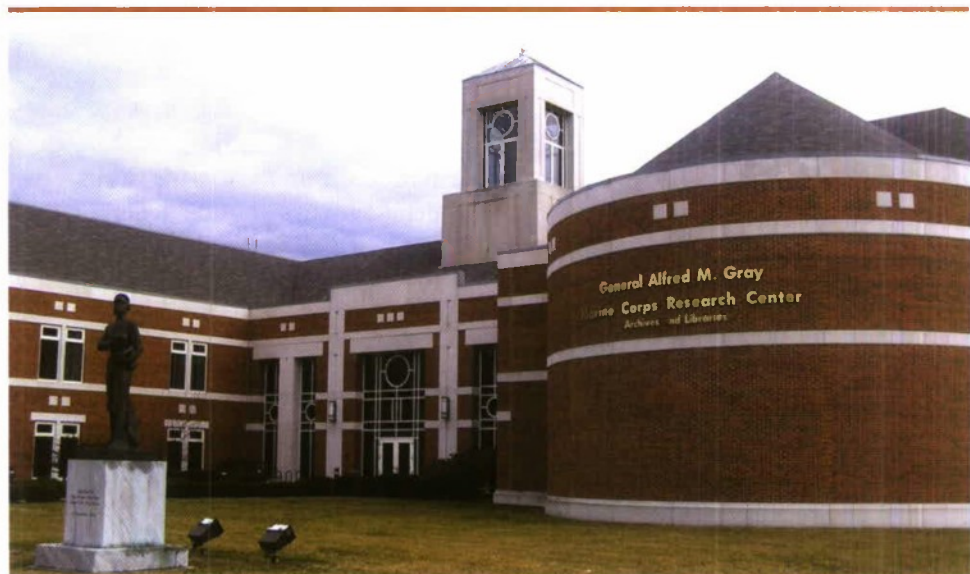
The mission of the History Division continues to be about writing, documenting and tracking the history of the Marine Corps across the entire spectrum of its organizational existence. History Division historians, working within the Marine Corps University and in close coordination with the National Museum of the Marine Corps (NMMC) and the Library of the Marine Corps, are charged with the collection, writing, publication and distribution of documents and accounts of permanent value to the history of the Corps. As such the History Division is divided into five individual and distinct supporting branches: Histories, Reference, Oral History, Field History and the Marine Corps University Press.

The Histories Branch engages in the research, writing and editing of the official

histories of the Marine Corps. The variety of official historical publications ranges from pamphlets to digital compilations to case-bound, definitive histories for distribution within the Marine Corps, other Federal agencies and the general public. The branch also coordinates the Grants and Fellowships in Marine Corps History Program and the History Division Intern Program, both supported by the Marine Corps Heritage Foundation. Research includes production of monographs on the Marine Corps and the Global War on Terrorism, a comprehensive history of the Marine Corps in *Desert Shield/Desert Storm*, two battle studies on Najaf and An Nasiriyah, occasional papers on Operation Iraqi Freedom II, a unique battle study of Khe Sanh 1968, and a definitive history of the early 19th-Century Marine Corps, in anticipation of the bicentennial of the War of 1812, to be followed by a history of Marines in the “Steam Navy.” Further, the branch is heavily engaged in producing a commemorative history of the first 100 years of Marine Corps Aviation, due out in late 2011. The branch recently published several anthologies, including a very good reference book on *Marine Corps Counterinsurgency Operations* from the Philippine Insurrection to Operations Iraqi Freedom and Enduring Freedom.

The Historical Reference Branch maintains topical working files that cover five primary areas of interest to Marine Corps history: specific history subjects, biographical files on prominent Marines, unit, and geographic area files where Ma-





rines have operated in the past. Through these files, the branch can readily track and answer historical inquiries from a wide customer base that ranges from the office of the Commandant, members of Congress, Flag and General Officers, and the general public at large. The branch is also tasked with researching and producing Unit Lineage and Honors certificates for more than 432 individual commands. The program also keeps a running record of all reported Marine Corps exercises and campaigns. The branch is responsible for the Commemorative Naming program and researches history to ensure that Marine Corps buildings, facilities and streets are named for deserving Marines. In sum, the branch's robust historical working files provide an excellent and readily available trove of information on historically related subjects.

The Oral History Branch conducts oral interviews with a wide variety of current and former Marines in support of research and the history writing effort of the Division as a whole. The branch takes a directed collection approach in that it focuses its effort and resources on the collection of information from past and present Commandants of the Marine Corps, senior General Officers, prominent Marine combat veterans and general veteran accounts of past wars and service in that order of priority. The branch also gathers career interviews on those Marines who shaped the setting of policy, doctrine, or had a decided effect on the Marine Corps as an institution.

The Field History Branch is a unique entity within the History Division and is manned entirely by reserve component Marines. These Marines become part of the Division's Individual Mobilization

Augmentee (IMA) component and deploy on an occasional basis with combat units operating abroad. Their primary mission is to collect oral history interviews from a wide variety of Marines at all levels of command and authority, from MEF commanders all the way to individual Marines at the squad level. Equipped with digital recorders, cameras and laptops, the branch is tasked with interviewing Marines recently engaged with enemy combatants and capturing historically important information while such data remain relatively fresh in the minds of those who had been engaged in recent field operations.

In the summer 2008, as part of the Marine Corps University's strategic plan, the History Division established the new Marine Corps University Press. Acting as a subsidiary branch within the division, the Press will also serve the greater

University community. Furthermore, the Press will also produce for the first time a *Marine Corps University Journal*. The Journal will focus on the publication of articles on a variety of national security topics that have the potential to impact Marine Corps doctrine and operations. Since the Division already has an editing and design section for the production of its historical publications, the creation of a Marine Corps University Press to support the publication of relevant academic material made eminent sense. As such, the Division has hired a Senior Editor and several supporting editorial and technical staff who will oversee the production of both History Division and University Press publications.

During 2009, the Division continues to improve its website and has added a spot for the University Press. The Division also continues on its five-year plan to digitize



all its reference branch material and place the documents on a shared drive, with the intent to make such material readily available to all researchers ([www.history.usmc.mil](http://www.history.usmc.mil)). Questions on the specific programs and operations of the History Division can be sent to [charles.neimeyer@usmc.mil](mailto:charles.neimeyer@usmc.mil). The mission of the National Museum of the Marine Corps continues to be to preserve and exhibit the material history of the Corps; honor the commitment, accomplishments and sacrifices of Marines; support recruitment and education; retain Marines and provide the public with a readily accessible platform for exploration of Marine Corps history. In keeping with that mission, in 2009 the Museum will focus on continuing to be a work in progress, educating the public and maintaining a strong awareness of the museum to the local and Marine Corps communities.

Construction on Phase 1A began in January 2009, with an anticipated completion of May 2010. The galleries of this next phase of the Museum will take visitors from the Corps' birth in 1775, through the end of the Civil War, the age of reconstruction and expansion, and WW I. While this work will require dismantling the Global War on Terrorism gallery, there will continue to be a GWOT presence throughout the construction phase. The construction will not end with Phase 1A, as the conceptual plans for Phase 2 are already in the works and continue to be explored. This last phase, the "completion of the circle," will pick up Marine Corps history in 1975 and contin-

ue to evolve as the Marine Corps continues its mission into the future. Plans for Phase 2 include more galleries, a combat art gallery, studios, large-screen movie-theater and classrooms.

Classrooms are already an important part of the museum's mission, especially with the addition of the Teacher in Residence program. The purpose of this grant-funded program is to create curriculum and develop programs in conjunction with NMMC educators and serve a liaison between the museum and local school districts. During the construction phases, the classrooms are housed in a portable adjacent to the Museum. This allows for students to tour the museum, using gallery guides designed by the resident teacher, and then go to the classroom for further discussion. The intent of the program is to educate young adults not only about Marine Corps history but the history of the nation that so many Marines have fought to defend.

The docent outreach program also endeavors to educate the public about the museum and the history of the Marine Corps. Fully trained and dedicated volunteers will take the museum's story on the road. Outreach sessions will be conducted at local festivals as well as events and festivals in further out surrounding areas. The museum will also be involved in outreach through Marine Week, a new Marine Corps initiative akin to Fleet or Navy Week.

Another new initiative at the museum is a partnership with the Warfighting Lab to introduce emerging Marine Corps

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technology to the general public, giving them an opportunity to see not only where the Corps has been but where it is going. The Warfighting Lab will bring items such as the WASP and RAVEN to the museum to demonstrate their capabilities in a controlled environment. A realization by the public of what the Corps can do will help ensure continued support and respect for the Corps.

Temporary exhibits continue to be an integral part of the NMMC. The newest exhibit is a pictorial tribute to the Marines and U.S. Navy who served in Beirut 25 years ago, told through the words of the participants, the lenses of their cameras and the pencils and brushes of the combat artists. This exhibit, which hangs from the wall outside Making Marines, will stay in the museum for one year.

Finally, NMCC staff has redesigned Corridor 7 at the Pentagon to pay tribute to the commandants who have led the Corps throughout its history and also to honor all Marines. The color scheme of the corridor will be consistent with the red and blue used throughout the museum and commandants' portraits and biographies will be displayed with a unified theme. The corridor will end with a life-size statue of Waterhouse's painting of a continental Marine and modern Marine flanking the globe. Questions on the specific programs and operations of the National Museum of the Marine Corps can be sent to [lin.ezell@usmc.mil](mailto:lin.ezell@usmc.mil).

## APPENDIX B

### Acronyms & Abbreviations

AAAV	Advanced Amphibious Assault Vehicle (Now called EFV)	ALEP	Amphibious Lift Enhancement Plan
AAO	Approved Acquisition Objective	AMC	Air Mobility Command
AAP	Abbreviated Acquisition Program	AMCM	Airborne Mine Countermeasures
AAV	Assault Amphibious Vehicle	AMD	Advanced Mine Detector
AAW	AntiAir Warfare	AMRAAM	Advanced MediumRange Air to Air Missile
AAWSH	AntiArmor Weapon System Heavy	ANBACIS	Automated Nuclear Biological and Chemical Information System
AAWSM	Advanced Antitank Weapon System Medium	ANGLICO	Air Naval Gunfire Liaison Company
ABC/M	Activity Based Costing and Management	AO	Acquisition Objective
ABV	Assault Breacher Vehicle	AoA	Analysis of Alternatives
AC2S	Airborne Command and Control System	AOR	Area of Responsibility
ACADA	Automatic Chemical Agent Detector Alarm	AP	AntiPersonnel
ACAT	Acquisition Category	APECS	All Purpose Environmental Clothing System
ACE	Aviation Combat Element	APN	Aircraft Procurement Navy
ACM	Air Contingency MAGTF	APOBS	Antipersonnel Obstacle Breaching System
ACMC	Assistant Commandant of the Marine Corps	APOD/E	Aerial Port of Debarkation/ Embarkation
ACP	Aviation Continuation Pay	APS	Active Protective System
ACS	Advanced Countermine System	ARC	Aviation Refueling Capability
ACTD	Advanced Concept Technology Demonstration	ARDEC	Army Research Development and Engineering Center
ADCP	Air Defense Communications Platform	ARG	Amphibious Ready Group
ADFCs	Advanced Digital Fire Control System	AS	Analysis Substation
ADM	Acquisition Decision Memorandum	ASD / C3I	Assistant Secretary of Defense for Command, Control, Communications and Intelligence
ADS	Advanced Distributed Simulation	ASPARCS	Air Surveillance and Precision Approach Radar Control System
ADS	Active Denial System	ASUW	Antisurface Warfare
AE	Assault Echelon	ASVAB	Armed Services Vocational Aptitude Battery
AFATDS	Advanced Field Artillery Tactical Data System	ASW	Antisubmarine Warfare
AFOE	Assault Followon Echelon	AT	Antiterrorism
AFV	Armored Fighting Vehicle	AT&L	Acquisition, Technology and Logistics
AGLEP	Advanced Ground Laser Eye Protection	AT/FP	Antiterrorism/Force Protection
AGS	Advanced Gun System	ATACC	Advanced Tactical Air Command Central
AIS	Automated Information System	ATACMS	Army Tactical Missile System
AIT	Automated Identification Technology	ATARS	Advanced Tactical Airborne Reconnaissance System
ALAM	Advanced Land Attack Missile		
ALC	Area Learning Center		

ATC	Air Traffic Control	C4ISR	Command, Control, Communications, Computers, Intelligence Surveillance and Reconnaissance
ATD	Advanced Technology Development	CA	Civil Affairs
ATF	Amphibious Task Force	CAC2S	Common Aviation Command and Control System
ATL	Advanced Tactical Laser	CACCTUS	Combined Arms Command and Control Training Upgrade System
ATLASS	Asset Tracking Logistics and Supply System	CAEMS	Computer Aided Embarkation Management System
ATM	Asynchronous Transfer Mode	CAM	Chemical Agent Monitor
ATO	Air Tasking Order	CAOCL	Center for Advanced Operational Culture Learning
AVDTV	Armored Vehicle Driver's Thermal Viewer	CARAT	Cooperation Afloat Readiness and Training
AVDVE	Armored Vehicle Driver's Vision Enhancer	CAST	Combined Arms Staff Trainer
AWE	Advanced Warfighting Experiment	CATF	Commander Amphibious Task Force
BA	Budget Activity/Authority	CAX	Combined Arms Exercise
BAH	Basic Allowance for Housing	CBIRF	Chemical Biological Incident Response Force
BDA	Battle Damage Assessment/ Bomb Damage Assessment	CBIS	Chemical Biological Individual Sampler
BFT	Blue Force Tracker	CBMRFS	Concept Based Munitions Requirement System
BFV	Bradley Fighting Vehicle	CBRNE	Chemical Biological Radiological Nuclear Explosive
BMAR	Backlog of Maintenance and Repair	CBV	Combat Breacher Vehicle
BMDO	Ballistic Missile Defense Office	CCA	Clinger Cohan Act
BOS	Base Operating Support	CCD	Charged Couple Device
BRAC	Base Realignment and Closure	CCENT	Commander, Central Command
BST	Basic Skills Trainer	CCS	COMINT Collection Subsystem
BTI	Base Telecommunications Infrastructure	CD	Counter/Drug
BU	Block Upgrade	CDPU	Computer Data Processing Unit
BUMED	Bureau of Medicine	CDR	Critical Design Review
BUR	Bottom Up Review	CDS	Combat Development System
BUST	Basic Urban Skills Training	CE	Command Element
BV	Base Vehicle	CEC	Cooperative Engagement Capability
C2	Command and Control	CECM	Communications Electronic Countermeasures
C2PC	Command and Control Personal Computer	CENTCOM	Central Command
C3I	Command, Control, Communications and Intelligence	CETO	Center for Emerging Threats and Opportunities
C4I	Command, Control, Communications, Computers and Intelligence	CETPS	Cooperative Engagement Transmission Processing Set
C4I2	Command, Control, Communications, Computers, Intelligence and Interoperability		

CEUR	Commander, Europe	COE	Concept of Employment
CFAC	Clear Facilities	COMINT	Communications Intelligence
CFC	Combined Forces Command	COMMARFOREUR	Commander, US Marine Forces, Europe
CG	Commanding General	COMMARFORCOM	Commander, US Marine Forces, Command
CI/HUMINT	Counterintelligence/ Human Intelligence	COMMARFORPAC	Commander, US Marine Forces, Pacific
CIA	Central Intelligence Agency	COMMARFORRES	Commander, US Marine Forces, Reserve
CIC	Combat Integration Capability	COMNAV	Communication Navigation
CID	Combat Identification	COMSEC	Communications Security
CIGSS	Common Imagery Ground/ Surface System	COMUSNAVCENT	Commander US Navy Central Command
CIHEP	Counter Intelligence/Human Intelligence Equipment Program	COMUSNAVEUR	Commander US Navy Europe
CJFCOM	Commander, Joint Forces Command	COMUSNAVPAC	Commander US Navy Pacific
CLANTFLT	Commander, Atlantic Fleet	CONPLAN	Contingency Plan
CLRF	Common Laser Range Finder	CONUS	Continental United States
CLS	Contractor Logistics Support	COP	Common Operational Picture
CMO	Civil Military Operations	CORM	Commission on Roles and Missions of the Armed Forces
CPAC	Commander, Pacific	COTS	Commercial off the Shelf
CPACFLT	Commander, Pacific Fleet	CP	Command Post
CSOUTH	Commander, Southern Command	CPA	Chairman's Program Assessment
CIO	Chief Information Officer	CPE	Collective Protective Environment
CJCS	Chairman Joint Chiefs of Staff	CPG	Commandant's Planning Guidance
CJF	Commander Joint Force	CPR	Chairman's Program Review
CJTF	Commander Joint Task Force	CPU	Central Processing Unit
CLAWS	Complementary Low Altitude Weapons System	CPX	Command Post Exercise
CLC2S	Common Logistics Command and Control System	COB	Close Quarters Battle
CM	Consequence Management	CR	Combat Requirement
CMC	Commandant of the Marine Corps	CRDEC	Chemical Research Development and Engineering Center
CMV	Combat Mobility Vehicle	CROP	Common Relevant Operating Picture
CNA	Computer Network Attack	CRS	Canteen Refilling System
CND	Computer Network Defense	CSAR	Combat Search and Rescue
CNE	Computer Network Exploitation	CSG	Carrier Strike Group
CNA	Center for Naval Analyses	CSS	Combat Service Support
CNO	Chief of Naval Operations	CT	Counter Terrorism
COBRA	Coastal Battlefield Reconnaissance Analysis	CTI	Central Tire Inflation
COC	Combat Operations Center	CTN	Composite Tracking Network
COCOM	Combatant Commander	CTOL	Conventional Take Off and Landing
COE	Common Operating Environment	CTP	Common Tactical Picture

CTT	Commanders Tactical Terminal	DIB	Distributed Common Ground Systems (DCGS) Integrated Backbone
CV	Conventional Aircraft Carrier	DII	Defense Information Infrastructure
CVBG	Carrier Battle Group	DIMAP	Defense Imagery and Mapping Program
CWW	Carrier Air Wing	DIS	Distributed Interactive Simulation
CWAR Radar	Continuous Wave Acquisition	DISA	Defense Information Systems Agency
CWT	Customer Wait Time	DL	Distance Learning
CY	Calendar Year	DLC	Distance Learning Center
DA	Direct Action	DLI	Defense Language Institute
DAB	Defense Acquisition Board	DMRD	Defense Management Review Decision
DACT	Data Automated Communications Terminal	DMS	Defense Messaging System
DAMA	Demand Assigned Multiple Access	DMSO	Defense Modeling and Simulation Office
DARP	Defense Airborne Reconnaissance Program	DMSS	Defense Medical Surveillance System
DARPA	Defense Advanced Research Projects Agency	DOA	Days of Ammunition
DART	Defense Assistance Response Team	DoD	Department of Defense
DASC	Direct Air Support Center	DoN	Department of the Navy
DAWMS	Deep Attack Weapons Mix Study	DOS	Days of Supply
DBBL	Dismounted Battlespace Battle Lab	DoS	Department of State
DBOF	Defense Business Operations Fund	DOTMLPF	Doctrine, Organization, Training, Material, Leadership & Education, Personnel, and Facilities
DCGS	Distributed Common Ground Systems	DPE	Data Processing Equipment
DCGS-MC	Distributed Common Ground System - Marine Corps	DPG	Defense Planning Guidance
DCI&L	Deputy Commandant for Installations and Logistics	DPP	Defense Program Projection
DCIPS	Defense Casualty Information Processing System	DPRB	Defense Planning and Resources Board
DCIPS	Defense Civilian Intelligence Personnel System	DR	Digital Radiography
DCP	Defense Cryptologic Program	DSCS	Defense Satellite Communications System
DCU	Dynamic Component Upgrade	DSN	Defense Switched Network
DDG	Guided Missile Destroyer	DST	Decision Support Tools
DDS	Data Distribution System	DT	Developmental Test
DEP	Delayed Entry Program	DTC	Digital Technical Control
DEPTEMPO	Deployment Tempo	DTS	Defense Transportation System
DF	Direction Finding	DWTS PIP	Digital Wideband Transmission System Product Improvement Program
DFT	Deployments for Training	EA	Electronic Attack
DHP	Defense Health Care Program	EAF	Expeditious Air Field
DIA	Defense Intelligence Agency		

EBFL	Extended Boom Forklift	FDS	Field Development System
EDM	Engineering Development Model	FEA	Front End Analysis
EFSS	Expeditionary Fire Support System	FEO	Forcible Entry Operations
EFV	Expeditionary Fighting Vehicle (Formerly AAV)	FEP	Firepower Enhancement Program
EHF	Extremely High Frequency	FEX	Field Exercise
EIS	Expeditionary Intelligence Support	FH	Frequency Hopping
ELB	Extended Littoral Battlespace	FHMC	Family Housing Marine Corps
ELINT	Electronics Intelligence	FIE	Fly in Echelon
EMAIL	Electronic Mail	FIM	Family of Improved Mortars
EMD	Engineering and Manufacturing Development	FIPP	Final Integration and Proveout Phase
EMW	Expeditionary Maneuver Warfare	FLC	Functional Learning Center
ENBC	Enhanced NBC Capability	FLPP	Foreign Language Proficiency Pay
EO	Electro Optical	FM	Frequency Modulation
EOB	Electronic Order of Battle/ Enemy Order of Battle	FMF	Fleet Marine Force
EOD	Explosive Ordnance and Disposal	FO	Forward Observer
EOM	Echelon of Maintenance	FOB	Forward Operating Base
EP	Electronic Protection	FOC	Full Operational Capability
EPLRS	Enhanced Position Location Reporting System	FOF	Floating Offshore Facility
EPUU	Enhanced PLRS User Units	FOM	Family of Munitions
ERGM	Extended Range Guided Muni- tions	FoS	Family of Systems
ERIP	Engine Reliability Improvement Program	FOV	Family of Vehicles
ERP	Engine Reliability Program	FP	Force Protection
ES	Equipment Suit	FPLIF	Field Pack Large with Internal Frame
ESF	Expeditionary Strike Force	FPU	Front Power Unit
ESG	Expeditionary Strike Group	FRP	Fleet Response Plan
ESP	Extended Service Program	FRP	Full Rate Production
EUCOM	European Command	FRSS	Forward Resuscitative Surgery System
EUL	Economic Useful Life	FSC2S	Fire Support Command and Control System
EUT	End User Terminal	FSCC	Fire Support Coordination Center
EW	Electronic Warfare	FSED	Full Scale Engineering Development
FAC	Forward Air Controller	FSRM	Facilities Sustainment Restoration and Modernization
FARP	Forward Arming Refueling Point	FSSG	Force Service Support Group
FASCAM	Family of Scatterable Mines	FTE	Full Time Equivalent
FAST	Fleet Antiterrorism Security Team	FTL	Far Target Location
FATS	Fire Arms Training System	FTS	Full Time Support
FAV	Fast Attack Vehicle	FTSS	Family of Tactical Soft Shelters
FDC	Fire Direction Center	FUE	First Units Equipped
FDNF	Forward Deployed Naval Forces	FY	Fiscal Year

FYDP	Future Year Defense Plan
FYEP	Five Year Experimentation Plan
GBS	Global Broadcast Service
GCCS-I <sup>3</sup>	Global Command and Control Systems-Integrated Imagery and Intelligence
GCE	Ground Combat Element
GCS	Ground Control Station
GCSSMC	Global Combat Support System Marine Corps
GEOINT	Geospatial Intelligence
GIG	Global Information Grid
GLPS	Gun Laying and Positioning System
GME	Garrison Mobile Equipment
GMF	Ground Mobile Forces
GOPLAT	Gas and Oil Platform
GOTS	Government off the Shelf
GP	General Purpose
GPR	Ground Processing Requirement
GPS	Global Positioning System
GTN	Global Transportation Network
GWOT	Global War on Terrorism
HARM	High Speed AntiRadiation Missile
HAW	Heavy Antiarmor Weapon
HE	High Explosive
HEMTT	Heavy Expanded Mobility Tactical Truck
HERCULES	Heavy Equipment Recovery Combat Utility Lift and Evacuation System
HF	High Frequency
HHMMWV	Heavy Variant High Mobility Multipurpose Wheeled Vehicle
HIMARS	High Mobility Artillery Rocket System
HLA	High Level Architecture
HLCAC	Heavy Lift Landing Craft Air Cushion
HMD	High Mobility Downsize
HMH	Marine Heavy Helicopter Squadron
HMLA	Marine Light Attack Helicopter Squadron
HMM	Marine Medium Helicopter Squadron

HMMWV	High Mobility Multipurpose Wheeled Vehicle
HMX	Marine Helicopter Squadron 1
HNS	Host Nation Support
HQMC	Headquarters, Marine Corps
HSV	High Speed Vessel
HUD	Headsup Display
HUMINT	Human Intelligence
HWM	High Water Mark
HWTS	Heavy Weapons Thermal Sight
I2	Image Intensification
IA	Information Assurance
IAS	Intelligence Analysis System
IBR	Intelligence Broadcast Receiver
ICAD	Individual Chemical Agent Detector
ICCE	Individual Combat Clothing and Equipment
IDASC	Improved Direct Air Support Center
IDIO	Indefinite Duration, Indefinite Quantity Contract
IED	Improvised Explosive Device
IFAV	Interim Fast Attack Vehicle
IFF	Identification Friend or Foe
IHR	InExtremis Hostage Rescue
IICS	Integrated Infantry Combat System
ILBE	Improved Load Bearing Equipment
ILC	Integrated Logistics Capability
IMA	Individual Mobilization Augmentees
IMI	Interactive Multimedia Instruction
IMINT	Imagery Intelligence
INFOSEC	Information Security
INRMP	Integrated Natural Resource Management Plans
INS	Inertial Navigation System
INTEL	Intelligence
IO	Information Operations
IOC	Initial Operational Capability
IOT	Initial Operational Test
IOT&E	Initial Operational Test and Evaluation

IOW	Intelligence Operations Workstation	JFLCC	Joint Force Land Component Commander
IPT	Integrated Product/Process Team	JFMCC	Joint Force Maritime Component Commander
IR	Infrared	JHSV	Joint High Speed Vessel
IR3B	Integrated Resources and Requirements Review Board	JI&I	Joint Integration and Interoperability
IRAM	Improved Reliability and Maintainability	JIATFE	Joint Interagency Task Force East
IROAN	Inspect and Repair Only as Necessary	JIATFW	Joint Interagency Task Force West
IRR	Individual Ready Reserve	JIC	Joint Intelligence Center
IRV	Improved Recovery Vehicle	JIOC	Joint Intelligence Operations Center
IS	Information Systems	JIPT	Joint Integrated Product Team
ISDN	Integrated Services Digital Network	JLUS	Joint Land Use Studies
ISMTE	Indoor Simulated Marksmanship Trainer Enhanced	JM	JTIDS Module
ISMT	Indoor Simulated Marksmanship Trainer	JMAC	Joint Maritime Assault Connector
ISO	International Organization for Standardization	JMA/SA	Joint Mission Area/Support Area
ISP	Internet Service Provider	JMAA /JMNA	Joint Mission Area Analysis / Joint Mission Need Analysis
ISR	Intelligence, Surveillance and Reconnaissance	JMASS	Joint Modeling and Simulation System
ISSA	InterService Support Agreement	JMCIS UB	Joint Maritime Command Information System Unified Build
IT	Information Technology	JNLWD	Joint NonLethal Weapons Directorate
ITAS	Improved Target Acquisition System	JNLWP	Joint NonLethal Weapons Program
ITV	Internally Transportable Vehicle	JNMS	Joint Network Management System
IWAR	Integrated Warfare Architecture	JOA	Joint Operations Area
JAC	Joint Analysis Center	JOPES	Joint Operation Planning and Execution System
JBPDS	Joint Biological Point Detection System	JOTS	Joint Operational Tactical System
JCAD	Joint Chemical Agent Detector	JPOBIO	Joint Program Office for Biological Defense
JCAS	Joint Close Air Support	JROC	Joint Requirements Oversight Council
JCATS	Joint Conflict and Tactical Simulation	JSCP	Joint Strategic Capabilities Plan
JCD&E	Joint Concept Development and Experimentation	JSEAD	Joint Suppression of Enemy Air Defenses
JCIDS	Joint Capabilities Integration and Development System	JSF	Joint Strike Fighter
JCS	Joint Chiefs of Staff	JSFXD	Joint Service Fixed Site Decontamination
JDAM	Joint Direct Attack Munitions	JSIMS	Joint Simulation System
JFACC	Joint Force Air Component Commander	JSLIST	Joint Service Lightweight Integrated Suit Technology
JFC	Joint Force Commander		
JFCOM	Joint Force Command		

JSLNBCRS	Joint Service Light NBC Reconnaissance System	LHD	Amphibious Assault Ship, Multipurpose
JSLSCAD	Joint Services Lightweight Chemical Standoff Agent Detector	LIC	Low Intensity Conflict
JSOC	Joint Special Operations Command	LKA	Amphibious Stores Ship
JSOW	Joint Standoff Weapon	LLDR	Lightweight Laser Designator Rangefinder
JSTARS	Joint Surveillance Target Attack Radar System	LLI	Long Lead Item
JTF	Joint Task Force	LMCC	Logistics Movement Control Center
JTF HO	Joint Task Force Headquarters	LME	Lightweight Maintenance Enclosure
JTIDS	Joint Tactical Information Distribution System	LMR	Land Mobile Radio
JTRS	Joint Tactical Radio System	LMRS	Longterm Mine Reconnaissance System
JUW	Joint Urban Warfare	LMS	Lightweight Multipurpose Shelter
JWARN	Joint Warning and Reporting Network	MSR	Large, Medium-Speed, Roll-on/Roll-off (ship)
JWARS	Joint Warfare System	LMST	Lightweight Multiband Satellite Terminals
JWCA	Joint Warfighting Capability Assessment	LNBCRS	Lightweight Nuclear Biological and Chemical Reconnaissance System
JWFC	Joint Warfighting Center	LOE	Limited Objective Experiment
JWID	Joint Warrior Interoperability Demonstrations	LOGAIS	Logistics Automated Information System
JWTC	Joint Warfare Training Center/ Jungle Warfare Training Center	LP/OP	Listening Post/Observation Post
KPP	Key Performance Parameter	LPD	Amphibious Transport Dock [Ship]
LAAD	Low Altitude Air Defense	LPH	Amphibious Assault Ship Helicopter
LAAD	Low Altitude Air Defense Battalion	LPP	Littoral Penetration Point
LAN	Local Area Network	LRA	Local Registration Authority
LAR	Light Armored Reconnaissance	LRC	Learning Resource Center
LAV	Light Armored Vehicle	LRIP	Low Rate Initial Production
LAV SLEP	LAV Service Life Extension Program	LRLAP	Long Range Land Attack Projectile
LAVAD	Light Armored Vehicle Air Defense	LSD	Landing Ship Dock
LAVM	Light Armored Vehicle Mortar	LST	Laser Spot Trackers/ Landing Ship Tank/ Troop
LAVFIST	LAVFull Crew Interactive Simulator Trainer	LTA	Launch Tube Assembly
LCAC	Landing Craft Air Cushion	LTVR	Light Tactical Vehicle Replacement
LCM	Life Cycle Management	LVS	Logistics Vehicle System
LCU(R)	Landing Craft Utility Replacement	LW155	Lightweight 155mm Howitzer
LEWDD	Lightweight Early Warning Detection Device	LWH	Lightweight Helmet
LHA	Amphibious Assault Ship General Purpose	M&S	Modeling & Simulation
LHA (R)	Amphibious Assault Ship Replacement	MAA	Mission Area Analysis
		MACCS	Marine Air Command and Control System

MACE	MEF Augmentation Command Element	MCCS	Marine Corps Community Services
MACG	Marine Air Control Group	MCCUU	Marine Corps Combat Utility Uniform
MACP	Marine Aviation Campaign Plan	MCDN	Marine Corps Data Network
MACS	Marine Air Control Squadron	MCEN	Marine Corps Enterprise Network
MAG	Marine Aircraft Group	MCFSS	Marine Corps Fire Support System
MAGFTFC	Marine Corps Air Ground Combat Center	MCHS	Marine Corps Common Hardware Suite
MAGTF	Marine Air Ground Task Force	MCI	Marine Corps Institute
MALS	Marine Aviation Logistics Squadron	MCIA	Marine Corps Intelligence Activity
MARCENT	Marine Forces Central Command	MCIS	Marine Corps Intelligence School
MARCORSYSCOM	Marine Corps System Command	MCISR-E	Marine Corps Intelligence, Surveillance, Reconnaissance Enterprise
MARDIV	Marine Division	MCLCP	Marine Corps Logistics Campaign Plan
MARFOR	Marine Forces	MCM	Mine Countermeasures
MARFORCOM	Marine Forces Command	MCMAP	Marine Corps Martial Arts Program
MARFOREUR	Marine Forces Europe	MCMP	Marine Corps Master Plan
MARFORPAC	Marine Forces Pacific	MCMISO	Marine Corps Modeling and Simulation Management Office
MARFORRES	Marine Forces Reserve	MCMWTC	Marine Corps Mountain Warfare Training Center
MARFORSOUTH	Marine Forces South	MCNR	Military Construction Navy Reserve
MARINET	Marine Corps Learning Network	MCON	Military Construction
MARS	Marine Aviation Requirements Study	MCOTEA	Marine Corps Operational Test and Evaluation Activity
MASINT	Measurement and Signature Intelligence	MCP	Mission Capability Package
MATCALC	Marine Air Traffic Control and Landing System	MCPON	Master Chief Petty Officer of the Navy
MCATCD	Marine Corps Air Traffic Control Detachment	MCPP	Marine Corps Planning Process
MAW	Marine Aircraft Wing	MCRC	Marine Corps Recruiting Command
MAW	Medium AntiArmor Weapon	MCSF	Marine Corps Security Forces
MAWTS1	Marine Aviation Weapons and Tactics Squadron One	MCSSC2	Marine Combat Service Support Command and Control
MBC	Mortar Ballistic Computer	MCT	Marine Combat Training
Mbps	Megabits per second	MCTEEP	Marine Corps Training Exercise Employment Plan
MBST	Marine Battle Skills Training	MCTSSA	Marine Corps Tactical System Support Activity
MBT	Main Battle Tank	MCWL	Marine Corps Warfighting Laboratory
MCARMS	Marine Corps Ammunition Requirements Management System	MDA	Milestone Decision Authority
MCAS	Marine Corps Air Station	MDC	Material Distribution Center
MCB	Marine Corps Base	MDSS	MAGTF Deployment Support System
MCCDC	Marine Corps Combat Development Command		
MCCPIP	Marine Corps Continuous Process Improvement Program		

MEB	Marine Expeditionary Brigade	MPF	Maritime Prepositioning Force
MEB (AE)	Marine Expeditionary Brigade Assault Echelon	MPF (F)	Maritime Prepositioning Force (Future)
MEB (AT)	Marine Expeditionary Brigade (Antiterrorism)	MPIM	MultiPurpose Individual Munition
MCCES	Marine Corps Communications and Electronics School	MPMC	Military Personnel Marine Corps
MEF	Marine Expeditionary Force	MPS	Maritime Prepositioning Ships
MEFFV	MAGTF Expeditionary Family of Fighting Vehicles	MPSRON	Maritime Prepositioning Ships Squadron
MEP	Mobile Electric Power	MRB	MROC Review Board
MEP	Marine Enhancement Program	MROC	Marine Requirements Oversight Council
MEU	Marine Expeditionary Unit	MRP	Maintenance of Real Property
MEU (SOC)	Marine Expeditionary Unit (Special Operations Capable)	MRRS	MultiRole Radar System
MEWSS	Mobile Electronic Warfare Support System	MRS	Mobility Requirements Study
MFK	Mobile Field Kitchen	MSBL	MAGTF Software Baseline
MFOM	MLRS Family of Munitions	MSC	Military Sealift Command
MHE	Materials Handling Equipment	MSC	Major Subordinate Command
Mhz	Megahertz	MSE	Major Subordinate Element
MIA	Missing In Action	MSG	Marine Security Guard Battalion
MILCON	Military Construction Navy	MSIDS	Marine Air-Ground Task Force Secondary Imagery Dissemination System
MILES	Multiple Integrated Laser Engagement System	MSTP	MAGTF Staff Training Program
MILSTAR	Military Strategic and Tactical Relay	MTACCS	Marine Tactical Command and Control System
MIO	Maritime Interdiction Operations	MTID	MILES Target Interface Device
MIP	Military Intelligence Program	MTVR	Medium Tactical Vehicle Replacement
MLA	Medium Lift Alternative	MTWS	MAGTF Warfare Simulation
MLG	Marine Logistics Group	MULE	Modular Universal Laser Equipment
MLP	Mobile Landing Platform (ship)	MWS	Modular Weapon System
MLRS	Multiple Launch Rocket System	MWSG	Marine Wing Support Group
MLS	Marine Load System	MWSS	Marine Wing Support Squadrons
MMS	Marine Mammal System	MWTS	Medium Weapon Thermal Sight
MNS	Mission Needs Statement	NAF	Non-Appropriated Funds
MOA	Memorandum of Agreement	NALMEB	Norway Air Landed MEB
MOL	Marine on Line	NAPDD	Non-Acquisition Category Program Definition Document
MOLLE	Modular Lightweight Load Carrying Equipment	NAS	Naval Air Station
MOOTW	Military Operations Other than War	NATO	North Atlantic Treaty Organization
MOPP	Mission Oriented Protective Posture	NAVFLIR	Navigation Forward Looking Infrared
MOS	Military Occupational Specialty	NBC	Nuclear, Biological and Chemical
MOU	Memorandum of Understanding	NCO	Noncommissioned Officer
MOUT	Military Operations in Urban Terrain	NCSE (D)	Downsized Enhanced Net Control Station

NDI	Non-Developmental Item	OPEVAL	Operational Evaluation
NDP	National Defense Panel	OPLAN	Operation Plan
NDSS	Network Data Storage Solution	OPNAV	Chief of Naval Operations
NEF	Naval Expeditionary Force	OPP	Offload Preparation Party
NEO	Noncombatant Evacuation Operations	OPSEC	Operations Security
NESEA	Naval Electronics System Engineering Activity	OPTEMPO	Operational Tempo
NFCS	Naval Fires Control System	ORD	Operational Requirements Document
NGA	National Geospatial Agency	OSA	Operational Support Airlift
NIPRNET	Nonsecure Internet Protocol Router Network	OSD	Office of the Secretary of Defense
NLW	Non-Lethal Weapons	OSW	Operation Southern Watch
NM	Nautical Miles	OT&E	Operational Test and Evaluation
NMCRB/R	Naval Mobile Construction Battalion/ Regiment	OTH	Over-the-Horizon
NMCI	Navy Marine Corps Intranet	OTV	Outer Tactical Vest
NMITC	Navy Marine Corps Intelligence Training Center	PA	Public Affairs
NMS	National Military Strategy	PAA	Primary Aircraft Authorization
NOS	Network Operating System	PACOM	Pacific Command
NRL	Naval Research Lab	PANMC	Procurement of Ammunition Navy and Marine Corps
NRT	Near Real Time	PASGT	Personal Armor System Ground Troops
NSE	Naval Support Equipment/ Element	PCS	Permanent Change of Station
NSFS	Naval Surface Fire Support	PDEA	Power Driven Excavating Arm
NTCSA	Naval Tactical Command System Afloat	PDR	Preliminary Design Review
NTIS	Night Thermal Imagery System	PDRR	Program Definition and Risk Reduction
NTS	Night Targeting System	PEO	Program Execution Officer
NVG	Night Vision Goggles	PERSTEMPO	Personnel Tempo
O&MMC	Operation and Maintenance Marine Corps	PGM	Precision Guided Munitions
O&MMCR	Operation and Maintenance Marine Corps Reserve	PGS	Precision Gunnery System
OEF	Operation Enduring Freedom	PGTS	Precision Gunnery Training System
OIF	Operation Iraqi Freedom	PIP	Product Improvement Program
OEO	Other Expeditionary Operations	PITS	Portable Infantry Target System
OMCM	Organic Mine Countermeasure	PKI	Public Key Infrastructure
OMFTS	Operational Maneuver From the Sea	PLGSR	Precision Lightweight Global Positioning System Receiver
ONE	Operation Noble Eagle	PLRS	Position Location Reporting System
ONR	Office of Naval Research	PM	Program Manager
ONW	Operation Northern Watch	PMC	Procurement Marine Corps
OODA	Observe, Orient, Decide, Act	PME	Professional Military Education
OOTW	Operations Other Than War	POD	Port of Debarkation
		POE	Port of Embarkation
		POM	Program Objective Memorandum

POW	Prisoner of War	RREP	Radio Reconnaissance Equipment Program
PP&O	Plans, Policies and Operations	RSO&I	Reception, Staging, Onward Movement and Integration
PPBES	Planning, Programming, Budgeting, and Execution System	S&T	Science and Technology
PPV	Public/Private Ventures	SAG	Surface Action Group
PR	Personnel Recovery	SAPI	Small Arms Protective Insert
PRG	Program Review Group	SAR	Search and Rescue
PSD	Propulsion System Demonstrator	SATCOM	Satellite Communications
PSYOP	Psychological Operations	SC	Security Cooperation
PWRMS	Prepositioned War Reserve Material Stocks	SCG	Security Cooperation Guidance
ODR	Ouadrennial Defense Review	SCN	Shipbuilding and Conversion Navy
QoL	Quality of Life	SCT	Smart Card Technology
OUADCON	Ouadruple Containers	SDD	System Development and Demonstration
R&D	Research and Development	SDE	Shared Data Environment
R2D2	Radio Reconnaissance Distribution Device	SDS	Sorbent Decontamination System
R2P2	Rapid Response Planning Process	SE	Supporting Establishment
R3B	Resources and Requirements Review Board	SEAL	Sea, Air, Land (Military Special Force Member)
RAC	Riverine Assault Craft	SECREP	Secondary Repairables
RAM	Reliability, Availability and Maintainability	SEP	Soldier Enhancement Program
RAM/RS	Reliability, Availability and Maintainability/Rebuild to Standard	SHADE	Shared Data Environment
RAMD	Reliability, Availability, Maintainability and Durability	SHF	Super High Frequency
RCT	Repair Cycle Time	SHORAD	Short Range Air Defense
RDK	Rapid Deployment Kitchen	SIDS	Secondary Imagery Dissemination System
RDT&E	Research Development Test and Evaluation	SIE	Systems Integration Environment
RF	Radio Frequency	SIGINT	Signals Intelligence
RFP	Request for Proposal	SINCGARS	Single Channel Ground and Airborne Radio System
RHC	Ruggedized Handheld Computer	SIPRNET	Secret Internet Protocol Router Network
RIS	Range Instrumentation System	SLEP	Service Life Extension Program
RMHS	Remote Mine Hunting System	SLOC	Sea Lines of Communication
RMS	Remote Mine Hunting System	SLRP	Survey Liaison & Reconnaissance Party
RO/RO	Rollon/Rolloff	SMARTT	Secure Mobile Anti-Jam Reliable Tactical Terminal
ROC	Required Operation Capability	SMAW	Shoulder Launched Multipurpose Assault Weapon
ROE	Rules of Engagement	SMCM	Surface Mine Countermeasures
ROWPU	Reserve Osmosis Water Purification Unit	SMCR	Selected Marine Corps Reserve
RPMC	Reserve Personnel Marine Corps	SMMC	Sergeant Major of the Marine Corps
RRC	Rigid Raiding Craft		

SNCO	Staff Noncommissioned Officer	TAOC	Tactical Air Operations Center
SOA	Sustained Operations Ashore	TAOM	Tactical Air Operations Module
SOC	Special Operations Capable	T-AKE	Dry Cargo / Ammunition Ship
SOI	School of Infantry	TAVB	Aviation Logistics Support Ship
SONET	Synchronization Optical Network	TBD	To Be Determined
SOUTHCOM	Southern Command	TBM	Tactical Ballistic Missile
SPACECOM	Space Command	TBMCS	Theater Battle Management Core System
SPAWAR	Space and Naval Warfare System Command	TBMD	Theater Ballistic Missile Defense
SPMAGTF	Special Purpose Marine AirGround Task Force	TCAC	Technical Control and Analysis Center
SPMAGTF(x)	Special Purpose MAGTF (Experimental)	TCC	Tactical Communications Center
SPOD/E	Surface Port of Debarkation/ Embarkation	TCIM	Tactical Communications Interface Module
SRAW	Short Range Antitank Weapon	TCO	Tactical Combat Operations
SRB	Selective Reenlistment Bonus	TCS	Tactical Control Station
SRR	Strategic and Residual Requirement	TDCP	Tactical Data Communications Processor
SRU	Shop Replacement Units	TDMA	Time Division Multiple Access
SSCC	SPAWAR Systems Center Charleston	TDN	Tactical Data Network
ST	Science and Technology	TDS	Tactical Data System
STAMIS	Standard Management Information Systems	TECOM	Training and Education Command
START	SHF Tri-Band Advanced Range Extension Terminal	TEG	Tactical Exploitation Group
STOM	Ship to Objective Maneuver	TEMP	Test and Evaluation Master Plan
STOVL	Short Takeoff and Vertical Landing	TEPOP	Training and Education Point of Presence
STRATCOM	Strategic Command	TERPES	Tactical Electronic Reconnaissance Processing and Evaluation System
SUBD	Small Unit Biological Detector	TESS	Tactical Engagement Simulation System
SURC	Small Unit Riverine Craft	TETS	Third Echelon Test Sets
SURSS	Small Unit Remote Scouting System	TFDSS	Total Force Decision Support System
SWA	Southwest Asia	THS	Target Handoff Subsystem
SWMCM	Shallow Water Mine Countermeasures	TIM	Toxic Industrial Materials
SZ	Surf Zone	TLAM	Tomahawk Land Attack Missile
T/M/S	Type/Model/Series	TLDHS	Target Location Designation and Handoff System
TacAir	Tactical Aviation	TMIPM	Theater Medical Information Program (Maritime)
TACC	Tactical Air Command Center	TOA	Total Obligation Authority
TACO	Tactical Communications	TOR	Terms of Reference
TACOM	US Army Tank Automotive & Armaments Command	TOW	Tube Launched Optically Tracked Wire Guided Missile
TAD	Towed Artillery Digitization	TPC	Topographic Production Capability
TAD	Temporary Additional Duty		

TPCS-MPC	Team Portable Collection System-Multi-Platform Capable	USEUCOM	United States European Command
TPFDD/L	Time Phased Force Deployment Data/List	USJFC	United States Joint Forces Command
TQG	Tactical Quiet Generator	USMARCENT	US Marine Corps Forces, Central Command
TRAM	Tractor Rubbertired Articulated Steering Multipurpose	USMARFORK	US Marine Corps Forces, Korea
TRANSCOM	Transportation Command	USMC	United States Marine Corps
TRAP	Tactical Recovery of Aircraft and Personnel	USPACOM	United States Pacific Command
TRHS	Tray Ration Heating System	USSOCOM	US Special Operations Command
TRITAC	TriService Tactical Communications	USSOUTHCOM	United States Southern Command
TRSS	Tactical Remote Sensor System	UUV	Unmanned Underwater Vehicle
TSOC	Theater Special Operations Commands	V/STOL	Vertical/Short Takeoff and Landing
TSOF	Technical Support of Operating Forces	VHF	Very High Frequency
TSS	Target Sight System	VMA	Marine Attack Squadron
TTP	Tactics, Techniques and Procedures	VMAQ	Marine Tactical Electronic Warfare Squadron
TWGSS	Tank Weapon Gunnery Simulator System	VMFA	Marine Fighter/Attack Squadron
TWS	Thermal Weapons Sight	VMFA(AW)	Marine All Weather Fighter/Attack Squadron
TWSEAS	Tactical Warfare Simulation Evaluation & Analysis System	VMGR	Marine Aerial Refuel and Transport Squadron
UAV	Unmanned Aerial Vehicle	VMM	Marine Medium Tiltrotor Squadron
UCP	Unified Command Plan	VMMT	Marine Medium Tiltrotor Training Squadron
UDP	Unit Deployment Program	VMU	Marine Unmanned Aerial Vehicle Squadron
UGV	Unmanned Ground Vehicle	VSW	Very Shallow Water
UHF	Ultra High Frequency	VTOL	Vertical Takeoff and Landing
ULCS	Unit Level Circuit Switch	WAN	Wide Area Network
UMCM	Undersea Mine Countermeasures	WHNS	Wartime Host Nation Support
UNC (K)	United Nations Command (Korea)	WMD	Weapons of Mass Destruction
UNITAS	An annual US Southern Command-sponsored series of exercises in South America	WNW	Wideband Networking Waveform
UOC	Unit Operations Center	WPN	Weapons Procurement Navy
USCENTCOM	United States Central Command	WRMR	War Reserve Munitions Requirement
		WTI	Weapons and Tactics Instructor
		WWMCCS	Worldwide Military Command and Control System

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